

**Town of Topsfield Other
Postemployment Benefits Plan**

GASB 74/75 Actuarial Valuation

With a Valuation Date of June 30, 2017

& a Measurement Date of June 30, 2017

For the Reporting Dates of

June 30, 2018

June 30, 2019

Delivered February 2018

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February 14, 2018

Personal and Confidential

Ms. Barbara Michalowski
Town Treasurer
Town of Topsfield
8 West Common Street
Topsfield, MA 01983

Dear Ms. Michalowski:

We have performed an actuarial valuation of the Town of Topsfield Other Postemployment Benefits Plan for the Reporting Date & fiscal year ending June 30, 2018 with a Measurement Date of June 30, 2017 and a Valuation Date of June 30, 2017. The figures presented in this report reflect the adoption, by the Town of Topsfield, of Statement Nos. 74 and 75 of the Governmental Accounting Standards Board ("GASB 74/75") effective for the fiscal year ending June 30, 2017 and June 30, 2018 respectively.


The financial results of the actuarial valuation are summarized in the report. The Executive Summaries highlight the results of the valuation. Additional information summarizing census data, actuarial assumptions, claim rates and the methodology for developing them, as well as a glossary of selected terms used in this study, is also included in the report.

All costs, liabilities and other factors under the plan were determined in accordance with generally accepted actuarial principles and procedures. In our opinion, the actuarial assumptions used are reasonable, reflecting the experience of the plan and reasonable expectations and, in combination, represent our best estimate of the anticipated experience under the plan.

We refer you to Section I of this report for a detailed summary and commentary on the results of the valuation and a comparison with the prior valuation. Section II is a summary of the plan provisions, and Section III describes the actuarial cost method and assumptions. Details for cost calculations, supporting data, and disclosures are provided in Exhibits A through C.

We will be pleased to answer any questions that you may have regarding this actuarial valuation report.

Very truly yours,



Parker E. Elmore, ASA, EA, FCA, MAAA
President, CEO & Actuary

February 14, 2018

ACTUARIAL CERTIFICATION

This is to certify that Odyssey Advisors has conducted an actuarial valuation of certain benefit obligations of the Town of Topsfield other postemployment benefit programs with a Valuation Date of June 30, 2017 with a Measurement Date of June 30, 2017 for the Reporting Date & fiscal year ending June 30, 2018 in accordance with generally accepted actuarial principles and practices. The actuarial calculations presented in this report have been made on a basis consistent with our understanding of GASB Statements Numbers 74 & 75 for the determination of the liability for postemployment benefits other than pensions.

The actuarial data is based on the plan of benefits verified by the Town and on participant claims or premium data provided by the Town and/or vendors employed by the Town.

The actuarial computations made are for purposes of fulfilling plan accounting requirements. Determinations for purposes other than meeting financial accounting requirements may yield results significantly different than those reported here. As such, additional determinations may be needed for other purposes including determining the benefit security at termination and/or adequacy of the funding of an ongoing plan.

To the best of our knowledge, this report is complete and accurate and in our opinion represents the information necessary to comply with GASB Statements Number 74 and 75 with respect to the benefit obligations addressed. The signing actuaries are members of the Society of Actuaries, the American Academy of Actuaries and other professional actuarial organizations and meet their "General Qualification Standards for Statements of Actuarial Opinion" to render the actuarial opinion contained herein. Further, in our opinion, the assumptions as approved by the Town are reasonably related to the experience and expectations of the postemployment benefits programs.



Parker E. Elmore, ASA, EA, FCA, MAAA
President, CEO & Actuary

Executive Summary

GASB 74 and 75 Impact

The Town adopted GASB 74 for the fiscal year ending June 30, 2017 and GASB 75 for the fiscal year ending June 30, 2018. The adoption of GASB 74/75 introduces a new actuarial cost method and discount rate as well as new disclosures and methodologies for reporting plan liabilities and OPEB expenses. Significant changes have been made to the recognition of OPEB expenses, which makes the comparison of Net OPEB Expense in the current valuation to the expenses reported under GASB 45 misleading. The liability reported on the Town's balance sheet is likely to increase dramatically as GASB 74/75 require the recognition of liabilities immediately rather than over a 30 year period as GASB 45 allowed.

What caused plan liabilities to change from FY 16 to FY 18?

Plan experience was in line with expectation - for the year ending on the Measurement Date of June 30, 2017, the Plan saw an experience gain of \$665,069 or 4.73%. This was mainly due to a large number of actives who terminated employment. This was mostly offset by premiums for Medicare integrated plans increasing more than the expected 5% increase. The actuarial experience gain is amortized into the net OPEB expense over time until fully recognized. Changes in assumptions decreased disclosed liabilities by \$3.05 million.

Over the two year period, the Total OPEB Liability ("TOL") went from \$18,349,471 as of June 30, 2015 to \$14,629,703 as of June 30, 2017 for a decrease of \$3,719,768. The Net OPEB Expense was \$593,566 for the fiscal year June 30, 2018. As this is the first year using GASB 75 methodology, there is no baseline for comparison. For a projection of future costs and liabilities refer to Exhibit D.

Executive Summary

(continued)

Assumption changes

A key assumption has changed since the prior valuation - the impact is detailed below.

- ✓ Due to the GASB 75 standards the discount rate was changed from 3.50% to 4.75% decreasing the disclosed liability by \$3.05 million.
- ✓ Assumption changes caused Normal Cost to decrease by \$210 thousand.

It is important to remember that actuarial assumptions or changes in such do not impact the actual cost of the Plan. Rather, they impact the timing of the recognition of such costs.

Key Drivers of Plan Liabilities

Several key drivers of plan costs and liabilities are:

- ✓ Premiums for Post 65 (Medicare Integrated) plans - represent 70% of the total plan liabilities
- ✓ Age at which plan participants retire
- ✓ Percentage of plan participants who elect coverage for themselves and/or a spouse
- ✓ Medical care cost inflation rate – We currently assume medical costs increase at 5.0% per year
- ✓ Discount Rate (4.75%) – Higher discount rates yield lower liabilities and vice versa
- ✓ Cost Sharing - Under Massachusetts law you may charge retirees up to 50% of premiums for health insurance.

Executive Summary

(continued)

What is Implicit Subsidy? How does it impact us?

The implicit subsidy arises because retirees who are not eligible for Medicare are charged the same premium as active employees, even though their actual medical costs are higher on average. Consequently, a portion of the premiums being paid for active employees are being used to “subsidize” the premiums of retirees. Actuarial Standards of Practice and GASB standards require the liability associated with this implicit subsidy to be valued. The chart below shows a breakdown of how implicit cost impacts reported cash flows and liabilities.

Impact of Implicit Subsidy		
	As Of The Measurement Date	
Impact on Liability	<u>June 30, 2017</u>	<u>June 30, 2015</u>
I. Actuarial Accrued Liability	14,629,703	18,349,471
II. Actuarial Accrued Liability (Excluding Implicit Subsidy)	<u>13,270,226</u>	<u>N/A</u>
III. Liability from Implicit Subsidy [I. - II.]	1,359,477	N/A

	For The Fiscal Year Ending	
Impact on Payments	<u>June 30, 2018</u>	<u>June 30, 2016</u>
IV. Employer Payments (Including Implicit Subsidy)	443,713	417,624
V. Actual Employer Payments	<u>381,990</u>	<u>N/A</u>
VI. Implicit Subsidy [IV. - V.]	61,723	N/A

Executive Summary (continued)

What are some key plan metrics?

While an actuarial valuation under GASB 74/75 can be very complex with many variables, we find it helpful to look at several key metrics shown below to better allow you to manage your plan.

Representative Plan Statistics

	<u>June 30, 2017</u>	<u>June 30, 2015</u>
Total OPEB Liability	14,629,703	18,349,471
Per Eligible Active Plan Participant	64,794	76,555
Per Retiree/Spouse Plan Participant	53,960	70,665
Total Annual Service Cost (annual benefit accrual)	562,158	783,370
Per Eligible Active Plan Participant	3,627	4,777
Expected Employer Share of Retiree Costs	443,713	417,624
Per Retiree/Spouse Plan Participant	5,220	5,093
Net OPEB Liability as a % of Payroll	107.90%	195.60%
Average Annual Medical Plan Premium (Single Coverage)	9,365	7,957
Average Annual Medical Plan Premium (Family Coverage)	30,297	22,704
<u>Projected 2020 Excise Tax Thresholds</u>		
Annual Medical Plan Premium (Single Coverage)	12,511	
Annual Medical Plan Premium (Family Coverage)	32,676	

Executive Summary (continued)

Liabilities & Benefit Payments in today's dollars

With the growth of medical care costs over time, the nominal accrued liabilities ("TOL") and benefit payments can appear daunting. However, it is important to remember that a dollar paid in the future is worth less than a dollar paid today.

Measurement Date	Number of Retirees, Spouses & Surviving Spouses	Present Value at 3.00% of Total OPEB Liability	Present Value at 3.00% of Employer Share of Premiums / Claims including "implicit cost"
June 30, 2017	85	14,629,703	443,713
June 30, 2022	120	16,276,634	616,693
June 30, 2027	133	17,694,768	616,096
June 30, 2032	145	19,003,292	802,936
June 30, 2037	146	20,081,844	845,053
June 30, 2042	146	21,483,731	878,492
June 30, 2047	146	22,947,868	958,235

A full projection of plan costs and liabilities in today's dollars is shown in Exhibit E of this report.

We have an "unfunded liability". How do we fund it? Can we fund it?

If you're looking to fund your OPEB liability, there are a variety of manner to do so. The amount of funding in combination with your Investment Policy will impact the discount rate and disclosed liabilities. Below are a few sample funding options, but it's important to develop a funding policy that fits your organization as each situation is different.

	Partial Funding	Full Funding Level Dollar	Full Funding increasing at 3.00% per year
Net OPEB Liability	\$14,031,056	\$10,966,206	\$10,966,206
Required Trust Contribution	\$100,000	\$471,300	\$352,300
Discount Rate	4.75%	6.50%	6.50%

SECTION I

PRINCIPAL RESULTS OF THE VALUATION

Town of Topsfield Assuming Partial Funding - 4.75% discount rate Comparison of Plan Liabilities to Prior Valuation

		As of the Measurement Date	
		<u>June 30, 2017</u>	<u>June 30, 2015</u>
I.	Present Value of Future Benefits		
A.	Actives	14,958,645	19,943,307
B.	Retirees/Disabled	<u>4,586,637</u>	<u>5,794,528</u>
C.	Total	19,545,282	25,737,835
II.	Present Value of Future Normal Cost	4,915,579	7,388,364
III.	Total OPEB Liability (Individual Entry Age Normal)		
A.	Actives	10,043,066	12,554,943
B.	Retirees/Disabled	<u>4,586,637</u>	<u>5,794,528</u>
C.	Total	14,629,703	18,349,471
IV.	Fiduciary Net Position [Plan Assets]	598,647	342,853
V.	Net OPEB Liability (Asset) [III. - IV.]	14,031,056	18,006,618
VI.	Funded Ratio [IV. / III.]	4.09%	1.87%
VII.	Annual Covered Payroll	13,009,686	9,205,453
VIII.	Net OPEB Liability (Asset) as % of Covered Payroll	107.9%	195.6%
IX.	Number of Eligible Participants		
A.	Actives	155	164
B.	Retirees/Disabled	<u>85</u>	<u>82</u>
C.	Total	240	246
For the Reporting Date and Fiscal Year Ending June 30, 2018		<u>June 30, 2018</u>	<u>June 30, 2016</u>
X.	Service Cost	562,158	783,370
XI.	Interest on Net OPEB Liability (Asset), Service Cost, and Benefit Payments	682,763	N/A
XII.	Deferred (Inflows)/Outflows from Plan Design Changes	0	N/A
XIII.	Deferred (Inflows)/Outflows from Expected & Actual Experience	(93,848)	N/A
XIV.	Deferred (Inflows)/Outflows from Changes in Assumptions	0	N/A
XV.	Projected Earning on OPEB plan investments	(13,481)	N/A
XVI.	Deferred (Inflows)/Outflows from Earnings on Investments	(313)	N/A
XVII.	Employer Share of Costs	(443,713)	(417,624)
XVIII.	Employer (Payments)/Withdrawals to/from OPEB Trust	(100,000)	(100,000)
XIX.	Total Employer Contribution [XVII. + XVIII.]	(543,713)	(517,624)
XX.	Other Changes	0	N/A
XXI.	Net OPEB Expense [X.+XI.+XII.+XIII.+XIV.+XVI.+XIX.+XX.]	593,566	N/A
XXII.	Discount Rate	4.75%	3.50%

SECTION I
PRINCIPAL RESULTS OF THE VALUATION
(continued)

Town of Topsfield
Comparison of Plan Funding vs. Partial Funding

As of the June 30, 2017 Measurement Date

	<u>Partial Funding - 4.75%</u> <u>discount rate</u>	<u>Funding - 6.50%</u> <u>discount rate</u>
I. Present Value of Future Benefits		
A. Actives	14,958,645	10,427,303
B. Retirees/Disabled	<u>4,586,637</u>	<u>3,937,957</u>
C. Total	19,545,282	14,365,260
II. Present Value of Future Normal Cost	4,915,579	2,800,407
III. Total OPEB Liability (Individual Entry Age Normal)		
A. Actives	10,043,066	7,626,896
B. Retirees/Disabled	<u>4,586,637</u>	<u>3,937,957</u>
C. Total	14,629,703	11,564,853
IV. Fiduciary Net Position [Plan Assets]	598,647	598,647
V. Net OPEB Liability (Asset) [III. - IV.]	14,031,056	10,966,206
VI. Funded Ratio [IV. / III.]	4.09%	5.18%
VII. Annual Covered Payroll	13,009,686	13,009,686
VIII. Net OPEB Liability (Asset) as % of Covered Payroll	107.9%	84.3%
IX. Number of Eligible Participants		
A. Actives	155	155
B. Retirees/Disabled	<u>85</u>	<u>85</u>
C. Total	240	240
For the Reporting Date and Fiscal Year Ending June 30, 2018		
X. Service Cost	562,158	372,863
XI. Interest on Net OPEB Liability (Asset), Service Cost, and Benefit Payments	682,763	722,847
XII. Deferred (Inflows)/Outflows from Plan Design Changes	0	0
XIII. Deferred (Inflows)/Outflows from Expected & Actual Experience	(93,848)	(93,848)
XIV. Deferred (Inflows)/Outflows from Changes in Assumptions	0	(433,501)
XV. Projected Earning on OPEB plan investments	(13,481)	0
XVI. Deferred (Inflows)/Outflows from Earnings on Investments	(313)	(313)
XVII. Employer Share of Costs	(443,713)	(443,712)
XVIII. Employer (Payments)/Withdrawals to/from OPEB Trust	(100,000)	(471,300)
XIX. Total Employer Contribution [XVII. + XVIII.]	(543,713)	(915,012)
XX. Other Changes	0	0
XXI. Net OPEB Expense [X.+XI.+XII.+XIII.+XIV.+XV.+XVI.+XIX.+XX.]	593,566	(346,964)

SECTION I

PRINCIPAL RESULTS OF THE VALUATION

(continued)

Town of Topsfield

Assuming Partial Funding - 4.75% discount rate

Plan Liabilities as of the June 30, 2017 Measurement Date

	<u>Medical</u>	<u>Dental</u>	<u>Life</u>	<u>Excise Tax</u>	<u>Total</u>
I. Present Value of Future Benefits					
A. Actives	14,201,884	0	31,355	725,406	14,958,645
B. Retirees/Disabled	<u>4,543,855</u>	<u>0</u>	<u>35,957</u>	<u>6,825</u>	<u>4,586,637</u>
C. Total	18,745,739	0	67,312	732,231	19,545,282
II. Present Value of Future Normal Cost	4,642,007	0	8,673	264,899	4,915,579
III. Total OPEB Liability					
A. Actives	9,559,877	0	22,682	460,507	10,043,066
B. Retirees/Disabled	<u>4,543,855</u>	<u>0</u>	<u>35,957</u>	<u>6,825</u>	<u>4,586,637</u>
C. Total	14,103,732	0	58,639	467,332	14,629,703
IV. Fiduciary Net Position [Plan Assets]	577,124	0	2,400	19,123	598,647
V. Net OPEB Liability (Asset) [III. - IV.]	13,526,608	0	56,239	448,209	14,031,056
VI. Annual Covered Payroll	13,009,686	13,009,686	13,009,686	13,009,686	13,009,686
VII. Net OPEB Liability (Asset) as % of Covered Payroll	104.0%	0.0%	0.4%	3.4%	107.9%
VIII. Number of Eligible Participants					
IX. A. Actives	155	0	155	155	
B. Retirees/Disabled	<u>85</u>	<u>0</u>	<u>42</u>	<u>85</u>	
C. Total	240	0	197	240	
For the Reporting Date and Fiscal Year Ending June 30, 2018					
X. Service Cost	535,726	0	1,242	25,190	562,158
XI. Interest on Net OPEB Liability (Asset), Service Cost, and Benefit Payments	657,585	0	2,691	22,487	682,763
XII. Deferred (Inflows)/Outflows from Plan Design Changes	0	0	0	0	0
XIII. Deferred (Inflows)/Outflows from Expected & Actual Experience	(90,476)	0	(375)	(2,997)	(93,848)
XIV. Deferred (Inflows)/Outflows from Changes in Assumptions	0	0	0	0	0
XV. Projected Earning on OPEB plan investments	(12,996)	0	(54)	(431)	(13,481)
XVI. Deferred (Inflows)/Outflows from Earnings on Investments	(301)	0	(1)	(11)	(313)
XVII. Employer Share of Costs	(441,980)	0	(1,733)	0	(443,713)
XVIII. Employer (Payments)/Withdrawals to/from OPEB Trust	(96,557)	0	(381)	(3,062)	(100,000)
XIX. Total Employer Contribution [XVII. + XVIII.]	(538,537)	0	(2,114)	(3,062)	(543,713)
XX. Other Changes	0	0	0	0	0
XXI. Net OPEB Expense [X.+XI.+XII.+XIII.+XIV.+XV.+XVI.+XIX.+XX.]	551,001	0	1,389	41,176	593,566

SECTION I

PRINCIPAL RESULTS OF THE VALUATION

(continued)

Town of Topsfield

Plan Liabilities as of the June 30, 2017 Measurement Date

Assuming Partial Funding

	General Government Employees and Retirees	Schools Employees and Retirees	Police Employees and Retirees	Fire Employees and Retirees	Water Enterprise Employees and Retirees	Total
I. Present Value of Future Benefits						
A. Actives	2,611,621	9,765,716	1,670,999	595,064	315,245	14,958,645
B. Retirees/Disabled	1,440,763	2,291,877	853,428	569	0	4,586,637
C. Total	4,052,384	12,057,593	2,524,427	595,633	315,245	19,545,282
II. Present Value of Future Normal Cost	836,678	3,154,610	578,055	261,013	85,223	4,915,579
III. Total OPEB Liability						
A. Actives	1,774,943	6,611,106	1,092,944	334,051	230,022	10,043,066
B. Retirees/Disabled	1,440,763	2,291,877	853,428	569	0	4,586,637
C. Total	3,215,706	8,902,983	1,946,372	334,620	230,022	14,629,703
IV. Fiduciary Net Position [Plan Assets]	133,639	341,022	76,095	12,943	34,948	598,647
V. Net OPEB Liability (Asset) [III. - IV.]	3,082,067	8,561,961	1,870,277	321,677	195,074	14,031,056
VI. Annual Covered Payroll	2,350,136	8,896,947	1,007,202	419,667	335,734	13,009,686
VII. Net OPEB Liability (Asset) as % of Covered Payroll	131.1%	96.2%	185.7%	76.7%	58.1%	107.9%
VIII. Number of Eligible Participants						
A. Actives	28	106	12	5	4	155
B. Retirees/Disabled	30	43	12	0	0	85
C. Total	58	149	24	5	4	240
For the Reporting Date and Fiscal Year Ending June 30, 2018						
IX. Service Cost	103,508	367,022	60,894	23,825	6,909	562,158
X. Interest on Net OPEB Liability (Asset), Service Cost, and Benefit Payments	147,807	419,222	89,702	16,343	9,689	682,763
XI. Deferred (Inflows)/Outflows from Plan Design Changes	0	0	0	0	0	0
XII. Deferred (Inflows)/Outflows from Expected & Actual Experience	(20,631)	(57,111)	(12,485)	(2,146)	(1,475)	(93,848)
XIII. Deferred (Inflows)/Outflows from Changes in Assumptions	0	0	0	0	0	0
XIV. Projected Earning on OPEB plan investments	(3,009)	(7,680)	(1,714)	(291)	(787)	(13,481)
XV. Deferred (Inflows)/Outflows from Earnings on Investments	(69)	(179)	(40)	(7)	(18)	(313)
XVI. Employer Share of Costs	(150,090)	(201,512)	(85,714)	(2,532)	(3,865)	(443,713)
XVII. Employer (Payments)/Withdrawals to/from OPEB Trust	(21,841)	(62,465)	(13,243)	(2,451)	0	(100,000)
XVIII. Total Employer Contribution [XVI. + XVII.]	(171,931)	(263,977)	(98,957)	(4,983)	(3,865)	(543,713)
XIX. Other Changes	0	0	0	0	0	0
XX. Net OPEB Expense [IX.+X.+XI.+XII.+XIII.+XIV.+XV.+XVIII.+XIX.]	55,675	457,297	37,400	32,741	10,453	593,566

SECTION I

PRINCIPAL RESULTS OF THE VALUATION

(continued)

Town of Topsfield

Detail of Plan Liabilities by Group and Dependency Status

Assuming Partial Funding - 4.75% discount rate

Plan Liabilities as of the June 30, 2017 Measurement Date

	<u>Present Value of Future Benefits</u>	<u>Total OPEB Liability (Individual Entry Age Normal)</u>	<u>Service Cost</u>
Actives			
Under Age 65			
A. Participants	3,830,379	2,703,554	140,224
B. Spouses	<u>1,691,563</u>	<u>1,244,739</u>	<u>59,573</u>
C. Total	5,521,942	3,948,293	199,797
Age 65 and Over			
A. Participants	6,020,321	3,684,661	218,528
B. Spouses	<u>3,416,382</u>	<u>2,410,112</u>	<u>143,833</u>
C. Total	9,436,703	6,094,773	362,361
Actives Total			
A. Participants	9,850,700	6,388,215	358,752
B. Spouses	<u>5,107,945</u>	<u>3,654,851</u>	<u>203,406</u>
C. Total	14,958,645	10,043,066	562,158
Retirees/Disabled			
Under Age 65			
A. Participants	295,081	295,081	0
B. Spouses	<u>124,938</u>	<u>124,938</u>	<u>0</u>
C. Total	420,019	420,019	0
Age 65 and Over			
A. Participants	3,261,142	3,261,142	0
B. Spouses	<u>905,476</u>	<u>905,476</u>	<u>0</u>
C. Total	4,166,618	4,166,618	0
Retirees/Disabled Total			
A. Participants	3,556,223	3,556,223	0
B. Spouses	<u>1,030,414</u>	<u>1,030,414</u>	<u>0</u>
C. Total	4,586,637	4,586,637	0
Total Population			
A. Participants	13,406,923	9,944,438	358,752
B. Spouses	<u>6,138,359</u>	<u>4,685,265</u>	<u>203,406</u>
C. Total	19,545,282	14,629,703	562,158

SECTION I

PRINCIPAL RESULTS OF THE VALUATION

(continued)

Town of Topsfield

**Assuming Funding over 30 years at 6.50% discount rate
Plan Liabilities as of the June 30, 2017 Measurement Date**

	<u>Medical</u>	<u>Dental</u>	<u>Life</u>	<u>Excise Tax</u>	<u>Total</u>
I. Present Value of Future Benefits					
A. Actives	9,900,041	0	20,539	506,723	10,427,303
B. Retirees/Disabled	<u>3,901,909</u>	<u>0</u>	<u>30,153</u>	<u>5,895</u>	<u>3,937,957</u>
C. Total	13,801,950	0	50,692	512,618	14,365,260
II. Present Value of Future Normal Cost	2,638,839	0	5,369	156,199	2,800,407
III. Total OPEB Liability (Individual Entry Age Normal)					
A. Actives	7,261,202	0	15,170	350,524	7,626,896
B. Retirees/Disabled	<u>3,901,909</u>	<u>0</u>	<u>30,153</u>	<u>5,895</u>	<u>3,937,957</u>
C. Total	11,163,111	0	45,323	356,419	11,564,853
IV. Fiduciary Net Position [Plan Assets]	577,851	0	2,346	18,450	598,647
V. Net OPEB Liability (Asset) [III. - IV.]	10,585,260	0	42,977	337,969	10,966,206
VI. Annual Covered Payroll	13,009,686	13,009,686	13,009,686	13,009,686	13,009,686
VII. Net OPEB Liability (Asset) as % of Covered Payroll	81.4%	0.0%	0.3%	2.6%	84.3%
VIII. Number of Eligible Participants					
A. Actives	155	0	155	155	
B. Retirees/Disabled	<u>85</u>	<u>0</u>	<u>42</u>	<u>85</u>	
C. Total	240	0	197	240	

For the Reporting Date and Fiscal Year Ending June 30, 2018

IX. Service Cost	354,804	0	774	17,285	372,863
X. Interest on Net OPEB Liability (Asset), Service Cost, and Benefit Payments	696,966	0	2,789	23,092	722,847
XI. Deferred (Inflows)/Outflows from Plan Design Changes	0	0	0	0	0
XII. Deferred (Inflows)/Outflows from Expected & Actual Experience	(90,588)	0	(368)	(2,892)	(93,848)
XIII. Deferred (Inflows)/Outflows from Changes in Assumptions	(418,442)	0	(1,699)	(13,360)	(433,501)
XIV. Projected Earning on OPEB plan investments	0	0	0	0	0
XV. Deferred (Inflows)/Outflows from Earnings on Investments	(302)	0	(1)	(10)	(313)
XVI. Employer Share of Costs	(441,978)	0	(1,734)	0	(443,712)
XVII. Employer (Payments)/Withdrawals to/from OPEB Trust	(454,928)	0	(1,847)	(14,525)	(471,300)
XVIII. Total Employer Contribution [XVI. + XVII.]	(896,906)	0	(3,581)	(14,525)	(915,012)
XIX. Other Changes	0	0	0	0	0
XX. Net OPEB Expense [IX.+X.+XI.+XII.+XIII.+XIV.+XV.+XVIII.+XIX.]	(354,468)	0	(2,086)	9,590	(346,964)

SECTION I

PRINCIPAL RESULTS OF THE VALUATION

(continued)

Town of Topsfield
Plan Liabilities as of the June 30, 2017 Measurement Date
Assuming Funding over 30 years at 6.50% discount rate

	General Government Employees and Retirees	Schools Employees and Retirees	Police Employees and Retirees	Fire Employees and Retirees	Water Enterprise Employees and Retirees	Total
I. Present Value of Future Benefits						
A. Actives	1,820,497	6,807,440	1,164,812	414,804	219,750	10,427,303
B. Retirees/Disabled	<u>1,236,998</u>	<u>1,967,741</u>	<u>732,729</u>	<u>489</u>	<u>0</u>	<u>3,937,957</u>
C. Total	3,057,495	8,775,181	1,897,541	415,293	219,750	14,365,260
II. Present Value of Future Normal Cost	476,656	1,797,182	329,318	148,699	48,552	2,800,407
III. Total OPEB Liability						
A. Actives	1,347,925	5,020,600	830,003	253,685	174,683	7,626,896
B. Retirees/Disabled	<u>1,236,998</u>	<u>1,967,741</u>	<u>732,729</u>	<u>489</u>	<u>0</u>	<u>3,937,957</u>
C. Total	2,584,923	6,988,341	1,562,732	254,174	174,683	11,564,853
IV. Fiduciary Net Position [Plan Assets]	133,639	341,022	76,095	12,943	34,948	598,647
V. Net OPEB Liability (Asset) [III. - IV.]	2,451,284	6,647,319	1,486,637	241,231	139,735	10,966,206
VI. Annual Covered Payroll	2,350,136	8,896,947	1,007,202	419,667	335,734	13,009,686
VII. Net OPEB Liability (Asset) as % of Covered Payroll	104.3%	74.7%	147.6%	57.5%	41.6%	84.3%
VIII. Number of Eligible Participants						
A. Actives	28	106	12	5	4	155
B. Retirees/Disabled	<u>30</u>	<u>43</u>	<u>12</u>	<u>0</u>	<u>0</u>	<u>85</u>
C. Total	58	149	24	5	4	240
For the Reporting Date and Fiscal Year Ending June 30, 2018						
IX. Service Cost	68,654	243,435	40,389	15,802	4,583	372,863
X. Interest on Net OPEB Liability (Asset), Service Cost, and Benefit Payments	158,997	441,453	96,514	16,626	9,257	722,847
XI. Deferred (Inflows)/Outflows from Plan Design Changes	0	0	0	0	0	0
XII. Deferred (Inflows)/Outflows from Expected & Actual Experience	(20,631)	(57,111)	(12,485)	(2,146)	(1,475)	(93,848)
XIII. Deferred (Inflows)/Outflows from Changes in Assumptions	(96,894)	(261,953)	(58,578)	(9,528)	(6,548)	(433,501)
XIV. Projected Earning on OPEB plan investments	0	0	0	0	0	0
XV. Deferred (Inflows)/Outflows from Earnings on Investments	(69)	(179)	(40)	(7)	(18)	(313)
XVI. Employer Share of Costs	(150,089)	(201,512)	(85,714)	(2,532)	(3,865)	(443,712)
XVII. Employer (Payments)/Withdrawals to/from OPEB Trust	(105,343)	(284,794)	(63,686)	(10,358)	(7,119)	(471,300)
XVIII. Total Employer Contribution [XVI. + XVII.]	(255,432)	(486,306)	(149,400)	(12,890)	(10,984)	(915,012)
XIX. Other Changes	0	0	0	0	0	0
XX. Net OPEB Expense [IX.+X.+XI.+XII.+XIII.+XIV.+XV.+XVIII.+XIX.]	(145,375)	(120,661)	(83,600)	7,857	(5,185)	(346,964)

Overview of GASB 74 and 75

Before Statements 74 and 75, GASB statement 45 established the reporting standards for Other Postemployment Benefit (“OPEB”) plans. It was designed to recognize the Other Postemployment Benefits earned by employees throughout their working career vs. when they are paid in retirement – accrual accounting vs. “pay-as-you-go” accounting. Additionally, each eligible active employee earns benefits each year representing benefits to be paid in retirement or a “Service Cost”. These amounts are reflected in your financial statement each year so that OPEB benefits for an eligible employee shall be fully charged to the financial statement when that eligible employee terminates employment.

In 2012 GASB issued GASB Statements 67 and 68 to update and standardize the financial reporting of pension liabilities. This increased the transparency of pension liabilities by moving them to the balance sheet and made financial statement disclosures of pension liabilities more comparable between municipal entities. GASB Statements 74 and 75 are designed to have the same effect on OPEB plans.

GASB 74 and 75 require retiree medical plans to disclose information about asset and liability levels and show historical contribution information. GASB 74 only applies in situations where a separate trust is established to prefund these benefits. GASB 75 requires employers to perform periodic actuarial valuations to determine annual accounting costs and to keep a running tally of the extent to which these amounts are over or under funded.

GASB 74 and 75 apply to those benefits provided after retirement, except for pension benefits, such as medical, dental and life insurance. The philosophy behind the accounting standard is that these post-employment benefits are part of the compensation earned by employees in return for their services, and the cost of these benefits should be recognized while employees are providing those services, rather than after they have retired. This philosophy has already been applied for years to defined benefit pensions; GASB 74 and 75 extend this practice to all other post-employment benefits.

Overview of GASB 74 and 75

(continued)

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

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

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

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

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

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

Once the Accrued Liability and the Service Cost have been calculated, the next step is to determine an actuarially determined contribution. This is an amount that if paid annually would fully prefund the benefits for current active and retired employees. This consists of two pieces:

- ✓ Service Cost – because the benefits earned by active employees each year should be paid for each year
- ✓ Past Service Cost – a catch-up payment to fund the Accrued Liability over a period of time determined by an actuary

The final step is to keep track going forward of how much of the contribution is actually paid. There is no requirement to actually fund these benefits, but the cumulative deficiency must be disclosed on the Town's financial statements as the Net OPEB Liability (NOL). If you decide to fully fund the NOL this will appear in the financial statement as a Net OPEB Asset. In addition, the Discount Rate used to calculate the liabilities must reflect the expected investment income of whatever funds are set aside to prefund the benefits; if there is no prefunding then the Discount Rate will be much lower and the liabilities significantly higher than if the benefits are prefunded.

Commentary on Plan Experience and Contribution Amounts

1. **GASB 74/75 – How we got here:**

GASB 74 and 75 were designed to recognize the Other Postemployment Benefits (“OPEB”) earned by employees throughout their working career vs. when they are paid in retirement – accrual accounting vs. “pay-as-you-go” accounting while increasing disclosures to better reflect the plan’s liabilities and future funding requirements. Additionally, each eligible active employee earns benefits each year representing benefits to be paid in retirement or a “Service Cost”. These amounts are reflected in your financial statement each year so that OPEB benefits for an eligible employee shall be fully charged to the financial statement when that eligible employee terminates employment. Additionally, GASB 74 and 75 require increased disclosures comparable to those required under GASB 67 and 68 and interest rates used in the valuation are more closely tied to the plan’s underlying investment and funding policy.

2. **GASB 74 and 75 Impact**

The Town has adopted GASB 74 for the fiscal year ending June 30, 2017 and GASB 75 for the fiscal year ending June 30, 2018. The adoption of GASB 74/75 introduces a new actuarial cost method and discount rate as well as new disclosures and methodologies for reporting plan liabilities and OPEB expenses. Significant changes have been made to the recognition of OPEB expenses, making the comparison of Net OPEB Expense in the current valuation to the expenses reported under GASB 45 misleading. The liability reported on the Town’s balance sheet will increase dramatically as GASB 74/75 require the recognition of liabilities immediately rather than recognizing liabilities (Net OPEB Obligation) over a 30 year period as GASB 45 allowed. Please keep these changes in mind when considering any comparison to previously reported liabilities and expenses.

Commentary on Plan Experience and Contribution Amounts
(continued)

3. **Balance Sheet Items as of the Measurement Date**

	June 30, 2017	June 30, 2015
Total OPEB Liability	\$14,629,703	\$18,349,471
Fiduciary Net Position	\$598,647	\$342,853
Net OPEB Liability	\$14,031,056	\$18,006,618
Funded Ratio	4.09%	1.87%

5. **Income Statement Items as of the Fiscal Year Ending**

	June 30, 2018	June 30, 2016
Service Cost	\$562,158	\$783,370
Interest Expense	\$682,763	N/A
(Inflow)/Outflow from Plan Design Changes	\$0	N/A
(Inflow)/Outflow from Plan Experience	\$(93,848)	N/A
(Inflow)/Outflow from Changes in Assumptions	\$0	N/A
Projected Investment Earnings	\$(13,481)	N/A
(Inflow)/Outflow from Earnings on Investments	\$(313)	N/A
Employer Share of Costs	\$(443,713)	\$(417,624)
Employer Payments (Withdrawals) to/from Trust	\$(100,000)	\$(100,000)
Total Employer Payments	\$(543,713)	\$(517,624)
Other Changes	\$0	N/A
Net OPEB Expense	\$593,566	N/A
Interest Rate	4.75%	3.50%

SECTION II

SUMMARY OF PLAN PROVISIONS

Effective Date

GASB 45 is adopted July 1, 2011

GASB 74 is adopted for the fiscal year ending June 30, 2017

GASB 75 is adopted for the fiscal year ending June 30, 2018

Plan Year

July 1 through June 30.

Eligibility

An employee hired before April 2, 2012 shall become eligible to retire under this plan upon attainment of age 55 as an active member and completion of 10 years of service or an employee shall be able to retire with 20 years of service regardless of age. Those hired on or after April 2, 2012 shall be eligible to retire upon attainment of age 60 with 10 years of creditable service.

Creditable Service

Elapsed time from date of hire to termination of service date.

Participant Contributions

Premiums for Medical insurance vary by plan selected ranging from 33% to 40% of underlying gross premiums. Employees will pay 33% of premiums for Life Insurance in retirement.

Benefits Offered

Comprehensive Medical Insurance offered through Blue Cross Blue Shield of Massachusetts as well as Group Term Life Insurance.

Normal Retirement Date

The normal retirement date is the first day of the month following a participant's 65th birthday.

Early Retirement

Early retirement is available for any participant who has attained benefit eligibility.

SECTION III

ACTUARIAL COST METHOD, ASSET VALUATION METHOD AND ACTUARIAL ASSUMPTIONS

A. ACTUARIAL COST METHOD

The actuarial cost method used to calculate the costs and liabilities of the plan is the Individual Entry Age Normal Actuarial Cost Method. Under this method, the annual normal cost for each individual active member, payable from the date of employment to the date of retirement, is sufficient to accumulate the value of the member's benefit at the time of retirement. The annual normal cost for each active member is a level percent of payroll. The actuarial accrued liability is the actuarial present value of the projected benefit times the ratio of past service to expected total service at retirement/termination.

Actuarial gains and losses are calculated each year and amortized into the OPEB expense. Gains and losses arising from plan design changes are recognized immediately. Gains and losses arising from differences between expected and actual investment returns are amortized over a five (5) year period. Gain and losses arising from differences between expected and actual plan experience and changes in actuarial assumptions are amortized over the remaining lifetime of all active and retired plan participants (7.07 years for the Town for the 2018 fiscal year).

All employees who are plan participants on the valuation date are included in the actuarial valuation.

B. ASSET VALUATION METHOD

The actuarial value of assets is equal to the Market Value of the Plan's assets as of the measurement date.

SECTION III

ACTUARIAL COST METHOD, ASSET VALUATION METHOD AND ACTUARIAL ASSUMPTIONS

(continued)

C. ACTUARIAL ASSUMPTIONS

We used the following assumptions in this year's actuarial valuation:

Pre-Retirement Mortality

It is assumed that pre-retirement mortality is represented by the RP-2000 Employees Mortality Table projected generationally with scale BB and a base year 2009 for males and females

Post-Retirement Mortality

It is assumed that post-retirement mortality is represented by the RP-2000 Healthy Annuitant Mortality Table projected generationally with scale BB and a base year 2009 for males and females

Disabled Mortality

It is assumed that disabled mortality is represented by the RP-2000 Healthy Annuitant Table projected generationally with Scale BB and a base year 2012 for males and females

Mortality Experience Study

The mortality assumptions reflect PERAC's recent experience analysis published in 2014 (based on the years 2006-2011), updated to reflect data through January 1, 2015 for post-retirement mortality, and professional judgement. As such, mortality assumptions reflect observed current mortality as well as expected mortality improvements.

Discount Rate

4.75% per annum (previously 3.50%)

Long Term Rate of Return

6.47% (based on investment policy)

SECTION III

ACTUARIAL COST METHOD, ASSET VALUATION METHOD AND ACTUARIAL ASSUMPTIONS

(continued)

C. ACTUARIAL ASSUMPTIONS (continued)

Municipal Bond Rate

3.13% as of June 30, 2017 (source: S&P Municipal Bond 20-Year High Grade Index – SAPIHG)

Employee Termination

It was assumed that employees would terminate employment in accordance with the sample rates shown in the following table:

Non-Public Safety Employees						
<u>Age</u>	<u>0-4 Years of Service (Males)</u>	<u>0-4 Years of Service (Females)</u>	<u>5-9 Years of Service (Males)</u>	<u>5-9 Years of Service (Females)</u>	<u>10+ Years of Service (Males)</u>	<u>10+ Years of Service (Females)</u>
20	27.00%	27.00%	12.00%	12.00%	6.00%	6.00%
30	23.00%	23.00%	10.00%	10.00%	5.50%	5.50%
40	16.00%	16.00%	8.00%	8.00%	3.50%	3.50%
50	18.00%	18.00%	6.00%	6.00%	3.00%	3.00%
60	18.00%	18.00%	5.00%	5.00%	3.50%	3.50%

Public Safety Employees		
<u>Service</u>	<u>Public Safety Male</u>	<u>Public Safety Female</u>
0	9.00%	9.00%
5	6.00%	6.00%
10	3.50%	3.50%
15	2.00%	2.00%
20	1.50%	1.50%
25	1.50%	1.50%
30	1.50%	1.50%

SECTION III

ACTUARIAL COST METHOD, ASSET VALUATION METHOD AND ACTUARIAL ASSUMPTIONS

(continued)

C. ACTUARIAL ASSUMPTIONS (continued)

Retirement Rates for non-teachers

It was assumed that the following percentage of eligible employees would retire each year:

<u>Age</u>	<u>Non Public Safety Male</u>	<u>Non Public Safety Female</u>	<u>Public Safety</u>
45	0.00%	0.00%	1.00%
46	0.00%	0.00%	1.00%
47	0.00%	0.00%	1.00%
48	0.00%	0.00%	1.00%
49	0.00%	0.00%	1.00%
50	1.00%	1.50%	2.00%
51	1.00%	1.50%	2.00%
52	1.00%	2.50%	2.00%
53	1.00%	2.50%	5.00%
54	2.00%	2.50%	7.50%
55	2.00%	5.50%	15.00%
56	2.50%	6.50%	10.00%
57	2.50%	6.50%	10.00%
58	5.00%	6.50%	10.00%
59	6.50%	6.50%	15.00%
60	12.00%	5.00%	20.00%
61	20.00%	13.00%	20.00%
62	30.00%	15.00%	25.00%
63	25.00%	12.50%	25.00%
64	22.00%	18.00%	30.00%
65	40.00%	15.00%	100.00%
66	25.00%	20.00%	100.00%
67	25.00%	20.00%	100.00%
68	30.00%	25.00%	100.00%
69	30.00%	20.00%	100.00%
70	100.00%	100.00%	100.00%
71	100.00%	100.00%	100.00%
72	100.00%	100.00%	100.00%

SECTION III

ACTUARIAL COST METHOD, ASSET VALUATION METHOD AND ACTUARIAL ASSUMPTIONS

(continued)

C. ACTUARIAL ASSUMPTIONS (continued)

Retirement Rates for teachers

It was assumed that the following percentage of eligible employees would retire each year:

<u>Age</u>	<u>Male Teachers</u>	<u>Female Teachers</u>
45	0.00%	0.00%
46	0.00%	0.00%
47	0.00%	0.00%
48	0.00%	0.00%
49	0.00%	0.00%
50	2.00%	1.50%
51	2.00%	1.50%
52	2.00%	1.50%
53	2.00%	1.50%
54	2.00%	2.00%
55	6.00%	5.00%
56	20.00%	15.00%
57	40.00%	35.00%
58	50.00%	35.00%
59	50.00%	35.00%
60	40.00%	35.00%
61	40.00%	35.00%
62	35.00%	35.00%
63	35.00%	35.00%
64	35.00%	35.00%
65	35.00%	35.00%
66	40.00%	35.00%
67	40.00%	30.00%
68	40.00%	30.00%
69	40.00%	30.00%
70	100.00%	100.00%
71	100.00%	100.00%
72	100.00%	100.00%

In the absence of census data specifying which employees are teachers it was assumed that two thirds of school employees are teachers. If available, actual census data was used.

SECTION III

ACTUARIAL COST METHOD, ASSET VALUATION METHOD AND ACTUARIAL ASSUMPTIONS

(continued)

Disability rates

It was assumed that the following percentage of eligible employees would become permanently disabled each year:

<u>Age</u>	<u>Standard</u>	<u>Teachers</u>	<u>Public Safety</u>
20	0.01%	0.05%	0.20%
25	0.01%	0.06%	0.20%
30	0.01%	0.07%	0.21%
35	0.03%	0.10%	0.40%
40	0.07%	0.21%	0.71%
45	0.10%	0.30%	1.00%
50	0.13%	0.42%	1.10%
55	0.14%	0.50%	0.80%
60	0.12%	0.50%	0.80%

SECTION III

ACTUARIAL COST METHOD, ASSET VALUATION METHOD AND ACTUARIAL ASSUMPTIONS (continued)

C. ACTUARIAL ASSUMPTIONS (continued)

Healthcare Trend

It was assumed that healthcare costs would increase in accordance with the trend rates in the following table:

<u>Year</u>	<u>Medical</u>	<u>Dental</u>
FY 2013	6.0%	5.5%
FY 2014	5.0%	5.0%
FY 2015	5.0%	5.0%
FY 2016	5.0%	5.0%
FY 2017	5.0%	5.0%
FY 2018	5.0%	5.0%
FY 2019	5.0%	5.0%
FY 2020+	5.0%	5.0%

Participation Rate

It was assumed that 80% of employees eligible to receive retirement benefits would enroll in the retiree medical plans upon retirement. For life insurance plans, it was assumed that 80% of eligible employees would elect coverage upon retirement.

Percent Married

It was assumed that 80% of male participants and 70% of female participants who elect retiree healthcare coverage for themselves would also elect coverage for a spouse upon retirement. It was further assumed that a male spouse is three years older than a female spouse and same sex spouses are assumed to be the same age. For current retirees, the actual census information was used.

SECTION III

ACTUARIAL COST METHOD, ASSET VALUATION METHOD AND ACTUARIAL ASSUMPTIONS

(continued)

C. ACTUARIAL ASSUMPTIONS (continued)

Compensation Increases

3.00% per year.

Open Group Forecast

It was assumed for projecting plan liabilities in future years that the active population would remain unchanged and that those who terminate employment or retire will be replaced with new employees with the demographics below:

Open Group Forecast Population Demographics

<u>Age</u>	<u>Male</u>	<u>Female</u>
20	8.0%	5.0%
30	7.0%	14.0%
40	20.0%	19.0%
50	10.0%	10.0%
60	<u>3.0%</u>	<u>4.0%</u>
Total	48.0%	52.0%

Additional Comments

The values in this report reflect a closed group and do not reflect any new entrants after the valuation date.

For purposes of this valuation, retiree contributions were assumed to increase with the same trend rate as health care claims.

Medicare Part B Penalties are not reflected

Medicare Part B Reimbursement is not reflected

SECTION III

ACTUARIAL COST METHOD, ASSET VALUATION METHOD AND ACTUARIAL ASSUMPTIONS

(continued)

D. DEVELOPMENT OF REPRESENTATIVE MEDICAL PER CAPITA CLAIMS COSTS

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

- ✓ The cost sharing program is usually a fixed amount such as a COBRA premium that does not take into account the age of the retiree and his/her dependents. Since medical costs generally increase with age, the cost sharing premium is often lower than the true cost of the medical benefits:
- ✓ The cost sharing premium is usually a blended rate that takes into account the cost of medical benefits for active employees as well as retirees. Medical costs are generally higher for retirees than for active employees of the same age. This means that, again, the cost sharing premium is often lower than the true cost of the medical benefits.

Because of these two factors, a retiree who is paying 100% of the cost sharing premium is most likely not paying 100% of the true cost of the medical benefits. This situation is known as an "implicit subsidy". GASB 74 and 75 require the plan sponsor to measure the liability for this subsidy; that is, the difference between the true cost of the medical benefits and the cost sharing premiums paid by the retiree. Actuarial Standard of Practice No. 6 ("ASOP 6") requires us to recognize this implicit subsidy while the plan sponsor may only pay the premiums billed by an insurance provider. To do this, our valuation consists of several steps:

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

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

SECTION III

ACTUARIAL COST METHOD, ASSET VALUATION METHOD AND ACTUARIAL ASSUMPTIONS

(continued)

D. DEVELOPMENT OF REPRESENTATIVE MEDICAL PER CAPITA CLAIMS COSTS

I. CLAIMS COSTS DEVELOPMENT - Based on Active & Retiree Incurred Claims & Premiums

	Number of Participants			
	Single	Two-Person	Family	Total
HMO Blue	61		65	126
Blue Care Elect	2		12	14
HMO Blue Limited	1		1	2
Managed Blue Senior	4	6		10
Medex II	13	17		30
Total	81	23	78	182

	Per Contract Costs (monthly) - FY 2018		
	Single	Two-Person	Family
HMO Blue	884.37	0.00	2,383.16
Blue Care Elect	1,283.68	0.00	3,317.36
HMO Blue Limited	822.46	0.00	2,216.34
Managed Blue Senior	307.77	615.54	
Medex II	357.63	715.26	

Gross Expected FY 2018 Incurred Premiums	3,311,993
Adjustment to reflect children's claims	(594,105)
Total Expected FY 2018 Incurred Premiums (adults only)	2,717,888

II. PRE-65 AND POST-65 PER CAPITA RETIREE ANNUAL CLAIM COSTS

	Employer Primary	Medicare Primary
Age 65	16,078	3,748
Average Age	11,727	4,140

SECTION III

ACTUARIAL COST METHOD, ASSET VALUATION METHOD AND ACTUARIAL ASSUMPTIONS (continued)

D. DEVELOPMENT OF REPRESENTATIVE MEDICAL PER CAPITA CLAIMS COSTS

III. BREAKDOWN OF CLAIM COSTS

ALL ACTIVE EMPLOYEES AND SPOUSES

Age Bracket	Female Aging Factor	Male Aging Factor	Aged (F) Average Claims	Aged (M) Average Claims	Age Related Claims
24 & Under	1.312	0.549	9,408	3,937	9,408
25 to 29	1.312	0.591	9,408	4,238	69,162
30 to 34	1.312	0.712	9,408	5,106	176,058
35 to 39	1.312	0.850	9,408	6,095	118,460
40 to 44	1.312	1.000	9,408	7,171	250,462
45 to 49	1.456	1.193	10,441	8,555	196,629
50 to 54	1.599	1.441	11,466	10,333	317,785
55 to 59	1.740	1.753	12,478	12,571	513,551
60 to 64	1.968	2.102	14,113	15,073	321,046
65 to 69	2.168	2.316	15,547	16,608	130,742
70 & Over	2.396	2.557	17,182	18,336	<u>52,700</u>
Total					2,156,003

ALL RETIREES AND SPOUSES - NOT MEDICARE ELIGIBLE

Age Bracket	Female Aging Factor	Male Aging Factor	Aged (F) Average Claims	Aged (M) Average Claims	Age Related Claims
44 & Under	1.312	1.000	9,408	7,171	0
45 to 49	1.456	1.193	10,441	8,555	0
50 to 54	1.599	1.441	11,466	10,333	0
55 to 59	1.740	1.753	12,478	12,571	12,478
60 to 64	1.968	2.102	14,113	15,073	260,754
65 to 69	2.168	2.316	15,547	16,608	0
70 to 74	2.396	2.557	17,182	18,336	0
75 to 79	2.593	2.769	18,594	19,856	0
80 to 84	2.724	2.910	19,534	20,868	19,534
85 to 89	2.864	3.059	20,538	21,936	0
90 & Over	3.010	3.215	21,585	23,055	<u>0</u>
Total					292,766

ALL RETIREES AND SPOUSES - MEDICARE ELIGIBLE

Age Bracket	Female Aging Factor	Male Aging Factor	Aged (F) Average Claims	Aged (M) Average Claims	Age Related Claims
65 to 69	2.168	2.316	3,624	3,871	82,800
70 to 74	2.396	2.557	4,005	4,274	124,200
75 to 79	2.593	2.769	4,334	4,629	33,120
80 to 84	2.724	2.910	4,553	4,864	20,700
85 to 89	2.864	3.059	4,787	5,113	8,280
90 & Over	3.010	3.215	5,031	5,374	<u>0</u>
Total					269,100

Grand Totals 2,717,869

SECTION III

ACTUARIAL COST METHOD, ASSET VALUATION METHOD AND ACTUARIAL ASSUMPTIONS

(continued)

E. DEVELOPMENT OF REPRESENTATIVE DENTAL PER CAPITA CLAIMS COSTS

I. CLAIMS COSTS DEVELOPMENT - with Active & Retiree Incurred Premiums

	Per Contract Costs (monthly) - FY 2018		
	<u>Single</u>	<u>Two-Person</u>	<u>Family</u>
Dental Plan	N/A		N/A

FY 2018 Expected Per Person Rate

N/A

EXHIBIT A

Financial Statement Disclosure (As of the June 30, 2017 Measurement Date)

The GASB Standards for accounting and financial reporting for postemployment benefits other than pensions require the following disclosures in the financial statements related to the retiree medical, dental and life insurance benefits;

1. A DESCRIPTION OF THE RETIREE MEDICAL INSURANCE PROGRAM:

- a. Plan Type: Comprehensive Medical Insurance offered through Blue Cross Blue Shield of Massachusetts.
- b. Administrator: Town of Topsfield
- c. Eligibility: An employee hired before April 2, 2012 shall become eligible to retire under this plan upon attainment of age 55 as an active member and completion of 10 years of service or an employee shall be able to retire with 20 years of service regardless of age. Those hired on or after April 2, 2012 shall be eligible to retire upon attainment of age 60 with 10 years of creditable service.
- d. Cost Sharing: Premiums for Medical insurance vary by plan selected ranging from 33% to 40% of underlying gross premiums.

2. A DESCRIPTION OF THE RETIREE DENTAL INSURANCE PROGRAM:

- a. Plan Type: Not offered
- b. Administrator: N/A
- c. Eligibility: N/A
- d. Cost sharing: N/A

3. A DESCRIPTION OF THE RETIREE LIFE INSURANCE PROGRAM:

- a. Plan Type: Group Term Life Insurance - \$2,500
- b. Administrator: Town of Topsfield
- c. Eligibility: Same as above
- d. Cost sharing: Employees will pay 33% of premiums in retirement.

EXHIBIT A

Financial Statement Disclosure (As of the June 30, 2017 Measurement Date) (continued)

4. RETIREE MEDICAL AND LIFE INSURANCE CONTRIBUTIONS:

Group	Individual	Family
Medical	Premiums for Medical insurance vary by plan selected ranging from 33% to 40% of underlying gross premiums.	Premiums for Medical insurance vary by plan selected ranging from 33% to 40% of underlying gross premiums.
Dental	N/A	N/A
Life	33%	N/A

5. FUNDING POLICY

The contribution requirements of plan members and the Town are established and may be amended through Town ordinances. For the 2018 fiscal year, total Town premiums plus implicit costs for the retiree medical program are \$443,713. The Town is also projected to make a contribution to an OPEB Trust of \$100,000 for the 2018 fiscal year for a total contribution of \$543,713.

EXHIBIT A

Financial Statement Disclosure (As of the June 30, 2017 Measurement Date) (continued)

6. INVESTMENT POLICY

The chart below shows how the long-term rate of return on assets is developed based on the Town's Investment Policy.

Investment Target Allocation & Expected Long-Term Real Rate of Return			
Asset Class	Target Allocation	Asset Class	Long-Term Expected Real Rate of Return
Domestic Equity - Large Cap	25.00%	Domestic Equity - Large Cap	4.00%
Domestic Equity - Small/Mid Cap	11.25%	Domestic Equity - Small/Mid Cap	6.00%
International Equity - Developed Market	10.00%	International Equity - Developed Market	4.50%
International Equity-Emerging Market	3.75%	International Equity-Emerging Market	7.00%
Domestic Fixed Income	26.75%	Domestic Fixed Income	2.00%
International Fixed Income	13.25%	International Fixed Income	3.00%
Alternatives	10.00%	Alternatives	6.50%
Real Estate	0.00%	Real Estate	6.25%
Cash	0.00%	Cash	0.00%
Total	100.00%		
		I. Real Rate of Return	3.97%
		II. Inflation Assumption	2.75%
		III. Total Nominal Return [I. + II.]	6.72%
		IV. Investment Expense	0.25%
		V. Net Investment Return [III.-IV.]	6.47%

EXHIBIT A

Financial Statement Disclosure (As of the June 30, 2017 Measurement Date) (continued)

7. **ACTUARIALLY DETERMINED CONTRIBUTION (ADC)**

The Town's Actuarially Determined Contribution (ADC) is an amount actuarially determined in accordance with the parameters of GASB Statement No. 74/75 which represents a level of funding that, if paid on an ongoing basis, is projected to cover the service cost each year and amortize any unfunded actuarial liabilities (or funding excess). The following table shows the components of the Town's annual ADC for the fiscal year and the amount actually contributed to the plan:

Actuarially Determined Contribution - Deficiency / (Excess)	
<u>For the Fiscal Year Ending June 30, 2018</u>	
I. Service Cost	562,158
II. 30 year amortization of NOL at 4.75%	<u>846,678</u>
III. Actuarial Determined Contribution [I. + II.]	1,408,836
IV. Contributions in relation to the actuarially determined contribution	<u>(543,713)</u>
V. Contribution deficiency / (excess) [III. + IV.]	<u>865,123</u>
Covered employee payroll	13,009,686
Contributions as a % of covered employee payroll	4.18%

EXHIBIT A

Financial Statement Disclosure (As of the June 30, 2017 Measurement Date) (continued)

8. FUNDED STATUS AND FUNDING PROGRESS

As of the June 30, 2017 Measurement Date, the plan was 4.09% funded. The Total OPEB Liability (TOL) for benefits was \$14,629,703, and the Fiduciary Net Position was \$598,647, resulting in a Net OPEB Liability (NOL) of \$14,031,056. The covered payroll (annual payroll of active employees covered by the plan) was \$ 13,009,686 and the ratio of the NOL to the covered payroll was 107.9%.

Actuarial valuations of an ongoing plan involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment, mortality, and the healthcare cost trend. Amounts determined regarding the funded status of the plan and the actuarially determined contribution of the employer are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future. The schedule of funding progress, presented in the required supplementary information following the financial statements, presents multiyear trend information about whether the actuarial value of plan assets is increasing or decreasing over time relative to the Total OPEB Liabilities for benefits.

Measurement Date	Fiduciary Net Position	Total OPEB Liability	Net OPEB Liability	Funded Ratio	Covered Payroll	NOL as a % of Covered Payroll
06/30/2019 (est.)	\$891,663	\$16,281,608	\$15,389,945	5.5%	\$13,801,976	111.5%
06/30/2018 (est.)	\$740,564	\$15,459,347	\$14,718,783	4.8%	\$13,399,977	109.8%
06/30/2017	\$598,647	\$14,629,703	\$14,031,056	4.1%	\$13,009,686	107.9%
06/30/2016	\$458,499	\$18,976,627	\$18,518,128	2.4%	\$9,481,617	195.3%
06/30/2015	\$342,853	\$18,349,471	\$18,006,618	1.9%	\$9,205,453	195.6%
06/30/2014	\$238,157	\$15,464,384	\$15,226,227	1.5%	N/A	N/A

EXHIBIT A

Financial Statement Disclosure (As of the June 30, 2017 Measurement Date) (continued)

9. FIDUCIARY NET POSITION

Statement of Fiduciary Net Position		
June 30, 2017 and June 30, 2018		
	<u>June 30, 2018 (Projected)</u>	<u>June 30, 2017</u>
Assets		
I. Cash and cash equivalents	0	0
<u>Receivables & Prepaid expenses:</u>		
II. Contributions	0	0
III. Investment Income	0	0
IV. Receivables from brokers for unsettled trades	0	0
V. Prepaid expenses	<u>0</u>	<u>0</u>
VI. Total Receivables [II.+III.+IV.+V.]	<u>0</u>	<u>0</u>
<u>OPEB Trust Investments:</u>		
VII. Fixed Income	296,226	239,459
VIII. Stocks	370,282	299,324
IX. Cash and cash equivalents	0	0
X. Real estate	0	0
XI. Alternative investments	<u>74,056</u>	<u>59,864</u>
XII. Total Investments [VII.+VIII.+IX.+X.+XI.]	<u>740,564</u>	<u>598,647</u>
Invested securities lending cash collateral	0	0
Capital assets, net of accumulated depreciation	0	0
Total Assets	740,564	598,647
Liabilities		
XIII. Accrued expenses and benefits payable	0	0
XIV. Securities lending cash collateral	0	0
XV. Payable to brokers for unsettled trades	<u>0</u>	<u>0</u>
XVI. Total liabilities [XIII.+XIV.+XV.]	<u>0</u>	<u>0</u>
XVII. Net Position restricted for OPEB [XII.-XVI.]	740,564	598,647

EXHIBIT A

Financial Statement Disclosure (As of the June 30, 2017 Measurement Date) (continued)

9. FIDUCIARY NET POSITION (CONTINUED)

Statement of Changes in Fiduciary Net Position for the Year ended June 30, 2018 (Projected)	
	<u>June 30, 2017</u>
Additions	
<u>Contributions</u>	
Employer Contributions to OPEB Trust	<u>100,000</u>
Total Contributions	100,000
<u>Investment Income / (loss)</u>	
Interest	12,168
Dividends	5,986
Equity fund income, net	0
Net increase in fair value of investments	23,763
Securities lending income	0
Less investment expenses:	
Direct investment expense	0
Securities lending management fees	0
Securities lending borrower rebates	<u>0</u>
Net investment income	41,917
Other income	<u>0</u>
Total Additions	<u>141,917</u>
Deductions	
Service benefits	0
Disability benefits	0
Death benefits	0
Refunds	0
Administrative expenses	<u>0</u>
Total deductions	<u>0</u>
Net increase (decrease)	141,917
Net Position restricted for OPEB	
Beginning of year	<u>598,647</u>
End of year	740,564

EXHIBIT A

Financial Statement Disclosure (As of the June 30, 2017 Measurement Date) (continued)

10. OPEB LIABILITY, OPEB EXPENSE AND ADC

Fiscal Year Ending June 30, 2018						
	General Government Employees and Retirees	Schools Employees and Retirees	Police Employees and Retirees	Fire Employees and Retirees	Water Enterprise Employees and Retirees	Total
I. Total OPEB Liability	3,215,706	8,902,983	1,946,372	334,620	230,022	14,629,703
II. Fiduciary Net Position as of June 30, 2017	133,639	341,022	76,095	12,943	34,948	598,647
III. Net OPEB Liability (Asset) [I.-II.]	3,082,067	8,561,961	1,870,277	321,677	195,074	14,031,056
IV. Service Cost	100,928	357,874	59,376	23,231	6,737	548,146
V. Interest on Net OPEB Liability (Asset), Service Cost, and Benefit Payments	147,757	419,080	89,672	16,337	9,686	682,532
VI. Change in Deferred (Inflows)/Outflows from Plan Design Changes	-	-	-	-	-	-
VII. Change in Deferred (Inflows)/Outflows from Plan Experience	(145,860)	(403,773)	(88,269)	(15,172)	(10,428)	(663,502)
VIII. Change in Deferred (Inflows)/Outflows from Changes in Assumptions	-	-	-	-	-	-
IX. Projected Earnings on OPEB plan investments	(3,750.00)	(9,572)	(2,136)	(363)	(981)	(16,802)
X. Change in Deferred (Inflows)/Outflows from Earnings on Investments	(529)	(712)	(303)	(9)	(14)	(1,567)
XI. Employer Share of Costs	(159,632)	(214,323)	(91,163)	(2,693)	(4,111)	(471,922)
XII. Employer (Payments) Withdrawals to/from OPEB Trust	(21,841)	(62,465)	(13,243)	(2,451)	-	(100,000)
XIII. Total Employer Contribution [X.+XI.]	(181,473)	(276,788)	(104,406)	(5,144)	(4,111)	(571,922)
XIV. Net OPEB Expense [IV.+V.+VI.+VII.+VIII.+IX.+X.+XIII.]	(82,927)	86,109	(46,066)	18,880	889	(23,115)
XV. Actuarial Determined Contribution (ADC)	289,490	883,678	173,752	43,236	18,680	1,408,836
XVI. Total Expected Contribution	181,473	276,788	104,406	5,144	4,111	571,922
XVII. Percentage of ADC Contributed [XVI./XV.]	63%	31%	60%	12%	22%	41%

Fiscal Year Ending June 30, 2019						
	General Government Employees and Retirees	Schools Employees and Retirees	Police Employees and Retirees	Fire Employees and Retirees	Water Enterprise Employees and Retirees	Total
I. Total OPEB Liability	3,323,265	9,504,088	2,014,885	372,880	244,229	15,459,347
II. Fiduciary Net Position as of June 30, 2018	164,823	427,540	94,683	16,309	37,209	740,564
III. Net OPEB Liability (Asset) [I.-II.]	3,158,442	9,076,548	1,920,202	356,571	207,020	14,718,783
IV. Service Cost	103,508	367,022	60,894	23,825	6,909	562,158
V. Interest on Net OPEB Liability (Asset), Service Cost, and Benefit Payments	147,807	419,222	89,702	16,343	9,689	682,763
VI. Change in Deferred (Inflows)/Outflows from Plan Design Changes	-	-	-	-	-	-
VII. Change in Deferred (Inflows)/Outflows from Plan Experience	(20,631)	(57,111)	(12,485)	(2,146)	(1,475)	(93,848)
VIII. Change in Deferred (Inflows)/Outflows from Changes in Assumptions	-	-	-	-	-	-
IX. Projected Earnings on OPEB plan investments	(3,009)	(7,680)	(1,714)	(291)	(787)	(13,481)
X. Change in Deferred (Inflows)/Outflows from Earnings on Investments	(69)	(179)	(40)	(7)	(18)	(313)
XI. Employer Share of Costs	(150,090)	(201,512)	(85,714)	(2,532)	(3,865)	(443,713)
XII. Employer (Payments) Withdrawals to/from OPEB Trust	(21,841)	(62,465)	(13,243)	(2,451)	-	(100,000)
XIII. Total Employer Contribution [X.+XI.]	(171,931)	(263,977)	(98,957)	(4,983)	(3,865)	(543,713)
XIV. Net OPEB Expense [IV.+V.+VI.+VII.+VIII.+IX.+X.+XIII.]	55,675	457,297	37,400	32,741	10,453	593,566
XV. Actuarial Determined Contribution (ADC)	294,098	914,730	176,765	45,342	19,401	1,450,336
XVI. Total Expected Contribution	171,931	263,977	98,957	4,983	3,865	543,713
XVII. Percentage of ADC Contributed [XVI./XV.]	58%	29%	56%	11%	20%	37%

EXHIBIT A

Financial Statement Disclosure (As of the June 30, 2017 Measurement Date) (continued)

11. OPEB LIABILITY, OPEB EXPENSE AND DEFERRED INFLOW/OUTFLOW

Net OPEB Liability		
	For the Fiscal Year Ending	
	June 30, 2018	June 30, 2019
Net OPEB Liability at beginning of period	14,054,171	14,031,056
Net OPEB Expense - Excluding Payments	1,213,876	1,137,279
Total Contributions	(571,922)	(543,713)
Change in Deferred Outflow	0	0
Change in Deferred Inflow	(665,069)	94,161
Net OPEB Liability at end of period	14,031,056	14,718,783

Net OPEB Expense		
	For the period ending on the Measurement Date	
	June 30, 2017	June 30, 2018
Service Cost	548,146	562,158
Interest on Net OPEB Liability, Service Cost, and Payments	682,532	682,763
Deferral Amount	2,228	(94,161)
Expected Investment Income	(16,802)	(13,481)
Contributions to Trust	(100,000)	(100,000)
Benefit Payments	(471,922)	(443,713)

Deferred Inflow/Outflow		
	For the period ending on the Measurement Date	
	June 30, 2017	June 30, 2018
Deferred (Inflow)/Outflow from Actual vs. Expected Experience	(663,502)	(569,654)
Deferred (Inflow)/Outflow from Investment Experience	(1,567)	(1,254)
Deferred (Inflow)/Outflow from Changes in Benefit Terms	0	0
Deferred (Inflow)/Outflow from Changes in Assumptions	0	0

Measurement Date	June 30, 2017	June 30, 2018
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EXHIBIT A

Financial Statement Disclosure (As of the June 30, 2017 Measurement Date) (continued)

12. EFFECT OF 1% CHANGE IN HEALTHCARE TREND

In the event that healthcare trend rates were 1% higher than forecast and employee contributions were to increase at the forecast rates, the Net OPEB Liability would increase to \$18,206,361 or by 29.8% and the corresponding Service Cost would increase to \$817,201 or by 45.4%. If such healthcare trend rates were 1% less than forecast and employee contributions were to increase at the forecast rate, the Net OPEB Liability would decrease to \$10,739,926 or by 23.5% and the corresponding Service Cost would decrease to \$374,726 or by 33.3%.

Impact of a 1% Change in the Healthcare Trend Rate as of the June 30, 2017 Measurement Date

	<u>1% Decrease (4.00%)</u>	<u>Current Trend Rate (5.00%)</u>	<u>1% Increase (6.00%)</u>
Net OPEB Liability	10,739,926	14,031,056	18,206,361
Service Cost	374,726	562,158	817,201

13. EFFECT OF 1% CHANGE IN DISCOUNT RATES

If the discount rate were 1% higher than what was used in this valuation, the Net OPEB Liability would decrease to \$12,142,943 or by 13.5% and the corresponding Service Cost would decrease to \$441,746 or by 21.4%. If the discount rate were 1% lower than was used in this valuation, the Net OPEB Liability would increase to \$16,383,565 or by 16.8% and the corresponding Service Cost would increase to \$723,825 or by 28.8%.

Impact of a 1% Change in the Discount Rate as of the June 30, 2017 Measurement Date

	<u>1% Decrease (3.75%)</u>	<u>Current Discount Rate (4.75%)</u>	<u>1% Increase (5.75%)</u>
Net OPEB Liability	16,383,565	14,031,056	12,142,943
Service Cost	723,825	562,158	441,746

EXHIBIT A

Financial Statement Disclosure (As of the June 30, 2017 Measurement Date) (continued)

14. ACTUARIAL METHODS AND ASSUMPTIONS

Projections of benefits for financial reporting purposes are based on the substantive plan (the plan as understood by the employer and plan members) and include the types of benefits provided at the time of each valuation and the historical pattern of sharing of benefit costs between the employer and plan members to that point. The actuarial methods and assumptions used include techniques that are designed to reduce the effects of short-term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the calculations.

Actuarial Cost Method:	Individual Entry Age Normal
Discount Rate:	4.75% per annum (previously 3.50%)
Healthcare Trend Rates	

<u>Year</u>	<u>Medical</u>	<u>Dental</u>
FY 2013	6.0%	5.5%
FY 2014	5.0%	5.0%
FY 2015	5.0%	5.0%
FY 2016	5.0%	5.0%
FY 2017	5.0%	5.0%
FY 2018	5.0%	5.0%
FY 2019	5.0%	5.0%
FY 2020+	5.0%	5.0%

General Inflation Assumption:	2.75% per annum
Annual Compensation Increases:	3.00% per annum
Actuarial Value of Assets:	Market Value

EXHIBIT A

Financial Statement Disclosure (As of the June 30, 2017 Measurement Date) (continued)

15. RECOGNITION OF OPEB TRUST ASSETS

The State of Massachusetts has passed legislation allowing municipal entities to establish a Trust for Other Postemployment Benefits ("OPEB") under M.G.L. Chapter 32B, Section 20 for purposes of accumulating assets to pre-fund the liabilities under GASB 75. This legislation was amended effective November 9, 2016 to clarify who may adopt such a Trust and provide guidance on the ongoing operation of such a Trust. To the best of our knowledge, the Town of Topsfield has established an irrevocable trust for the purposes of prefunding liabilities under GASB 74/75.

16. OPEB EXPENSE DEVELOPMENT

Components of the Town's OPEB Expenses for the Fiscal Year Ending June 30, 2018	
Description	Amount
I. Service Cost	562,158
II. Interest on Net OPEB Liability (Asset), Service Cost, and Benefit Payments	682,763
III. Deferred (Inflows)/Outflows from Plan Design Changes*	0
IV. Deferred (Inflows)/Outflows from Plan Experience**	(93,848)
V. Deferred (Inflows)/Outflows from Changes of Assumptions**	0
VI. Projected earnings on OPEB plan investments	(13,481)
VII. Deferred (Inflows)/Outflows from Earnings on Plan Investments***	(313)
VIII. Total Employer Contributions	(543,713)
IX. OPEB Plan administrative expense	0
X. Other changes in fiduciary net position	0
XI. Net OPEB expense [I.+II.+III.+IV.+V.+VI.+VII.+VIII.+IX.+ X.]	593,566

* Recognized Immediately

** Amortized over 7.07 years

*** Amortized over 5 years

EXHIBIT A

Financial Statement Disclosure (As of the June 30, 2017 Measurement Date) (continued)

17. CHANGES IN NET OPEB LIABILITY

Changes in Net OPEB Liability			
	Increase (Decrease)		
	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability
I. Balances at June 30, 2016 GASB 45	18,976,627	458,499	18,518,128
II. Change in Assumptions for GASB 75	(4,463,957)	0	(4,463,957)
III. Balances at June 30, 2016 GASB 75 [I. + II.]	14,512,670	458,499	14,054,171
Changes for the year:			
IV. Service Cost	548,146	0	548,146
V. Interest on Net OPEB Liability, Service Cost, and Benefit Payments	704,311	21,779	682,532
VI. Changes in Benefit terms *	0	0	0
VII. Change in assumptions **	0	0	0
VIII. Differences between actual and expected experience **	(663,502)	1,567	(665,069)
IX. Net Investment Income	0	16,802	(16,802)
X. Employer Contributions to Trust	0	571,922	(571,922)
XI. Benefit Payments Withdrawn from Trust	0	(471,922)	471,922
XII. Benefit payments excluding Implicit Cost	N/A	0	N/A
XIII. Implicit Cost amount	N/A	0	N/A
XIV. Total Benefit payments including Implicit Cost [XII. + XIII.]	(471,922)	0	(471,922)
XV. Administrative expense	0	0	0
XVI. Other Charges	0	0	0
XVII. Net Changes [IV.+V.+VI.+VII.+VIII.+IX.+X.+XI.+XIV.+XV.+XVI.]	117,033	140,148	(23,115)
XVII. Balances at June 30, 2017 [III.+XVII.]	14,629,703	598,647	14,031,056

* Recognized Immediately

** Amortized over 7.07 years

EXHIBIT A

Financial Statement Disclosure (As of the June 30, 2017 Measurement Date) (continued)

18. MONEY WEIGHTED RATE OF RETURN

Determination of Beginning & Ending Balances of OPEB Plan Investments for Purposes of Calculating the Annual Money-Weighted Rate of Return		
	Ending OPEB Plan Investments *	Beginning OPEB Plan Investments **
Assets		
Cash and cash equivalents	0	0
Receivables:		
Investment income	0	0
Receivables from brokers for unsettled trades	0	0
Investments		
Fixed income	296,226	239,459
Stocks	370,282	299,324
Cash and cash equivalents	0	0
Real estate	0	0
Alternative investments	74,056	59,864
Invested securities lending cash collateral	0	0
Liabilities		
Securities lending cash collateral	0	0
Payable to brokers for unsettled trades	0	0
Total OPEB plan investments	740,564	598,647
* From balances at June 30, 2018 (Projected)		
** From balances at June 30, 2017		

EXHIBIT A

Financial Statement Disclosure (As of the June 30, 2017 Measurement Date) (continued)

18. MONEY WEIGHTED RATE OF RETURN (CONTINUED)

	Plan Investments / Net External	Periods Invested	Period Weight
I. Beginning value - July 1, 2016	458,499	12	1.0000
Monthly net external cash flows:			
July	0	11	0.9167
August	0	10	0.8333
September	0	9	0.7500
October	0	8	0.6667
November	0	7	0.5833
December	100,000	6	0.5000
January	0	5	0.4167
February	0	4	0.3333
March	0	3	0.2500
April	0	2	0.1667
May	0	1	0.0833
<u>June</u>	<u>0</u>	0	0.0000
II. Total net external cash flow	100,000		
III. Earnings and increase in fair value	40,148		
IV. Ending value - June 30, 2017 [I.+II.+III.]	598,647		
Money Weighted Rate of Return	7.91%		
Asset Value - June 30, 2017	598,647		

EXHIBIT A

Financial Statement Disclosure (As of the June 30, 2017 Measurement Date) (continued)

19. PLAN CASH FLOWS

Aggregate External (Noninvestment Cash Flows)	
	<u>June 30, 2018</u>
Additions	
<u>Contributions</u>	
Member contributions	0
Employer contributions	100,000
Other income	0
Deductions	
Service benefits	0
Disability benefits	0
Death benefits	0
Refunds	0
Administrative expenses	0
Beginning balances of noninvestment-related assets and liabilities *	
Contribution receivable	0
Prepaid expenses	0
Accrued expenses & benefits payable	0
Ending balances of noninvestment-related assets and liabilities **	
Contribution receivable	0
Prepaid expenses	0
Accrued expenses & benefits payable	0
Change in capital assets - depreciation	0
Aggregate external cash flows	100,000
* From balances at June 30, 2018 (Projected)	
** From balances at June 30, 2017	

EXHIBIT A

Financial Statement Disclosure (As of the June 30, 2017 Measurement Date) (continued)

19. PLAN CASH FLOWS (CONTINUED)

Reconciliation of Beginning & Ending Balances of OPEB Plan Investments, Aggregate External Cash Flows, and Net Investment Income	
	<u>June 30, 2018 (Projected)</u>
I. Total OPEB plan investments, beginning of year	598,647
II. Aggregate external cash flows	100,000
III. Net investment income	<u>41,917</u>
IV. Total OPEB plan investments, end of year [I.+II.+III.]	<u><u>740,564</u></u>

EXHIBIT A

Financial Statement Disclosure (As of the June 30, 2017 Measurement Date) (continued)

20. PLAN PROJECTION DISCLOSURES

Projection of Contributions using a June 30, 2017 Valuation Date

Fiscal Year	I. Payroll for current employees	II. Payroll for future employees	III. Total employee payroll [I.+II.]	IV. Contributions from current employees	V. Employer Payments for current plan members	VI. Employer Payments for future employees	VII. Total Payments [IV.+V.+VI.]
2018	13,009,686	0	13,009,686	0	443,713	0	443,713
2019	12,182,227	1,217,750	13,399,977	0	498,275	0	498,275
2020	11,519,346	2,282,630	13,801,976	0	552,617	0	552,617
2021	10,805,658	3,410,377	14,216,035	0	595,831	0	595,831
2022	10,278,145	4,364,371	14,642,516	0	642,147	0	642,147
2023	9,709,163	5,372,628	15,081,791	0	714,916	0	714,916
2024	9,245,040	6,289,205	15,534,245	0	733,576	0	733,576
2025	8,785,705	7,214,567	16,000,272	0	750,596	0	750,596
2026	8,289,738	8,190,542	16,480,280	0	825,684	0	825,684
2027	7,770,515	9,204,173	16,974,688	0	835,448	0	835,448
2028	7,185,216	10,298,713	17,483,929	0	827,982	0	827,982
2029	6,684,122	11,324,325	18,008,447	0	907,799	6,846	914,645
2030	6,272,250	12,276,450	18,548,700	0	940,781	18,568	959,349
2031	5,908,804	13,196,357	19,105,161	0	985,326	35,969	1,021,295
2032	5,513,581	14,164,735	19,678,316	0	1,080,185	59,926	1,140,111
2033	5,170,474	15,098,191	20,268,665	0	1,161,584	89,364	1,250,948
2034	4,837,001	16,039,724	20,876,725	0	1,200,748	109,861	1,310,609
2035	4,521,317	16,981,710	21,503,027	0	1,256,659	134,633	1,391,292
2036	4,243,853	17,904,265	22,148,118	0	1,320,813	162,379	1,483,192
2037	3,965,607	18,846,955	22,812,562	0	1,259,301	184,502	1,443,803
2038	3,710,652	19,786,287	23,496,939	0	1,315,507	210,753	1,526,260
2039	3,443,069	20,758,778	24,201,847	0	1,325,620	247,895	1,573,515
2040	3,176,081	21,751,821	24,927,902	0	1,262,976	298,560	1,561,536
2041	2,942,536	22,733,203	25,675,739	0	1,303,020	363,467	1,666,487
2042	2,660,175	23,785,836	26,446,011	0	1,313,257	442,882	1,756,139
2043	2,482,809	24,756,582	27,239,391	0	1,303,825	535,542	1,839,367
2044	2,277,010	25,779,563	28,056,573	0	1,339,809	607,451	1,947,260
2045	2,043,728	26,854,542	28,898,270	0	1,362,778	689,420	2,052,198
2046	1,868,642	27,896,576	29,765,218	0	1,391,145	778,502	2,169,647
2047	1,689,576	28,968,599	30,658,175	0	1,427,129	856,410	2,283,539
2048	1,491,913	30,086,007	31,577,920	0	1,382,442	943,447	2,325,889
2049	1,354,946	31,170,312	32,525,258	0	1,369,632	1,042,238	2,411,870
2050	1,189,842	32,311,174	33,501,016	0	1,325,960	1,151,314	2,477,274
2051	1,032,476	33,473,570	34,506,046	0	1,316,568	1,272,378	2,588,946
2052	893,340	34,647,887	35,541,227	0	1,283,774	1,403,586	2,687,360
2053	692,489	35,914,975	36,607,464	0	1,224,993	1,546,276	2,771,269
2054	549,391	37,156,297	37,705,688	0	1,178,095	1,685,280	2,863,375
2055	407,373	38,429,486	38,836,859	0	1,150,718	1,834,211	2,984,929
2056	305,549	39,696,416	40,001,965	0	1,133,989	1,993,220	3,127,209
2057	233,222	40,968,802	41,202,024	0	1,060,101	2,157,222	3,217,323

EXHIBIT A

Financial Statement Disclosure (As of the June 30, 2017 Measurement Date) (continued)

Projection of Contributions using a June 30, 2017 Valuation Date (Continued)

Fiscal Year	I. Payroll for current employees	II. Payroll for future employees	III. Total employee payroll [I.+II.]	IV. Contributions from current employees	V. Employer Payments for current plan members	VI. Employer Payments for future employees	VII. Total Payments [IV.+V.+VI.]
2058	126,202	42,311,883	42,438,085	0	1,030,585	2,331,472	3,362,057
2059	73,271	43,637,957	43,711,228	0	999,983	2,519,429	3,519,412
2060	49,063	44,973,502	45,022,565	0	939,086	2,720,554	3,659,640
2061	29,939	46,343,303	46,373,242	0	909,431	2,935,069	3,844,500
2062	18,673	47,745,766	47,764,439	0	882,765	3,164,299	4,047,064
2063	7,882	49,189,490	49,197,372	0	856,299	3,407,663	4,263,962
2064	0	50,673,293	50,673,293	0	829,227	3,659,141	4,488,368
2065	0	52,193,492	52,193,492	0	801,712	3,924,260	4,725,972
2066	0	53,759,297	53,759,297	0	773,825	4,203,828	4,977,653
2067	0	55,372,076	55,372,076	0	745,307	4,494,875	5,240,182
2068	0	57,033,238	57,033,238	0	716,397	4,798,735	5,515,132
2069	0	58,744,235	58,744,235	0	686,870	5,118,671	5,805,541
2070	0	60,506,562	60,506,562	0	656,833	5,453,238	6,110,071
2071	0	62,321,759	62,321,759	0	626,635	5,802,932	6,429,567
2072	0	64,191,412	64,191,412	0	595,983	6,171,144	6,767,127
2073	0	66,117,154	66,117,154	0	565,395	6,556,130	7,121,525
2074	0	68,100,669	68,100,669	0	537,052	6,959,373	7,496,425
2075	0	70,143,689	70,143,689	0	512,641	7,382,248	7,894,889
2076	0	72,248,000	72,248,000	0	487,747	7,825,515	8,313,262
2077	0	74,415,440	74,415,440	0	461,866	8,289,862	8,751,728
2078	0	76,647,903	76,647,903	0	434,971	8,774,797	9,209,768
2079	0	78,947,340	78,947,340	0	407,183	9,281,844	9,689,027
2080	0	81,315,760	81,315,760	0	378,502	9,812,833	10,191,335
2081	0	83,755,233	83,755,233	0	349,062	10,368,578	10,717,640
2082	0	86,267,890	86,267,890	0	319,397	10,951,188	11,270,585
2083	0	88,855,927	88,855,927	0	289,714	11,562,466	11,852,180
2084	0	91,521,605	91,521,605	0	260,630	12,203,134	12,463,764
2085	0	94,267,253	94,267,253	0	232,143	12,876,105	13,108,248
2086	0	97,095,271	97,095,271	0	204,834	13,583,364	13,788,198
2087	0	100,008,129	100,008,129	0	178,664	14,325,162	14,503,826
2088	0	103,008,373	103,008,373	0	154,133	15,104,151	15,258,284
2089	0	106,098,624	106,098,624	0	131,183	15,922,283	16,053,466
2090	0	109,281,583	109,281,583	0	110,116	16,781,685	16,891,801
2091	0	112,560,030	112,560,030	0	91,304	17,684,459	17,775,763
2092	0	115,936,831	115,936,831	0	74,481	18,633,459	18,707,940
2093	0	119,414,936	119,414,936	0	59,948	19,630,717	19,690,665
2094	0	122,997,384	122,997,384	0	47,478	20,678,527	20,726,005
2095	0	126,687,306	126,687,306	0	37,087	21,780,229	21,817,316
2096	0	130,487,925	130,487,925	0	28,564	22,938,418	22,966,982

EXHIBIT A

Financial Statement Disclosure (As of the June 30, 2017 Measurement Date) (continued)

20. PLAN PROJECTION DISCLOSURES (CONTINUED)

Projection of OPEB Plan's Fiduciary Net Position using a June 30, 2017 Valuation Date								
Fiscal Year	I. Projected Beginning Fiduciary Net Position	II. Portion of Employer Contributions for Current Plan Members	III. Total Projected Benefit Payments	IV. Projected Administrative Expense	V. Total Contributions to Trust	VI. Contributions to Trust for Current Plan Members	VII. Projected Investment Earnings	VIII. Projected Ending Fiduciary Net Position for Current Plan Members
2018	598,647	443,713	443,713	0	100,000	100,000	41,917	740,564
2019	740,564	498,275	498,275	0	100,000	90,912	51,099	882,575
2020	882,575	552,617	552,617	0	100,000	83,462	60,287	1,026,324
2021	1,026,324	595,831	595,831	0	100,000	76,010	69,587	1,171,921
2022	1,171,921	642,147	642,147	0	100,000	70,194	79,008	1,321,123
2023	1,321,123	714,916	714,916	0	100,000	64,377	88,661	1,474,161
2024	1,474,161	733,576	733,576	0	100,000	59,514	98,563	1,632,238
2025	1,632,238	750,596	750,596	0	100,000	54,910	108,790	1,795,938
2026	1,795,938	825,684	825,684	0	100,000	50,301	119,381	1,965,620
2027	1,965,620	835,448	835,448	0	100,000	45,777	130,360	2,141,757
2028	2,141,757	827,982	827,982	0	100,000	41,096	141,756	2,324,609
2029	2,324,609	907,799	914,645	0	100,000	37,117	153,587	2,508,467
2030	2,508,467	940,781	959,349	0	100,000	33,815	165,482	2,689,196
2031	2,689,196	985,326	1,021,295	0	100,000	30,928	177,175	2,861,330
2032	2,861,330	1,080,185	1,140,111	0	100,000	28,019	188,312	3,017,735
2033	3,017,735	1,161,584	1,250,948	0	100,000	25,510	198,432	3,152,313
2034	3,152,313	1,200,748	1,310,609	0	100,000	23,169	207,139	3,272,760
2035	3,272,760	1,256,659	1,391,292	0	100,000	21,026	214,932	3,374,085
2036	3,374,085	1,320,813	1,483,192	0	100,000	19,161	221,488	3,452,355
2037	3,452,355	1,259,301	1,443,803	0	100,000	17,383	226,552	3,511,788
2038	3,511,788	1,315,507	1,526,260	0	100,000	15,792	230,397	3,547,224
2039	3,547,224	1,325,620	1,573,515	0	100,000	14,226	232,690	3,546,245
2040	3,546,245	1,262,976	1,561,536	0	100,000	12,741	232,626	3,493,052
2041	3,493,052	1,303,020	1,666,487	0	100,000	11,460	229,185	3,370,230
2042	3,370,230	1,313,257	1,756,139	0	100,000	10,059	221,238	3,158,645
2043	3,158,645	1,303,825	1,839,367	0	100,000	9,115	207,549	2,839,767
2044	2,839,767	1,339,809	1,947,260	0	100,000	8,116	186,917	2,427,349
2045	2,427,349	1,362,778	2,052,198	0	100,000	7,072	160,234	1,905,235
2046	1,905,235	1,391,145	2,169,647	0	100,000	6,278	126,453	1,259,464
2047	1,259,464	1,427,129	2,283,539	0	100,000	5,511	84,672	493,237
2048	493,237	1,382,442	2,325,889	0	100,000	4,725	35,097	39,822
2049	39,822	1,369,632	2,411,870	0	100,000	4,166	5,761	9,927
2050	9,927	1,325,960	2,477,274	0	100,000	3,552	3,827	7,379
2051	7,379	1,316,568	2,588,946	0	100,000	2,992	3,662	6,654
2052	6,654	1,283,774	2,687,360	0	100,000	2,514	3,615	6,129
2053	6,129	1,224,993	2,771,269	0	100,000	1,892	3,581	5,473
2054	5,473	1,178,095	2,863,375	0	100,000	1,457	3,538	4,995
2055	4,995	1,150,718	2,984,929	0	100,000	1,049	3,507	4,556
2056	4,556	1,133,989	3,127,209	0	100,000	764	3,479	4,243
2057	4,243	1,060,101	3,217,323	0	100,000	566	3,459	4,025

EXHIBIT A

Financial Statement Disclosure (As of the June 30, 2017 Measurement Date) (continued)

Projection of OPEB Plan's Fiduciary Net Position using a June 30, 2017 Valuation Date (Continued)

Fiscal Year	I. Projected Beginning Fiduciary Net Position	II. Portion of Employer Contributions for Current Plan Members	III. Total Projected Benefit Payments	IV. Projected Administrative Expense	V. Total Contributions to Trust	VI. Contributions to Trust for Current Plan Members	VII. Projected Investment Earnings	VIII. Projected Ending Fiduciary Net Position for Current Plan Members
2058	4,025	1,030,585	3,362,057	0	100,000	297	3,445	(1,026,550)
2059	0	999,983	3,519,412	0	100,000	168	3,184	(999,978)
2060	0	939,086	3,659,640	0	100,000	109	3,184	(939,083)
2061	0	909,431	3,844,500	0	100,000	65	3,184	(909,429)
2062	0	882,765	4,047,064	0	100,000	39	3,184	(882,764)
2063	0	856,299	4,263,962	0	100,000	16	3,184	(856,298)
2064	0	829,227	4,488,368	0	100,000	0	3,184	(829,227)
2065	0	801,712	4,725,972	0	100,000	0	3,184	(801,712)
2066	0	773,825	4,977,653	0	100,000	0	3,184	(773,825)
2067	0	745,307	5,240,182	0	100,000	0	3,184	(745,307)
2068	0	716,397	5,515,132	0	100,000	0	3,184	(716,397)
2069	0	686,870	5,805,541	0	100,000	0	3,184	(686,870)
2070	0	656,833	6,110,071	0	100,000	0	3,184	(656,833)
2071	0	626,635	6,429,567	0	100,000	0	3,184	(626,635)
2072	0	595,983	6,767,127	0	100,000	0	3,184	(595,983)
2073	0	565,395	7,121,525	0	100,000	0	3,184	(565,395)
2074	0	537,052	7,496,425	0	100,000	0	3,184	(537,052)
2075	0	512,641	7,894,889	0	100,000	0	3,184	(512,641)
2076	0	487,747	8,313,262	0	100,000	0	3,184	(487,747)
2077	0	461,866	8,751,728	0	100,000	0	3,184	(461,866)
2078	0	434,971	9,209,768	0	100,000	0	3,184	(434,971)
2079	0	407,183	9,689,027	0	100,000	0	3,184	(407,183)
2080	0	378,502	10,191,335	0	100,000	0	3,184	(378,502)
2081	0	349,062	10,717,640	0	100,000	0	3,184	(349,062)
2082	0	319,397	11,270,585	0	100,000	0	3,184	(319,397)
2083	0	289,714	11,852,180	0	100,000	0	3,184	(289,714)
2084	0	260,630	12,463,764	0	100,000	0	3,184	(260,630)
2085	0	232,143	13,108,248	0	100,000	0	3,184	(232,143)
2086	0	204,834	13,788,198	0	100,000	0	3,184	(204,834)
2087	0	178,664	14,503,826	0	100,000	0	3,184	(178,664)
2088	0	154,133	15,258,284	0	100,000	0	3,184	(154,133)
2089	0	131,183	16,053,466	0	100,000	0	3,184	(131,183)
2090	0	110,116	16,891,801	0	100,000	0	3,184	(110,116)
2091	0	91,304	17,775,763	0	100,000	0	3,184	(91,304)
2092	0	74,481	18,707,940	0	100,000	0	3,184	(74,481)
2093	0	59,948	19,690,665	0	100,000	0	3,184	(59,948)
2094	0	47,478	20,726,005	0	100,000	0	3,184	(47,478)
2095	0	37,087	21,817,316	0	100,000	0	3,184	(37,087)
2096	0	28,564	22,966,982	0	100,000	0	3,184	(28,564)

EXHIBIT A

Financial Statement Disclosure (As of the June 30, 2017 Measurement Date) (continued)

20. PLAN PROJECTION DISCLOSURES (CONTINUED)

Actuarial Present Values of Projected Benefit Payments using a June 30, 2017 Valuation Date

Fiscal Year	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 Single Discount Rate
2018	598,647	443,713	443,713	0	443,713	0	443,713
2019	740,564	498,275	498,275	0	467,996	0	476,667
2020	882,575	552,617	552,617	0	487,495	0	505,727
2021	1,026,324	595,831	595,831	0	493,675	0	521,627
2022	1,171,921	642,147	642,147	0	499,719	0	537,796
2023	1,321,123	714,916	714,916	0	522,539	0	572,775
2024	1,474,161	733,576	733,576	0	503,595	0	562,237
2025	1,632,238	750,596	750,596	0	483,967	0	550,334
2026	1,795,938	825,684	825,684	0	500,030	0	579,135
2027	1,965,620	835,448	835,448	0	475,197	0	560,572
2028	2,141,757	827,982	827,982	0	442,332	0	531,470
2029	2,324,609	907,799	907,799	0	455,502	0	557,434
2030	2,508,467	940,781	940,781	0	443,365	0	552,634
2031	2,689,196	985,326	985,326	0	436,140	0	553,701
2032	2,861,330	1,080,185	1,080,185	0	449,073	0	580,683
2033	3,017,735	1,161,584	1,161,584	0	453,567	0	597,361
2034	3,152,313	1,200,748	1,200,748	0	440,368	0	590,723
2035	3,272,760	1,256,659	1,256,659	0	432,867	0	591,419
2036	3,374,085	1,320,813	1,320,813	0	427,318	0	594,655
2037	3,452,355	1,259,301	1,259,301	0	382,659	0	542,374
2038	3,511,788	1,315,507	1,315,507	0	375,447	0	542,012
2039	3,547,224	1,325,620	1,325,620	0	355,342	0	522,493
2040	3,546,245	1,262,976	1,262,976	0	317,977	0	476,214
2041	3,493,052	1,303,020	1,303,020	0	308,123	0	470,006
2042	3,370,230	1,313,257	1,313,257	0	291,673	0	453,156
2043	3,158,645	1,303,825	1,303,825	0	271,981	0	430,391
2044	2,839,767	1,339,809	1,339,809	0	262,503	0	423,090
2045	2,427,349	1,362,778	1,362,778	0	250,778	0	411,681
2046	1,905,235	1,391,145	1,391,145	0	240,441	0	402,026
2047	1,259,464	1,427,129	1,259,464	167,665	204,454	68,632	394,539
2048	493,237	1,382,442	493,237	889,205	75,203	352,948	365,612
2049	39,822	1,369,632	39,822	1,329,810	5,703	511,826	346,516
2050	9,927	1,325,960	9,927	1,316,033	1,335	491,160	320,919
2051	7,379	1,316,568	7,379	1,309,189	932	473,786	304,827
2052	6,654	1,283,774	6,654	1,277,120	790	448,162	284,344
2053	6,129	1,224,993	6,129	1,218,864	683	414,746	259,559
2054	5,473	1,178,095	5,473	1,172,622	573	386,909	238,796
2055	4,995	1,150,718	4,995	1,145,723	491	366,568	223,132
2056	4,556	1,133,989	4,556	1,129,433	421	350,396	210,353
2057	4,243	1,060,101	4,243	1,055,858	368	317,634	188,119

EXHIBIT A

Financial Statement Disclosure (As of the June 30, 2017 Measurement Date) (continued)

20. PLAN PROJECTION DISCLOSURES (CONTINUED)

Actuarial Present Values of Projected Benefit Payments using a June 30, 2017 Valuation Date (Continued)

Fiscal Year	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 Single Discount Rate
2058	4,025	1,030,585	4,025	1,026,560	328	299,454	174,950
2059	0	999,983	0	999,983	0	282,854	162,394
2060	0	939,086	0	939,086	0	257,572	145,891
2061	0	909,431	0	909,431	0	241,872	135,157
2062	0	882,765	0	882,765	0	227,659	125,504
2063	0	856,299	0	856,299	0	214,136	116,462
2064	0	829,227	0	829,227	0	201,076	107,889
2065	0	801,712	0	801,712	0	188,508	99,786
2066	0	773,825	0	773,825	0	176,432	92,138
2067	0	745,307	0	745,307	0	164,776	84,894
2068	0	716,397	0	716,397	0	153,580	78,062
2069	0	686,870	0	686,870	0	142,784	71,599
2070	0	656,833	0	656,833	0	132,399	65,499
2071	0	626,635	0	626,635	0	122,481	59,778
2072	0	595,983	0	595,983	0	112,956	54,388
2073	0	565,395	0	565,395	0	103,909	49,359
2074	0	537,052	0	537,052	0	95,706	44,852
2075	0	512,641	0	512,641	0	88,585	40,956
2076	0	487,747	0	487,747	0	81,727	37,278
2077	0	461,866	0	461,866	0	75,043	33,769
2078	0	434,971	0	434,971	0	68,530	30,423
2079	0	407,183	0	407,183	0	62,206	27,245
2080	0	378,502	0	378,502	0	56,070	24,227
2081	0	349,062	0	349,062	0	50,141	21,374
2082	0	319,397	0	319,397	0	44,488	18,709
2083	0	289,714	0	289,714	0	39,130	16,235
2084	0	260,630	0	260,630	0	34,134	13,972
2085	0	232,143	0	232,143	0	29,481	11,905
2086	0	204,834	0	204,834	0	25,224	10,049
2087	0	178,664	0	178,664	0	21,334	8,385
2088	0	154,133	0	154,133	0	17,846	6,920
2089	0	131,183	0	131,183	0	14,728	5,634
2090	0	110,116	0	110,116	0	11,988	4,524
2091	0	91,304	0	91,304	0	9,639	3,589
2092	0	74,481	0	74,481	0	7,624	2,800
2093	0	59,948	0	59,948	0	5,950	2,156
2094	0	47,478	0	47,478	0	4,570	1,634
2095	0	37,087	0	37,087	0	3,461	1,221
2096	0	28,564	0	28,564	0	2,585	899

EXHIBIT A

Financial Statement Disclosure (As of the June 30, 2017 Measurement Date) (continued)

21. CHANGES TO NET OPEB EXPENSE

Deferred (Inflows)/Outflows in OPEB Expense arising from the recognition of the effects of differences between expected & actual experience								
Fiscal Year	Differences between actual & expected experience	Recognition Period (years)	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>
2009								
2010								
2011								
2012								
2013								
2014								
2015								
2016								
2017								
2018	(663,502)	7.07	(93,848)	(93,848)	(93,848)	(93,848)	(93,848)	(93,848)
Net increase (decrease) in OPEB expense			(93,848)	(93,848)	(93,848)	(93,848)	(93,848)	(93,848)

EXHIBIT A

Financial Statement Disclosure (As of the June 30, 2017 Measurement Date) (continued)

21. CHANGES TO NET OPEB EXPENSE (CONTINUED)

Deferred (Inflows)/Outflows in OPEB Expense arising from the recognition of the effects of Changes in Assumptions								
Fiscal Year	Differences from changes in Actuarial Assumptions	Recognition Period (years)	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>
2009								
2010								
2011								
2012								
2013								
2014								
2015								
2016								
2017								
2018	0	7.07	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Net increase (decrease) in OPEB expense			0	0	0	0	0	0

EXHIBIT A

Financial Statement Disclosure (As of the June 30, 2017 Measurement Date) (continued)

21. CHANGES TO NET OPEB EXPENSE (CONTINUED)

Deferred (Inflows)/Outflows in OPEB Expense arising from the recognition of differences between Projected & Actual Earnings on OPEB Plan Investments								
Fiscal Year	Differences between actual & expected experience	Recognition Period (years)	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>
2009								
2010								
2011								
2012								
2013								
2014								
2015								
2016								
2017								
2018	(1,567)	5.00	(313)	(313)	(313)	(313)	(315)	0
Net increase (decrease) in OPEB expense			(313)	(313)	(313)	(313)	(315)	0

EXHIBIT AFinancial Statement Disclosure
(As of the June 30, 2017 Measurement Date)
(continued)**22. Impact of Patient Protection and Affordable Care Act ("PPACA") Excise Tax**

Under the Patient Protection and Affordable Care Act ("PPACA"), an excise tax will be imposed for tax years beginning after December 31, 2021 (formerly December 31, 2017, but amended by Consolidated Appropriations Act) for high cost employer sponsored health coverage. The law specifies a 40% excise tax, to be paid by the provider of such coverage, of the excess value beyond a basic dollar amount plus an additional "kicker" for qualified retirees or those engaged in a high risk profession. The projected 2022 threshold amounts are \$12,511 for single coverage and \$32,676 for family coverage and a "kicker" amount of \$1,650 for single coverage and \$3,450 for family coverage.

For the fiscal year ending June 30, 2018, the TOL for the excise tax is \$467,332 and the increase in OPEB Expense is \$41,176. Given your premiums through the 2018 fiscal year and the excise tax threshold, your average single premiums are \$3,146 below the excise tax threshold and your average family premiums are \$2,379 below the excise tax threshold. As more regulatory guidance becomes available, the calculation of the excise tax liability will evolve.

EXHIBIT BRequired Supplementary Information
(As of the June 30, 2017 Measurement Date)Notes to Required Supplementary Information:

Valuation Date:	Actuarially Determined Contribution was calculated as of June 30, 2017.
Actuarial Cost Method:	Individual Entry Age Normal
Asset-Valuation Method:	Market Value of Assets as of the Measurement Date, June 30, 2017.
<u>Actuarial Assumptions:</u>	
Investment Rate of Return:	6.47%, net of OPEB plan investment expense, including inflation.
Municipal Bond Rate	3.13% as of June 30, 2017 (source: S&P Municipal Bond 20-Year High Grade Index – SAPIHG)
Single Equivalent Discount Rate:	4.75%, net of OPEB plan investment expense, including inflation.
Inflation:	2.75% as of June 30, 2017 and for future periods
Salary Increases:	3.00% annually as of June 30, 2017 and for future periods
Cost of Living Adjustment:	Not Applicable
Pre-Retirement Mortality:	RP-2000 Employees Mortality Table projected generationally with scale BB and a base year 2009 for males and females
Post-Retirement Mortality:	RP-2000 Healthy Annuitant Mortality Table projected generationally with scale BB and a base year 2009 for males and females

Disabled Mortality:

RP-2000 Healthy Annuitant Table projected
generationally with Scale BB and a base
year 2012 for males and females

EXHIBIT BRequired Supplementary Information
(As of the June 30, 2017 Measurement Date)
(continued)Notes to Required Supplementary Information (Continued):Plan Membership

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

Inactive employees or beneficiaries currently receiving benefits:	85
Active Employees:	<u>155</u>
Total:	240

Changes in Assumptions: Effective June 30, 2017

- Discount rate is 4.75% previously 3.50%

EXHIBIT B

Required Supplementary Information (As of the June 30, 2017 Measurement Date) (continued)

Notes to Required Supplementary Information (Continued):

Deferred Outflows of Resources and Deferred Inflows of Resources Arising between Expected & Actual Experience					
Fiscal Year	Experience Losses	Experience Gains	Amounts recognized in OPEB Expense through June 30, 2018	Balances at June 30, 2018	
				Deferred Outflows of Resources	Deferred Inflows of Resources
2009				0	0
2010				0	0
2011				0	0
2012				0	0
2013				0	0
2014				0	0
2015				0	0
2016				0	0
2017				0	0
2018	0	(663,502)	(93,848)	0	(569,654)
Total				0	(569,654)

EXHIBIT B

Required Supplementary Information (As of the June 30, 2017 Measurement Date) (continued)

Notes to Required Supplementary Information (Continued):

Deferred Outflows of Resources and Deferred Inflows of Resources Arising from Changes of Assumptions					
Fiscal Year	Increase in the Total OPEB Liability	Decrease in the Total OPEB Liability	Amounts recognized in OPEB Expense through June 30, 2018	Balances at June 30, 2018	
				Deferred Outflows of Resources	Deferred Inflows of Resources
2009				0	0
2010				0	0
2011				0	0
2012				0	0
2013				0	0
2014				0	0
2015				0	0
2016				0	0
2017				0	0
2018	0	0	0	0	0
Total				0	0

EXHIBIT B

Required Supplementary Information (As of the June 30, 2017 Measurement Date) (continued)

Notes to Required Supplementary Information (Continued):

Deferred Outflows of Resources and Deferred Inflows of Resources between Projected & Actual Earnings on OPEB Plan Investments					
Fiscal Year	Increase in the Total OPEB Liability	Decrease in the Total OPEB Liability	Amounts recognized in OPEB Expense through June 30, 2018	Balances at June 30, 2018	
				Deferred Outflows of Resources	Deferred Inflows of Resources
2009				0	0
2010				0	0
2011				0	0
2012				0	0
2013				0	0
2014				0	0
2015				0	0
2016				0	0
2017				0	0
2018	0	(1,567)	(313)	0	(1,254)
Total				0	(1,254)

EXHIBIT B

Required Supplementary Information (As of the June 30, 2017 Measurement Date) (continued)

Notes to Required Supplementary Information (Continued):

OPEB Expense and Deferred Outflows of Resources and Deferred Inflows of Resources related to OPEB as of June 30, 2018		
	Deferred Outflows of Resources	Deferred Inflows of Resources
I. Differences between actual & expected experience	0	(569,654)
II. Changes of assumptions	0	0
III. Net difference between projected & actual earnings on OPEB plan investments	<u>0</u>	<u>(1,254)</u>
IV. Total [I.+II.+III.]	0	(570,908)
 Year ended June 30:		
	2019	(94,161)
	2020	(94,161)
	2021	(94,161)
	2022	(94,163)
	2023	(93,848)
	Thereafter	(100,414)

EXHIBIT BRequired Supplementary Information
(As of the June 30, 2017 Measurement Date)
(continued)Notes to Required Supplementary Information (Continued):Contributions:

The contribution requirements of plan members and the Town are established and may be amended through Town ordinances. The Town expects to contribute \$100,000 beyond the pay-as-you-go cost for the 2018 fiscal year. Total Town premiums plus implicit costs for the retiree medical program are \$443,713 for the 2018 fiscal year.

EXHIBIT C

Reconciliation of Plan Participation (As of the June 30, 2017 Valuation Date)

ACTIVE EMPLOYEES

	<u>June 30, 2017</u>	<u>June 30, 2015</u>
A. Average Age at Hire	36.51	37.49
B. Average Service	<u>10.37</u>	<u>10.00</u>
C. Average Current Age	46.88	47.49

RETIRED EMPLOYEES & DEPENDENTS

	<u>June 30, 2017</u>	<u>June 30, 2015</u>
I. Retirees		
A. Under Age 65	13	17
B. Age 65 & Over	<u>42</u>	<u>35</u>
C. Total Retirees	55	52
II. Dependents of Retirees		
A. Under Age 65	6	7
B. Age 65 & Over	<u>24</u>	<u>23</u>
C. Total Retirees	30	30
III. Retirees & Dependents		
A. Under Age 65	19	24
B. Age 65 & Over	<u>66</u>	<u>58</u>
C. Total Retirees	85	82

EXHIBIT D

Projected Cash Flows (Open Group) – Partial Funding Approach

Total Medical & Life Insurance - Partial Funding - 4.75% discount rate								
For the Fiscal Year	I. Total OPEB Liability ("TOL") as of Measurement Date	II. Fiduciary Net Position as of Measurement Date with expected 6.47% return	III. Net OPEB Liability (Asset) [I. - II.]	IV. Funded Ratio [II. / I.]	V. Service Cost	VI. Employer Share of Premiums / Claims	VII. Excess Employer Payments (beyond claims)	VIII. Total Employer Payments [VI. + VII.]
2018	14,629,703	598,647	14,031,056	4.09%	562,158	443,713	100,000	543,713
2019	15,459,347	740,564	14,718,783	4.79%	592,572	498,275	100,000	598,275
2020	16,281,608	891,663	15,389,945	5.48%	617,717	552,617	100,000	652,617
2021	17,122,210	1,052,538	16,069,672	6.15%	640,808	595,831	100,000	695,831
2022	17,981,280	1,223,822	16,757,458	6.81%	676,691	642,147	100,000	742,147
2023	18,869,080	1,406,188	17,462,892	7.45%	706,707	714,916	100,000	814,916
2024	19,752,742	1,600,353	18,152,389	8.10%	740,797	733,576	100,000	833,576
2025	20,694,983	1,807,080	18,887,903	8.73%	776,911	750,596	100,000	850,596
2026	21,687,934	2,027,182	19,660,752	9.35%	811,098	825,684	100,000	925,684
2027	22,698,113	2,261,525	20,436,588	9.96%	848,286	835,448	100,000	935,448
2028	23,780,288	2,511,030	21,269,258	10.56%	887,168	827,982	100,000	927,982
2029	24,942,994	2,776,678	22,166,316	11.13%	930,295	914,645	100,000	1,014,645
2030	26,112,186	3,059,513	23,052,673	11.72%	976,880	959,349	100,000	1,059,349
2031	27,331,957	3,360,648	23,971,309	12.30%	1,024,364	1,021,295	100,000	1,121,295
2032	28,532,351	3,681,266	24,851,085	12.90%	1,069,725	1,140,111	100,000	1,240,111
2033	29,606,510	4,022,628	25,583,882	13.59%	1,122,084	1,250,948	100,000	1,350,948
2034	30,852,832	4,386,076	26,466,756	14.22%	1,175,024	1,310,609	100,000	1,410,609
2035	32,081,232	4,773,039	27,308,193	14.88%	1,231,426	1,391,292	100,000	1,491,292
2036	33,405,951	5,185,039	28,220,912	15.52%	1,290,281	1,483,192	100,000	1,583,192
2037	34,746,358	5,623,695	29,122,663	16.18%	1,351,370	1,443,803	100,000	1,543,803
2038	36,270,044	6,090,732	30,179,312	16.79%	1,415,269	1,526,260	100,000	1,626,260
2039	37,809,536	6,587,987	31,221,549	17.42%	1,478,241	1,573,515	100,000	1,673,515
2040	39,469,388	7,117,414	32,351,974	18.03%	1,549,491	1,561,536	100,000	1,661,536
2041	41,318,444	7,681,095	33,637,349	18.59%	1,626,981	1,666,487	100,000	1,766,487
2042	43,031,033	8,281,246	34,749,787	19.24%	1,703,604	1,756,139	100,000	1,856,139
2043	44,982,161	8,920,227	36,061,934	19.83%	1,792,802	1,839,367	100,000	1,939,367
2044	46,966,686	9,600,550	37,366,136	20.44%	1,879,669	1,947,260	100,000	2,047,260
2045	48,915,540	10,324,890	38,590,650	21.11%	1,975,144	2,052,198	100,000	2,152,198
2046	51,111,514	11,096,095	40,015,419	21.71%	2,080,605	2,169,647	100,000	2,269,647
2047	53,361,275	11,917,197	41,444,078	22.33%	2,187,580	2,283,539	100,000	2,383,539
2048	55,700,498	12,791,424	42,909,074	22.96%	2,301,629	2,325,889	100,000	2,425,889
2049	58,283,863	13,722,213	44,561,650	23.54%	2,422,847	2,411,870	100,000	2,511,870

EXHIBIT E

Projected Cash Flows (Open Group) – Funded Approach

Total Medical & Life Insurance - 6.50% discount rate increasing at 0.00% per year

For the Fiscal Year	II. Fiduciary Net				V. Service Cost	VI. Employer Share of Premiums / Claims	VII. Annual Funding / (Payments)	VIII. Total Employer Payments [VI. + VII.]
	I. Total OPEB	Position as of	III. Net OPEB	IV Funded				
	Liability ("TOL")	Measurement	Liability (Asset)	Ratio				
	as of	Date with	("NOL")	[II. / I.]				
Measurement	expected 6.47%	[I. - II.]						
Date	return							
2018	11,564,853	598,647	10,966,206	5.18%	372,863	443,713	471,300	915,013
2019	12,246,014	1,123,687	11,122,327	9.18%	393,890	498,275	471,300	969,575
2020	12,933,925	1,682,697	11,251,228	13.01%	411,299	552,617	471,300	1,023,917
2021	13,625,605	2,277,875	11,347,730	16.72%	426,780	595,831	471,300	1,067,131
2022	14,332,135	2,911,561	11,420,574	20.31%	451,301	642,147	471,300	1,113,447
2023	15,059,953	3,586,247	11,473,706	23.81%	471,495	714,916	471,300	1,186,216
2024	15,776,357	4,304,585	11,471,772	27.29%	494,616	733,576	471,300	1,204,876
2025	16,545,047	5,069,399	11,475,648	30.64%	519,084	750,596	471,300	1,221,896
2026	17,361,461	5,883,697	11,477,764	33.89%	541,943	825,684	471,300	1,296,984
2027	18,183,994	6,750,680	11,433,314	37.12%	566,327	835,448	471,300	1,306,748
2028	19,073,232	7,673,757	11,399,475	40.23%	591,910	827,982	471,300	1,299,282
2029	20,042,805	8,656,557	11,386,248	43.19%	620,217	914,645	471,300	1,385,945
2030	21,008,297	9,702,944	11,305,353	46.19%	650,990	959,349	471,300	1,430,649
2031	22,024,018	10,817,032	11,206,986	49.11%	682,531	1,021,295	471,300	1,492,595
2032	23,017,501	12,003,202	11,014,299	52.15%	712,228	1,140,111	471,300	1,611,411
2033	23,895,210	13,266,117	10,629,093	55.52%	746,851	1,250,948	471,300	1,722,248
2034	24,886,887	14,610,742	10,276,145	58.71%	781,596	1,310,609	471,300	1,781,909
2035	25,867,250	16,042,365	9,824,885	62.02%	818,871	1,391,292	471,300	1,862,592
2036	26,909,700	17,566,614	9,343,086	65.28%	857,628	1,483,192	471,300	1,954,492
2037	27,950,497	19,189,482	8,761,015	68.66%	897,767	1,443,803	471,300	1,915,103
2038	29,157,220	20,917,349	8,239,871	71.74%	939,719	1,526,260	471,300	1,997,560
2039	30,369,444	22,757,009	7,612,435	74.93%	980,778	1,573,515	471,300	2,044,815
2040	31,677,122	24,715,695	6,961,427	78.02%	1,027,357	1,561,536	471,300	2,032,836
2041	33,154,180	26,801,108	6,353,072	80.84%	1,078,095	1,666,487	471,300	2,137,787
2042	34,529,279	29,021,447	5,507,832	84.05%	1,128,352	1,756,139	471,300	2,227,439
2043	36,070,703	31,385,442	4,685,261	87.01%	1,186,697	1,839,367	471,300	2,310,667
2044	37,640,491	33,902,388	3,738,103	90.07%	1,243,479	1,947,260	471,300	2,418,560
2045	39,176,274	36,582,180	2,594,094	93.38%	1,306,098	2,052,198	471,300	2,523,498
2046	40,884,773	39,435,355	1,449,418	96.45%	1,375,207	2,169,647	471,300	2,640,947
2047	42,623,031	42,473,130	149,901	99.65%	1,445,289	2,283,539	471,300	2,754,839
2048	44,417,664	45,707,449	(1,289,785)	102.90%	1,520,029	2,325,889	149,901	2,475,790
2049	46,406,455	48,819,395	(2,412,940)	105.20%	1,599,412	2,411,870	0	2,411,870

EXHIBIT E

Projected Cash Flows (Open Group) – Funded Approach

Total Medical & Life Insurance - 6.50% discount rate and increasing at 3.00% per year

For the Fiscal Year	I. Total OPEB Liability ("TOL") as of Measurement Date	II. Fiduciary Net Position as of Measurement Date with expected 6.47% return	III. Net OPEB Liability (Asset) ("NOL") [I. - II.]	IV Funded Ratio [II. / I.]	V. Service Cost	VI. Employer Share of Premiums / Claims	VII. Annual Funding / (Payments)	VIII. Total Employer Payments [VI. + VII.]
2018	11,564,853	598,647	10,966,206	5.18%	372,863	443,713	352,300	796,013
2019	12,246,014	1,000,898	11,245,116	8.17%	393,890	498,275	362,869	861,144
2020	12,933,925	1,440,080	11,493,845	11.13%	411,299	552,617	373,755	926,372
2021	13,625,605	1,918,910	11,706,695	14.08%	426,780	595,831	384,968	980,799
2022	14,332,135	2,440,290	11,891,845	17.03%	451,301	642,147	396,517	1,038,664
2023	15,059,953	3,007,320	12,052,633	19.97%	471,495	714,916	408,413	1,123,329
2024	15,776,357	3,623,312	12,153,045	22.97%	494,616	733,576	420,665	1,154,241
2025	16,545,047	4,291,801	12,253,246	25.94%	519,084	750,596	433,285	1,183,881
2026	17,361,461	5,016,563	12,344,898	28.89%	541,943	825,684	446,284	1,271,968
2027	18,183,994	5,801,630	12,382,364	31.91%	566,327	835,448	459,673	1,295,121
2028	19,073,232	6,651,306	12,421,926	34.87%	591,910	827,982	473,463	1,301,445
2029	20,042,805	7,570,185	12,472,620	37.77%	620,217	914,645	487,667	1,402,312
2030	21,008,297	8,563,172	12,445,125	40.76%	650,990	959,349	502,297	1,461,646
2031	22,024,018	9,635,501	12,388,517	43.75%	682,531	1,021,295	517,366	1,538,661
2032	23,017,501	10,792,758	12,224,743	46.89%	712,228	1,140,111	532,887	1,672,998
2033	23,895,210	12,040,905	11,854,305	50.39%	746,851	1,250,948	548,874	1,799,822
2034	24,886,887	13,386,303	11,500,584	53.79%	781,596	1,310,609	565,340	1,875,949
2035	25,867,250	14,835,739	11,031,511	57.35%	818,871	1,391,292	582,300	1,973,592
2036	26,909,700	16,396,453	10,513,247	60.93%	857,628	1,483,192	599,769	2,082,961
2037	27,950,497	18,076,171	9,874,326	64.67%	897,767	1,443,803	617,762	2,061,565
2038	29,157,220	19,883,133	9,274,087	68.19%	939,719	1,526,260	636,295	2,162,555
2039	30,369,444	21,826,128	8,543,316	71.87%	980,778	1,573,515	655,384	2,228,899
2040	31,677,122	23,914,532	7,762,590	75.49%	1,027,357	1,561,536	675,046	2,236,582
2041	33,154,180	26,158,344	6,995,836	78.90%	1,078,095	1,666,487	695,297	2,361,784
2042	34,529,279	28,568,226	5,961,053	82.74%	1,128,352	1,756,139	716,156	2,472,295
2043	36,070,703	31,155,551	4,915,152	86.37%	1,186,697	1,839,367	737,641	2,577,008
2044	37,640,491	33,932,445	3,708,046	90.15%	1,243,479	1,947,260	759,770	2,707,030
2045	39,176,274	36,911,838	2,264,436	94.22%	1,306,098	2,052,198	782,563	2,834,761
2046	40,884,773	40,107,516	777,257	98.10%	1,375,207	2,169,647	806,040	2,975,687
2047	42,623,031	43,534,179	(911,148)	102.14%	1,445,289	2,283,539	777,257	3,060,796
2048	44,417,664	47,152,848	(2,735,184)	106.16%	1,520,029	2,325,889	0	2,325,889
2049	46,406,455	50,203,637	(3,797,182)	108.18%	1,599,412	2,411,870	0	2,411,870

EXHIBIT E

Projected Cash Flows (Open Group) – Funded Approach

Town of Topsfield

GASB 45 Projection of Funding Annual Service Cost and Impact on Unfunded Obligation

Total Medical, Dental & Life Insurance - Funding Annual Service Cost - 4.75% discount rate

Measurement Date	I. Total OPEB Liability	II. Service Cost	III. Employer Share of Premiums / Claims including "implicit cost"	IV. Funding Service Cost beyond claims	V. Total Funding Costs [III. + IV.]	VI. Present Value at 3.00% of Employer Share of Premiums / Claims including "implicit cost"	VII. Present Value at 3.00% of Funding Service Cost beyond claims	VIII. Present Value at 3.00% of Total Funding Costs [VI. + VII.]	IX. Fiduciary Net Position at Beginning of year	X. Net OPEB Liability (Asset) [I. - IX.]	XI. Present Value at 3.00% of Net OPEB Liability (Asset)
June 30, 2017	14,629,703	562,158	443,713	118,445	562,158	443,713	118,445	562,158	598,647	14,031,056	14,031,056
June 30, 2018	15,459,347	592,572	498,275	94,297	592,572	483,762	91,550	575,312	745,528	14,713,819	14,285,261
June 30, 2019	16,281,608	617,717	552,617	65,100	617,717	520,895	61,363	582,258	875,238	15,406,370	14,521,981
June 30, 2020	17,122,210	640,808	595,831	44,977	640,808	545,270	41,160	586,430	981,912	16,140,298	14,770,659
June 30, 2021	17,981,280	676,691	642,147	34,544	676,691	570,539	30,692	601,231	1,073,530	16,907,750	15,022,317
June 30, 2022	18,869,080	706,707	714,916	(8,209)	706,707	616,693	(7,081)	609,612	1,159,067	17,710,013	15,276,813
June 30, 2023	19,752,742	740,797	733,576	7,221	740,797	614,358	6,047	620,405	1,205,914	18,546,828	15,532,676
June 30, 2024	20,694,983	776,911	750,596	26,315	776,911	610,303	21,397	631,700	1,270,416	19,424,567	15,793,951
June 30, 2025	21,687,934	811,098	825,684	(14,586)	811,098	651,803	(11,514)	640,289	1,357,076	20,330,858	16,049,367
June 30, 2026	22,698,113	848,286	835,448	12,838	848,286	640,301	9,839	650,140	1,406,951	21,291,162	16,317,903
June 30, 2027	23,780,288	887,168	827,982	59,186	887,168	616,096	44,040	660,136	1,486,619	22,293,669	16,588,583
June 30, 2028	24,942,994	930,295	914,645	15,650	930,295	660,759	11,306	672,065	1,616,419	23,326,575	16,851,614
June 30, 2029	26,112,186	976,880	959,349	17,531	976,880	672,868	12,296	685,164	1,708,849	24,403,337	17,116,010
June 30, 2030	27,331,957	1,024,364	1,021,295	3,069	1,024,364	695,452	2,090	697,542	1,807,550	25,524,407	17,380,879
June 30, 2031	28,532,351	1,069,725	1,140,111	(70,386)	1,069,725	753,748	(46,533)	707,215	1,896,478	26,635,873	17,609,450
June 30, 2032	29,606,510	1,122,084	1,250,948	(128,864)	1,122,084	802,936	(82,713)	720,223	1,916,175	27,690,335	17,773,372
June 30, 2033	30,852,832	1,175,024	1,310,609	(135,585)	1,175,024	816,728	(84,492)	732,236	1,878,329	28,974,503	18,055,952
June 30, 2034	32,081,232	1,231,426	1,391,292	(159,866)	1,231,426	841,755	(96,722)	745,033	1,831,965	30,249,267	18,301,304
June 30, 2035	33,405,951	1,290,281	1,483,192	(192,911)	1,290,281	871,219	(113,315)	757,904	1,759,117	31,646,834	18,589,180
June 30, 2036	34,746,358	1,351,370	1,443,803	(92,433)	1,351,370	823,381	(52,713)	770,668	1,649,764	33,096,594	18,874,525
June 30, 2037	36,270,044	1,415,269	1,526,260	(110,991)	1,415,269	845,053	(61,453)	783,600	1,635,695	34,634,349	19,176,199
June 30, 2038	37,809,536	1,478,241	1,573,515	(95,274)	1,478,241	845,842	(51,214)	794,628	1,602,400	36,207,136	19,463,120
June 30, 2039	39,469,388	1,549,491	1,561,536	(12,045)	1,549,491	814,954	(6,286)	808,668	1,583,240	37,886,148	19,772,497
June 30, 2040	41,318,444	1,626,981	1,666,487	(39,506)	1,626,981	844,395	(20,071)	824,378	1,646,399	39,672,045	20,101,498
June 30, 2041	43,031,033	1,703,604	1,756,139	(52,535)	1,703,604	863,904	(25,844)	838,060	1,685,097	41,345,936	20,339,461
June 30, 2042	44,982,161	1,792,802	1,839,367	(46,565)	1,792,802	878,492	(22,240)	856,252	1,712,604	43,269,557	20,665,781
June 30, 2043	46,966,686	1,879,669	1,947,260	(67,591)	1,879,669	902,934	(31,342)	871,592	1,747,388	45,219,298	20,967,950
June 30, 2044	48,915,540	1,975,144	2,052,198	(77,054)	1,975,144	923,877	(34,689)	889,188	1,762,798	47,152,742	21,227,648
June 30, 2045	51,111,514	2,080,605	2,169,647	(89,042)	2,080,605	948,302	(38,918)	909,384	1,769,477	49,342,037	21,566,257
June 30, 2046	53,361,275	2,187,580	2,283,539	(95,959)	2,187,580	969,011	(40,720)	928,291	1,764,485	51,596,790	21,894,910
June 30, 2047	55,700,498	2,301,629	2,325,889	(24,260)	2,301,629	958,235	(9,995)	948,240	1,752,339	53,948,159	22,225,927

EXHIBIT E

Projected Cash Flows (Open Group) – Funded Approach

Total Medical & Life Insurance - Partial Funding					
Measurement Date	Number of Retirees, Spouses & Surviving Spouses	Total OPEB Liability	Present Value at 3.00% of Total OPEB Liability	Employer Share of Premiums / Claims including "implicit cost"	Present Value at 3.00% of Employer Share of Premiums / Claims including "implicit cost"
June 30, 2017	85	14,629,703	14,629,703	443,713	443,713
June 30, 2018	94	15,459,347	15,009,075	498,275	483,762
June 30, 2019	101	16,281,608	15,346,977	552,617	520,895
June 30, 2020	108	17,122,210	15,669,248	595,831	545,270
June 30, 2021	115	17,981,280	15,976,134	642,147	570,539
June 30, 2022	120	18,869,080	16,276,634	714,916	616,693
June 30, 2023	124	19,752,742	16,542,610	733,576	614,358
June 30, 2024	126	20,694,983	16,826,915	750,596	610,303
June 30, 2025	128	21,687,934	17,120,655	825,684	651,803
June 30, 2026	130	22,698,113	17,396,214	835,448	640,301
June 30, 2027	133	23,780,288	17,694,768	827,982	616,096
June 30, 2028	135	24,942,994	18,019,350	914,645	660,759
June 30, 2029	138	26,112,186	18,314,562	959,349	672,868
June 30, 2030	141	27,331,957	18,611,733	1,021,295	695,452
June 30, 2031	143	28,532,351	18,863,245	1,140,111	753,748
June 30, 2032	145	29,606,510	19,003,292	1,250,948	802,936
June 30, 2033	146	30,852,832	19,226,465	1,310,609	816,728
June 30, 2034	147	32,081,232	19,409,673	1,391,292	841,755
June 30, 2035	147	33,405,951	19,622,475	1,483,192	871,219
June 30, 2036	147	34,746,358	19,815,362	1,443,803	823,381
June 30, 2037	146	36,270,044	20,081,844	1,526,260	845,053
June 30, 2038	146	37,809,536	20,324,489	1,573,515	845,842
June 30, 2039	145	39,469,388	20,598,778	1,561,536	814,954
June 30, 2040	146	41,318,444	20,935,715	1,666,487	844,395
June 30, 2041	146	43,031,033	21,168,417	1,756,139	863,904
June 30, 2042	146	44,982,161	21,483,731	1,839,367	878,492
June 30, 2043	145	46,966,686	21,778,205	1,947,260	902,934
June 30, 2044	146	48,915,540	22,021,241	2,052,198	923,877
June 30, 2045	146	51,111,514	22,339,655	2,169,647	948,302
June 30, 2046	146	53,361,275	22,643,663	2,283,539	969,011
June 30, 2047	146	55,700,498	22,947,868	2,325,889	958,235
June 30, 2048	146	58,283,863	23,312,796	2,411,870	964,717
June 30, 2049	147	61,008,994	23,692,052	2,477,274	962,017
June 30, 2050	147	63,938,139	24,106,357	2,588,946	976,101
June 30, 2051	147	67,100,309	24,561,726	2,687,360	983,694
June 30, 2052	147	70,322,829	24,991,566	2,771,269	984,863
June 30, 2053	147	73,893,679	25,495,715	2,863,375	987,957
June 30, 2054	148	77,616,547	26,000,219	2,984,929	999,900
June 30, 2055	148	81,587,205	26,534,293	3,127,209	1,017,050
June 30, 2056	148	85,956,537	27,141,081	3,217,323	1,015,881

EXHIBIT F**GLOSSARY**

Accrual Accounting - A system of accounting in which revenues are recorded when earned and outlays are recorded when goods are received or services performed, even though the actual receipt of revenues and payment for goods or services may occur, in whole or in part, at a different time.

Actuarially Determined Contribution - Amount of funding required annually to fully fund plan benefits. Determined by the actuary using a consistent methodology.

Amortization - Allows the recognition of liability over a fixed period of time.

Cash Basis Accounting - A system of accounting in which revenues are recorded when received and outlays are recorded when payment is made.

Deferred Inflows/Outflows of Resources - Amounts arising from experience gains and losses that have not been recognized into the OPEB Expense, but will be recognized in the future.

Discount Rate - The interest rate used to calculate the present value of future cash flows. Under GASB 75, the rate should be the expected long term rate of return on investments for a plan that is being fully funded, the 20 year municipal bond index for a pay-as-you-go plan, and a blend of the two rates for a plan that is being partially funded.

Fiduciary Net Position - The value of cash, investments, other assets and property belonging to an OPEB trust.

GASB - Government Accounting Standards Board. "The Governmental Accounting Standards Board (GASB) was organized in 1984 by the Financial Accounting Foundation (FAF) to establish standards of financial accounting and reporting for state and local governmental entities. Its standards guide the preparation of external financial reports of those entities."

Implicit Subsidy - The liability that arises because retirees who are not eligible for Medicare are charged the same premium as active employees even though their actual medical costs are higher on average.

Irrevocable Contribution - The transfer of assets to a qualified trust in which assets may only be withdrawn for the purpose of providing retiree other post employment benefits.

EXHIBIT F**GLOSSARY***(continued)*

Net OPEB Liability (NOL) - Total OPEB Liability less the Fiduciary Net Position.

Other Post Employment Benefits (OPEB) - Benefits that an employee will begin to receive at the start of retirement. This does not include pension benefits paid to the retired employee.

OPEB Trust - An entity which holds assets for the sole purpose of funding OPEB. All contributions and earning within this entity must be irrevocable and protected from creditors.

Pay-as-you-go funding - Paying benefits (such as pensions or OPEB) on a cash basis, with no money set aside for future liabilities which are already incurred.

Service Cost - The actuarially determined present value contribution needed to fund benefits which are earned for employee service rendered during the current year. Service cost depends on many factors, including the interest rate used to discount future cashflows, and expected inflation.

Total OPEB Liability (TOL) - That portion, as determined by the Individual Entry Age Normal Actuarial Cost Method, of the Actuarial Present Value of benefits and expenses which are not provided for by future Service Costs.