

**Town of Ipswich Other
Postemployment Benefits Plan**

GASB 75 Actuarial Valuation

With a Valuation Date of July 1, 2017

As of the Measurement Date:
July 1, 2017

As of the Measurement Date:
July 1, 2018

&

For the Reporting Date:
June 30, 2018

For the Reporting Date:
June 30, 2019

Delivered August 2018

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August 15, 2018

Personal and Confidential

Ms. Sarah Johnson
Finance Director
Town of Ipswich
25 Green Street
Ipswich, MA 01938

Dear Ms. Johnson:

We have performed an actuarial valuation of the Town of Ipswich Other Postemployment Benefits Plan for the Reporting Date & fiscal year ending June 30, 2018 with a Measurement Date of July 1, 2017 and a Valuation Date of July 1, 2017. The figures presented in this report reflect the adoption, by the Town of Ipswich, 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,

A handwritten signature in black ink, appearing to read 'P. Elmore', is written over a light gray horizontal line.

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

August 15, 2018

ACTUARIAL CERTIFICATION

This is to certify that Odyssey Advisors has conducted an actuarial valuation of certain benefit obligations of the Town of Ipswich other postemployment benefit programs with a Valuation Date of July 1, 2017 with a Measurement Date of July 1, 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.

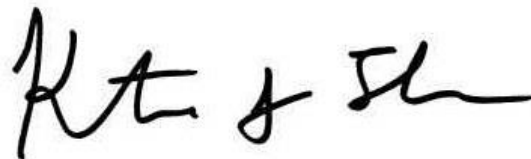
The actuarial data is based on the plan of benefits verified by the Town and on participant claims or premium data provided by the Town and/or vendors employed by the Town.

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



Kurtis J. Thompson, ASA, MAAA
Consulting 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 less favorable than expected - for the year ending on the Measurement Date of July 1, 2017, the Plan saw an experience loss of \$1,677,701 or 7.40% of the beginning Total OPEB Liability ("TOL"). This was mainly due to updated retirement rates for teachers (teachers tend to retire earlier than non-teachers) increasing disclosed liabilities by \$2.5 million. This was somewhat offset by premiums for Medicare integrated plans increasing by less than the expected 10% increase. The experience loss on TOL and the experience gain on assets are amortized into the net OPEB expense over time until fully recognized. Changes in assumptions decreased disclosed liabilities by \$13 million.

Over the two year period, the TOL went from \$32,125,844 as of July 1, 2015 to \$25,664,468 as of July 1, 2017 for a decrease of \$6,461,376. The Net OPEB Expense was \$1,060,801 for the fiscal year ending 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 4.00% to 7.00% decreasing the disclosed liability by \$13 million.
- ✓ Assumption changes caused Normal Cost to decrease by \$630 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 72% 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 (7.00%) – 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		
Impact on Liability	As Of The Measurement Date	
	<u>July 1, 2017</u>	<u>July 1, 2015</u>
I. Actuarial Accrued Liability	25,664,468	32,125,844
II. Actuarial Accrued Liability (Excluding Implicit Subsidy)	<u>22,838,444</u>	<u>N/A</u>
III. Liability from Implicit Subsidy [I. - II.]	2,826,024	N/A

Impact on Payments	For The Fiscal Year Ending	
	<u>June 30, 2018</u>	<u>June 30, 2016</u>
IV. Employer Payments (Including Implicit Subsidy)	1,049,963	935,600
V. Actual Employer Payments	<u>867,322</u>	<u>N/A</u>
VI. Implicit Subsidy [IV. - V.]	182,641	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>July 1, 2017</u>	<u>July 1, 2015</u>
Total OPEB Liability	25,664,468	32,125,844
Per Eligible Active Plan Participant	34,431	39,935
Per Retiree/Spouse Plan Participant	34,965	50,515
Total Annual Service Cost (annual benefit accrual)	770,372	1,383,030
Per Eligible Active Plan Participant	1,682	3,080
Expected Employer Share of Retiree Costs	1,049,963	935,600
Per Retiree/Spouse Plan Participant	3,710	3,330
Net OPEB Liability as a % of Payroll	77.20%	119.40%
Average Annual Medical Plan Premium (Single Coverage)	7,343	6,022
Average Annual Medical Plan Premium (Family Coverage)	26,502	23,630

Projected 2022 Excise Tax Thresholds

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"
July 1, 2017	283	25,664,468	1,049,963
July 1, 2022	331	28,706,408	1,339,465
July 1, 2027	374	31,555,858	1,557,627
July 1, 2032	419	33,853,836	1,875,756
July 1, 2037	437	35,770,371	1,967,171
July 1, 2042	440	38,399,951	2,075,487
July 1, 2047	445	41,635,454	2,195,723

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.

SECTION I

PRINCIPAL RESULTS OF THE VALUATION

Town of Ipswich
Assuming Funding - 7.00% discount rate
Comparison of Plan Liabilities to Prior Valuation

	As of the Measurement Date	
	<u>July 1, 2017</u>	<u>July 1, 2015</u>
I. Present Value of Future Benefits		
A. Actives	21,705,776	34,235,110
B. Retirees/Disabled	<u>9,895,038</u>	<u>14,194,839</u>
C. Total	31,600,814	48,429,949
II. Present Value of Future Normal Cost	5,936,346	16,304,105
III. Total OPEB Liability (Individual Entry Age Normal)		
A. Actives	15,769,430	17,931,005
B. Retirees/Disabled	<u>9,895,038</u>	<u>14,194,839</u>
C. Total	25,664,468	32,125,844
IV. Fiduciary Net Position [Plan Assets]	3,639,802	2,351,427
V. Net OPEB Liability (Asset) [III. - IV.]	22,024,666	29,774,417
VI. Funded Ratio [IV. / III.]	14.18%	7.32%
VII. Annual Covered Payroll	28,521,568	24,930,848
VIII. Net OPEB Liability (Asset) as % of Covered Payroll	77.2%	119.4%
IX. Number of Eligible Participants		
A. Actives	458	449
B. Retirees/Disabled	<u>283</u>	<u>281</u>
C. Total	741	730
	<u>For the Reporting Date and Fiscal Year Ending</u>	
	<u>June 30, 2018</u>	<u>June 30, 2016</u>
X. Service Cost	770,372	1,383,030
XI. Interest on Total OPEB Liability (Asset), Service Cost, and Benefit Payments	1,814,308	N/A
XII. Recognition of Deferred (Inflows)/Outflows from Plan Design Changes	0	N/A
XIII. Recognition of Deferred (Inflows)/Outflows from Expected & Actual Experience	274,583	N/A
XIV. Recognition of Deferred (Inflows)/Outflows from Changes in Assumptions	0	N/A
XV. Projected Earnings on OPEB Plan Investments	(271,600)	N/A
XVI. Recognition of Deferred (Inflows)/Outflows from Earnings on Investments	<u>(33,051)</u>	N/A
XVII. Financial Statement Expense [X.+XI.+XII.+XIII.+XIV.+XV.+XVI.]	2,554,612	N/A
XVII. Employer Share of Costs	(1,049,963)	(935,600)
XVIII. Employer (Payments)/Withdrawals to/from OPEB Trust	(443,848)	(294,080)
XIX. Total Employer Contribution [XVII. + XVIII.]	(1,493,811)	(1,229,680)
XX. Other Changes	<u>0</u>	N/A
XXI. Net OPEB Expense [XVII.+XIX.+XX.]	1,060,801	N/A
XXII. Discount Rate	7.00%	4.00%

SECTION I
PRINCIPAL RESULTS OF THE VALUATION
(continued)

Town of Ipswich
Plan Liabilities as of the July 1, 2017 Measurement Date
Assuming Funding - 7.00% discount rate

	<u>Medical</u>	<u>Dental</u>	<u>Life</u>	<u>Excise Tax</u>	<u>Total</u>
I. Present Value of Future Benefits					
A. Actives	21,384,412	0	17,098	304,266	21,705,776
B. Retirees/Disabled	<u>9,803,280</u>	<u>0</u>	<u>27,435</u>	<u>64,323</u>	<u>9,895,038</u>
C. Total	31,187,692	0	44,533	368,589	31,600,814
II. Present Value of Future Normal Cost	5,779,404	0	4,055	152,887	5,936,346
III. Total OPEB Liability					
A. Actives	15,605,008	0	13,043	151,379	15,769,430
B. Retirees/Disabled	<u>9,803,280</u>	<u>0</u>	<u>27,435</u>	<u>64,323</u>	<u>9,895,038</u>
C. Total	25,408,288	0	40,478	215,702	25,664,468
IV. Fiduciary Net Position [Plan Assets]	3,602,128	0	5,953	31,721	3,639,802
V. Net OPEB Liability (Asset) [III. - IV.]	21,806,160	0	34,525	183,981	22,024,666
VI. Annual Covered Payroll	28,521,568	28,521,568	28,521,568	28,521,568	28,521,568
VII. Net OPEB Liability (Asset) as % of Covered Payroll	76.5%	0.0%	0.1%	0.6%	77.2%
VIII. Number of Eligible Participants					
IX. A. Actives	458	458	458	458	
B. Retirees/Disabled	<u>283</u>	<u>0</u>	<u>130</u>	<u>283</u>	
C. Total	741	458	588	741	
For the Reporting Date and Fiscal Year Ending June 30, 2018					
X. Service Cost	756,878	0	593	12,901	770,372
XI. Interest on Total OPEB Liability (Asset), Service Cost, and Benefit Payments	1,795,519	0	2,787	16,002	1,814,308
XII. Recognition of Deferred (Inflows)/Outflows from Plan Design Changes	0	0	0	0	0
XIII. Recognition of Deferred (Inflows)/Outflows from Expected & Actual Experience	271,841	0	434	2,308	274,583
XIV. Recognition of Deferred (Inflows)/Outflows from Changes in Assumptions	0	0	0	0	0
XV. Projected Earnings on OPEB Plan Investments	<u>(268,795)</u>	0	<u>(443)</u>	<u>(2,362)</u>	<u>(271,600)</u>
XVI. Recognition of Deferred (Inflows)/Outflows from Earnings on Investments	<u>(32,821)</u>	<u>0</u>	<u>(36)</u>	<u>(194)</u>	<u>(33,051)</u>
XVII. Financial Statement Expense [X.+XI.+XII.+XIII.+XIV.+XV.+XVI.]	2,522,622	0	3,335	28,655	2,554,612
XVIII. Employer Share of Costs	<u>(1,047,449)</u>	0	<u>(2,514)</u>	0	<u>(1,049,963)</u>
XIX. Employer (Payments)/Withdrawals to/from OPEB Trust	<u>(439,418)</u>	0	<u>(700)</u>	<u>(3,730)</u>	<u>(443,848)</u>
XX. Total Employer Contribution [XVIII. + XIX.]	<u>(1,486,867)</u>	0	<u>(3,214)</u>	<u>(3,730)</u>	<u>(1,493,811)</u>
XXI. Other Changes	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
XXII. Net OPEB Expense [XVII.+XX.+XXI.]	1,035,755	0	121	24,925	1,060,801

SECTION I

PRINCIPAL RESULTS OF THE VALUATION

(continued)

**Town of Ipswich
Plan Liabilities as of the July 1, 2017 Measurement Date
Assuming Funding - 7.00% discount rate**

	General Government Employees and Retirees	Education Employees and Retirees	Public Safety Employees and Retirees	Finance Employees and Retirees	Human Services Employees and Retirees	Library Employees and Retirees	Code Enforcement Employees and Retirees	Public Works Employees and Retirees	Sewer Enterprise Employees and Retirees	Water Enterprise Employees and Retirees	Electric Enterprise Employees and Retirees	Total
I. Present Value of Future Benefits												
A. Actives	2,075,965	14,677,135	3,398,292	0	0	0	0	0	75,013	254,131	1,225,240	21,705,776
B. Retirees/Disabled	1,324,270	5,855,012	1,005,895	222,600	47,445	158,568	33,596	260,039	0	193,493	794,120	9,895,038
C. Total	3,400,235	20,532,147	4,404,187	222,600	47,445	158,568	33,596	260,039	75,013	447,624	2,019,360	31,600,814
II. Present Value of Future Normal Cost	111,531	4,342,921	1,118,781	0	0	0	0	0	26,397	31,425	305,291	5,936,346
III. Total OPEB Liability												
A. Actives	1,964,434	10,334,214	2,279,511	0	0	0	0	0	48,616	222,706	919,949	15,769,430
B. Retirees/Disabled	1,324,270	5,855,012	1,005,895	222,600	47,445	158,568	33,596	260,039	0	193,493	794,120	9,895,038
C. Total	3,288,704	16,189,226	3,285,406	222,600	47,445	158,568	33,596	260,039	48,616	416,199	1,714,069	25,664,468
IV. Fiduciary Net Position [Plan Assets]	732,827	1,525,545	0	0	0	0	0	0	212,252	362,961	806,217	3,639,802
V. Net OPEB Liability (Asset) [III. - IV.]	2,555,877	14,663,681	3,285,406	222,600	47,445	158,568	33,596	260,039	(163,636)	53,238	907,852	22,024,666
VI. Annual Covered Payroll	4,419,529	18,754,674	2,886,735	N/A	N/A	N/A	N/A	N/A	204,711	335,668	1,920,251	28,521,568
VII. Net OPEB Liability (Asset) as % of Covered Payroll	57.8%	78.2%	113.8%	N/A	N/A	N/A	N/A	N/A	-79.9%	15.9%	47.3%	77.2%
VIII. Number of Eligible Participants												
A. Actives	68	318	41	0	0	0	0	0	2	4	25	458
B. Retirees/Disabled	42	158	30	11	2	6	1	12	0	5	16	283
C. Total	110	476	71	11	2	6	1	12	2	9	41	741
For the Reporting Date and Fiscal Year Ending June 30, 2018												
IX. Service Cost	107,739	525,332	92,722	0	0	0	0	0	2,121	5,726	36,732	770,372
X. Interest on Total OPEB Liability (Asset), Service Cost, and Benefit Payments	232,740	1,148,251	232,763	14,721	3,172	10,540	2,278	17,165	3,552	28,916	120,210	1,814,308
XI. Recognition of Deferred (Inflows)/Outflows from Plan Design Changes	0	0	0	0	0	0	0	0	0	0	0	0
XII. Recognition of Deferred (Inflows)/Outflows from Expected & Actual Experience	35,185	173,208	35,150	2,382	508	1,697	359	2,782	520	4,453	18,339	274,583
XIII. Recognition of Deferred (Inflows)/Outflows from Changes in Assumptions	0	0	0	0	0	0	0	0	0	0	0	0
XIV. Projected Earnings on OPEB Plan Investments	(55,573)	(116,196)	0	0	0	0	0	0	(15,218)	(26,162)	(58,451)	(271,600)
XV. Recognition of Deferred (Inflows)/Outflows from Earnings on Investments	(6,654)	(13,853)	0	0	0	0	0	0	(1,927)	(3,296)	(7,321)	(33,051)
XVI. Financial Statement Expense [IX.+X.+XI.+XII.+XIII.+XIV.+XV.]	313,437	1,716,742	360,635	17,103	3,680	12,237	2,637	19,947	(10,952)	9,637	109,509	2,554,612
XVII. Employer Share of Costs	(145,506)	(632,653)	(107,716)	(25,013)	(4,326)	(16,262)	(2,147)	(30,155)	(2)	(17,992)	(68,191)	(1,049,963)
XVIII. Employer (Payments)/Withdrawals to/from OPEB Trust	(86,794)	(152,639)	0	0	0	0	0	0	(38,189)	(54,111)	(112,115)	(443,848)
XIX. Total Employer Contribution [XVII. + XVIII.]	(232,300)	(785,292)	(107,716)	(25,013)	(4,326)	(16,262)	(2,147)	(30,155)	(38,191)	(72,103)	(180,306)	(1,493,811)
XX. Other Changes	0	0	0	0	0	0	0	0	0	0	0	0
XXI. Net OPEB Expense [XVI.+XIX.+XX.]	81,137	931,450	252,919	(7,910)	(646)	(4,025)	490	(10,208)	(49,143)	(62,466)	(70,797)	1,060,801

SECTION I
PRINCIPAL RESULTS OF THE VALUATION

(continued)

Town of Ipswich
Detail of Plan Liabilities by Group and Dependency Status
Assuming Funding - 7.00% discount rate
Plan Liabilities as of the July 1, 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	7,686,503	3,948,504	170,349
B. Spouses	<u>4,452,170</u>	<u>2,321,505</u>	<u>94,658</u>
C. Total	12,138,673	6,270,009	265,007
Age 65 and Over			
A. Participants	1,570,509	5,541,395	298,605
B. Spouses	<u>7,996,594</u>	<u>3,958,026</u>	<u>206,760</u>
C. Total	9,567,103	9,499,421	505,365
Actives Total			
A. Participants	9,257,012	9,489,899	468,954
B. Spouses	<u>12,448,764</u>	<u>6,279,531</u>	<u>301,418</u>
C. Total	21,705,776	15,769,430	770,372
Retirees/Disabled			
Under Age 65			
A. Participants	910,113	910,113	0
B. Spouses	<u>107,508</u>	<u>107,508</u>	<u>0</u>
C. Total	1,017,621	1,017,621	0
Age 65 and Over			
A. Participants	7,854,277	7,854,277	0
B. Spouses	<u>1,023,140</u>	<u>1,023,140</u>	<u>0</u>
C. Total	8,877,417	8,877,417	0
Retirees/Disabled Total			
A. Participants	8,764,390	8,764,390	0
B. Spouses	<u>1,130,648</u>	<u>1,130,648</u>	<u>0</u>
C. Total	9,895,038	9,895,038	0
Total Population			
A. Participants	18,021,402	18,254,289	468,954
B. Spouses	<u>13,579,412</u>	<u>7,410,179</u>	<u>301,418</u>
C. Total	31,600,814	25,664,468	770,372

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**

	July 1, 2017	July 1, 2015
Total OPEB Liability	\$25,664,468	\$32,125,844
Fiduciary Net Position	\$3,639,802	\$2,351,427
Net OPEB Liability	\$22,024,666	\$29,774,417
Funded Ratio	14.18%	7.32%

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

	June 30, 2018	June 30, 2016
Service Cost	\$770,372	\$1,383,030
Interest Expense	\$1,814,308	N/A
Recognition of (Inflow)/Outflow from Plan Design Changes	\$0	N/A
Recognition of (Inflow)/Outflow from Plan Experience	\$274,583	N/A
Recognition of (Inflow)/Outflow from Changes in Assumptions	\$0	N/A
Projected Investment Earnings	\$(271,600)	N/A
Recognition of (Inflow)/Outflow from Earnings on Investments	\$(33,051)	N/A
Financial Statement Expense	2,554,612	N/A
Employer Share of Costs	\$(1,049,963)	\$(935,600)
Employer Payments (Withdrawals) to/from Trust	\$(443,848)	\$(294,080)
Total Employer Payments	\$(1,493,811)	\$(1,229,680)
Other Changes	\$0	N/A
Net OPEB Expense	\$1,060,801	N/A
Interest Rate	7.00%	4.00%

SECTION IISUMMARY OF PLAN PROVISIONS

<u>Effective Date</u>	GASB 45 is adopted July 1, 2008 GASB 74 is adopted for the fiscal year ending June 30, 2017 GASB 75 is adopted for the fiscal year ending June 30, 2018
<u>Plan Year</u>	July 1 through June 30.
<u>Eligibility</u>	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.
<u>Creditable Service</u>	Elapsed time from date of hire to termination of service date.
<u>Participant Contributions</u>	Retirees shall pay 50% of premiums for Medical & Life Insurance and 100% for Dental Insurance.
<u>Benefits Offered</u>	Various Medical offerings via Blue Cross Blue Shield of Massachusetts as well as Dental and Group Term Life Insurance.
<u>Normal Retirement Date</u>	The normal retirement date is the first day of the month following a participant's 65th birthday.
<u>Early Retirement</u>	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 (6.11 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 IIIACTUARIAL 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

7.00% per annum (previously 4.00%)

Long Term Rate of Return

7.04% (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 July 1, 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%
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

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

<u>Age</u>	<u>Standard Male</u>	<u>Standard Female</u>	<u>Male Teachers</u>	<u>Female Teachers</u>	<u>Public Safety</u>
45	0.00%	0.00%	0.00%	0.00%	1.00%
46	0.00%	0.00%	0.00%	0.00%	1.00%
47	0.00%	0.00%	0.00%	0.00%	1.00%
48	0.00%	0.00%	0.00%	0.00%	1.00%
49	0.00%	0.00%	0.00%	0.00%	1.00%
50	1.00%	1.50%	2.00%	1.50%	2.00%
51	1.00%	1.50%	2.00%	1.50%	2.00%
52	1.00%	2.50%	2.00%	1.50%	2.00%
53	1.00%	2.50%	2.00%	1.50%	5.00%
54	2.00%	2.50%	2.00%	2.00%	7.50%
55	2.00%	5.50%	6.00%	5.00%	15.00%
56	2.50%	6.50%	20.00%	15.00%	10.00%
57	2.50%	6.50%	40.00%	35.00%	10.00%
58	5.00%	6.50%	50.00%	35.00%	10.00%
59	6.50%	6.50%	50.00%	35.00%	15.00%
60	12.00%	5.00%	40.00%	35.00%	20.00%
61	20.00%	13.00%	40.00%	35.00%	20.00%
62	30.00%	15.00%	35.00%	35.00%	25.00%
63	25.00%	12.50%	35.00%	35.00%	25.00%
64	22.00%	18.00%	35.00%	35.00%	30.00%
65	40.00%	15.00%	35.00%	35.00%	100.00%
66	25.00%	20.00%	40.00%	35.00%	100.00%
67	25.00%	20.00%	40.00%	30.00%	100.00%
68	30.00%	25.00%	40.00%	30.00%	100.00%
69	30.00%	20.00%	40.00%	30.00%	100.00%
70	100.00%	100.00%	100.00%	100.00%	100.00%
71	100.00%	100.00%	100.00%	100.00%	100.00%
72	100.00%	100.00%	100.00%	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 employees and 70% of female employees who elect retiree healthcare coverage for themselves would also elect coverage for a spouse upon retirement. If provided, the actual census information was used. Otherwise it was assumed that a male spouse is three years older than a female spouse and same sex spouses are assumed to be the same age.

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 Benchmark	122		176	298
Blue Care Elect Benchmark	23		20	43
Medex II	130	48		178
Total	275	48	196	519

	Per Contract Costs (monthly) - FY 2019		
	Single	Two-Person	Family
HMO Blue Benchmark	844.95		2,254.15
Blue Care Elect Benchmark	1,126.28		2,888.87
Medex II	366.85	733.70	

Gross Expected FY 2019 Incurred Premiums	7,996,851
Adjustment to reflect children's claims	(1,344,410)
Total Expected FY 2019 Incurred Premiums (adults only)	6,652,440

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

	Employer Primary	Medicare Primary
Age 65	15,172	3,986
Average Age	10,536	4,402

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	Aged (F) Average Claims	Aged (M) Average Claims
24 & Under	8,878	3,715
25 to 29	8,878	3,999
30 to 34	8,878	4,818
35 to 39	8,878	5,752
40 to 44	8,878	6,767
45 to 49	9,853	8,073
50 to 54	10,820	9,751
55 to 59	11,775	11,863
60 to 64	13,317	14,224
65 to 69	14,671	15,672
70 & Over	16,214	17,303

**ALL RETIREES AND SPOUSES - NOT
MEDICARE ELIGIBLE**

Age Bracket	Aged (F) Average Claims	Aged (M) Average Claims
44 & Under	8,878	6,767
45 to 49	9,853	8,073
50 to 54	10,820	9,751
55 to 59	11,775	11,863
60 to 64	13,317	14,224
65 to 69	14,671	15,672
70 to 74	16,214	17,303
75 to 79	17,547	18,738
80 to 84	18,433	19,692
85 to 89	19,381	20,700
90 & Over	20,369	21,756

**ALL RETIREES AND SPOUSES - MEDICARE
ELIGIBLE**

Age Bracket	Aged (F) Average Claims	Aged (M) Average Claims
65 to 69	3,854	4,117
70 to 74	4,259	4,545
75 to 79	4,609	4,922
80 to 84	4,842	5,173
85 to 89	5,091	5,438
90 & Over	5,351	5,715

EXHIBIT A

Financial Statement Disclosure (As of the July 1, 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: Various offerings via Blue Cross Blue Shield of Massachusetts and the MIA Health Benefits Trust
- b. Administrator: Town of Ipswich
- 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: 50% Participant paid.

2. A DESCRIPTION OF THE RETIREE DENTAL INSURANCE PROGRAM:

- a. Plan Type: Comprehensive Dental Insurance
- b. Administrator: Town of Ipswich
- c. Eligibility: Same as above
- d. Cost sharing: Retirees shall pay 100% of premiums.

3. A DESCRIPTION OF THE RETIREE LIFE INSURANCE PROGRAM:

- a. Plan Type: Group Term Life Insurance - \$1,000
- b. Administrator: Town of Ipswich
- c. Eligibility: Same as above
- d. Cost sharing: Retirees shall pay 50% of premiums.

EXHIBIT A

Financial Statement Disclosure
(As of the July 1, 2017 Measurement Date)
(continued)

4. RETIREE MEDICAL AND LIFE INSURANCE CONTRIBUTIONS:

Group	Individual	Family
Medical	50%	50%
Dental	100%	100%
Life	50%	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 year ending on the July 1, 2017 Measurement Date total Town premiums plus implicit costs for the retiree medical program were \$1,049,963. The Town also made a contribution to an OPEB Trust of \$443,848 for a total contribution during the period of \$1,493,811.

EXHIBIT A

Financial Statement Disclosure
(As of the July 1, 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	14.50%	Domestic Equity - Large Cap	4.00%
Domestic Equity - Small/Mid Cap	3.50%	Domestic Equity - Small/Mid Cap	6.00%
International Equity - Developed Market	16.00%	International Equity - Developed Market	4.50%
International Equity-Emerging Market	6.00%	International Equity-Emerging Market	7.00%
Domestic Fixed Income	20.00%	Domestic Fixed Income	2.00%
International Fixed Income	3.00%	International Fixed Income	3.00%
Alternatives	23.00%	Alternatives	6.50%
Real Estate	14.00%	Real Estate	6.25%
Cash	0.00%	Cash	0.00%
Total	100.00%		
		I. Real Rate of Return	4.79%
		II. Inflation Assumption	2.75%
		III. Total Nominal Return [I. + II.]	7.54%
		IV. Investment Expense	0.50%
		V. Net Investment Return [III.-IV.]	7.04%

EXHIBIT A

Financial Statement Disclosure
(As of the July 1, 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	770,372
II. 30 year level flat dollar amortization of NOL at 7.00%	<u>1,658,774</u>
III. Actuarial Determined Contribution [I. + II.]	2,429,146
IV. Contributions in relation to the actuarially determined contribution	<u>(1,493,811)</u>
V. Contribution deficiency / (excess) [III. + IV.]	<u>935,335</u>
Covered employee payroll	28,521,568
Contributions as a % of covered employee payroll	5.24%

EXHIBIT A

Financial Statement Disclosure
(As of the July 1, 2017 Measurement Date)
(continued)

8. FUNDED STATUS AND FUNDING PROGRESS

As of the July 1, 2017 Measurement Date, the plan was 14.18% funded. The Total OPEB Liability (TOL) for benefits was \$25,664,468, and the Fiduciary Net Position was \$3,639,802, resulting in a Net OPEB Liability (NOL) of \$22,024,666. The covered payroll (annual payroll of active employees covered by the plan) was \$ 28,521,568 and the ratio of the NOL to the covered payroll was 77.2%.

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.

Fiscal Year	Measurement Date	Fiduciary Net Position	Total OPEB Liability	Net OPEB Liability	Funded Ratio	Covered Payroll	NOL as a % of Covered Payroll
2020	07/01/2019 (est.)	\$5,070,937	\$28,580,145	\$23,509,208	17.7%	\$30,258,531	77.7%
2019	07/01/2018 (est.)	\$4,434,994	\$27,199,185	\$22,764,191	16.3%	\$29,377,215	77.5%
2018	07/01/2017	\$3,639,802	\$25,664,468	\$22,024,666	14.2%	\$28,521,568	77.2%
2017	07/01/2016	\$2,815,880	\$33,876,212	\$31,060,332	8.3%	\$25,678,773	121.0%
2016	07/01/2015	\$2,351,427	\$32,125,844	\$29,774,417	7.3%	\$24,930,848	119.4%
2015	07/01/2014	\$1,985,100	\$38,274,929	\$36,289,829	5.2%	\$24,346,244	149.1%

EXHIBIT A

Financial Statement Disclosure
(As of the July 1, 2017 Measurement Date)
(continued)

9. FIDUCIARY NET POSITION

Statement of Fiduciary Net Position		
July 1, 2017 and July 1, 2018		
	<u>July 1, 2018</u>	<u>July 1, 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	1,020,048	837,154
VIII. Stocks	1,773,998	1,455,921
IX. Cash and cash equivalents	0	0
X. Real estate	620,899	509,572
XI. Alternative investments	<u>1,020,049</u>	<u>837,155</u>
XII. Total Investments [VII.+VIII.+IX.+X.+XI.]	<u>4,434,994</u>	<u>3,639,802</u>
Invested securities lending cash collateral	0	0
Capital assets, net of accumulated depreciation	0	0
Total Assets	4,434,994	3,639,802
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.]	4,434,994	3,639,802

EXHIBIT A

Financial Statement Disclosure
(As of the July 1, 2017 Measurement Date)
(continued)

9. FIDUCIARY NET POSITION (CONTINUED)

Statement of Changes in Fiduciary Net Position for the Year ended June 30, 2018	
	<u>As of the July 1, 2017 Measurement Date</u>
Additions	
<u>Contributions</u>	
Employer Contributions to OPEB Trust	445,029
Total Contributions	445,029
<u>Investment Income / (loss)</u>	
Interest	40,857
Dividends	29,118
Equity fund income, net	0
Net increase in fair value of investments	308,918
Securities lending income	0
Less investment expenses:	
Direct investment expense	0
Securities lending management fees	0
Securities lending borrower rebates	0
Net investment income	378,893
Other income	0
Total Additions	823,922
Deductions	
Service benefits	0
Disability benefits	0
Death benefits	0
Refunds	0
Administrative expenses	0
Total deductions	0
Net increase (decrease)	823,922
Net Position restricted for OPEB	
As of July 1, 2016	2,815,880
As of July 1, 2017	3,639,802

EXHIBIT A

Financial Statement Disclosure
(As of the July 1, 2017 Measurement Date)
(continued)

10. OPEB LIABILITY, OPEB EXPENSE AND ADC

	Fiscal Year Ending June 30, 2018											Total
	General Government Employees and Retirees	Education Employees and Retirees	Public Safety Employees and Retirees	Finance Employees and Retirees	Human Services Employees and Retirees	Library Employees and Retirees	Code Enforcement Employees and Retirees	Public Works Employees and Retirees	Sewer Enterprise Employees and Retirees	Water Enterprise Employees and Retirees	Electric Enterprise Employees and Retirees	
I. Total OPEB Liability	3,288,704	16,189,226	3,285,406	222,600	47,445	158,568	33,596	260,039	48,616	416,199	1,714,069	25,664,468
II. Fiduciary Net Position as of July 1, 2017	732,827	1,525,545	-	-	-	-	-	-	212,252	362,961	806,217	3,639,802
III. Net OPEB Liability (Asset) [I. - II.]	2,555,877	14,663,681	3,285,406	222,600	47,445	158,568	33,596	260,039	(163,636)	53,238	907,852	22,024,666
IV. Service Cost	107,739	525,332	92,722	-	-	-	-	-	2,121	5,726	36,732	770,372
V. Interest on Total OPEB Liability (Asset), Service Cost, and Benefit Payments	232,740	1,148,251	232,763	14,721	3,172	10,540	2,278	17,165	3,552	28,916	120,210	1,814,308
VI. Recognition of Deferred (Inflows)/Outflows from Plan Design Changes	-	-	-	-	-	-	-	-	-	-	-	-
VII. Recognition of Deferred (Inflows)/Outflows from Plan Experience	35,185	173,208	35,150	2,382	508	1,697	359	2,782	520	4,453	18,339	274,583
VIII. Recognition of Deferred (Inflows)/Outflows from Changes in Assumptions	-	-	-	-	-	-	-	-	-	-	-	-
IX. Projected Earnings on OPEB Plan Investments	(55,573)	(116,196)	-	-	-	-	-	-	(15,218)	(26,162)	(58,451)	(271,600)
X. Recognition of Deferred (Inflows)/Outflows from Earnings on Investments	(6,654)	(13,853)	-	-	-	-	-	-	(1,927)	(3,296)	(7,321)	(33,051)
XI. Financial Statement Expense [IV. + V. + VI. + VII. + VIII. + IX. + X.]	313,437	1,716,742	360,635	17,103	3,680	12,237	2,637	19,947	(10,952)	9,637	109,509	2,554,612
XII. Employer Share of Costs	(145,506)	(632,653)	(107,716)	(25,013)	(4,326)	(16,262)	(2,147)	(30,155)	(2)	(17,992)	(68,191)	(1,049,963)
XIII. Employer (Payments) Withdrawals to/from OPEB Trust	(86,794)	(152,639)	-	-	-	-	-	-	(38,189)	(54,111)	(112,115)	(443,848)
XIV. Total Employer Contribution [XII. + XIII.]	(232,300)	(785,292)	(107,716)	(25,013)	(4,326)	(16,262)	(2,147)	(30,155)	(38,191)	(72,103)	(180,306)	(1,493,811)
XV. Net OPEB Expense [XI. + XIV.]	81,137	931,450	252,919	(7,910)	(646)	(4,025)	490	(10,208)	(49,143)	(62,466)	(70,797)	1,060,801
XVI. Actuarial Determined Contribution (ADC)	300,234	1,629,718	340,160	16,765	3,573	11,942	2,530	19,585	(10,203)	9,736	105,106	2,429,146
XVII. Total Expected Contribution	232,300	785,292	107,716	25,013	4,326	16,262	2,147	30,155	38,191	72,103	180,306	1,493,811
XVIII. Percentage of ADC Contributed [XVII. / XVI.]	77%	48%	32%	149%	121%	136%	85%	154%	-374%	741%	172%	61%

	Fiscal Year Ending June 30, 2019											Total
	General Government Employees and Retirees	Education Employees and Retirees	Public Safety Employees and Retirees	Finance Employees and Retirees	Human Services Employees and Retirees	Library Employees and Retirees	Code Enforcement Employees and Retirees	Public Works Employees and Retirees	Sewer Enterprise Employees and Retirees	Water Enterprise Employees and Retirees	Electric Enterprise Employees and Retirees	
I. Total OPEB Liability	3,483,677	17,230,156	3,503,175	212,308	46,291	152,846	33,727	247,049	54,287	432,849	1,802,820	27,199,185
II. Fiduciary Net Position as of July 1, 2018	888,327	1,799,010	-	-	-	-	-	-	280,671	459,905	1,007,081	4,434,994
III. Net OPEB Liability (Asset) [I. - II.]	2,595,350	15,431,146	3,503,175	212,308	46,291	152,846	33,727	247,049	(226,384)	(27,056)	795,739	22,764,191
IV. Service Cost	113,762	554,700	97,906	-	-	-	-	-	2,240	6,046	38,785	813,439
V. Interest on Total OPEB Liability (Asset), Service Cost, and Benefit Payments	246,493	1,216,084	246,514	15,591	3,359	11,163	2,413	18,179	3,762	30,624	127,311	1,921,493
VI. Recognition of Deferred (Inflows)/Outflows from Plan Design Changes	-	-	-	-	-	-	-	-	-	-	-	-
VII. Recognition of Deferred (Inflows)/Outflows from Plan Experience	35,185	173,208	35,150	2,382	508	1,697	359	2,782	520	4,453	18,339	274,583
VIII. Recognition of Deferred (Inflows)/Outflows from Changes in Assumptions	-	-	-	-	-	-	-	-	-	-	-	-
IX. Projected Earnings on OPEB plan investments	(52,978)	(114,257)	(1,394)	(84)	(18)	(61)	(13)	(98)	(14,964)	(25,725)	(57,475)	(267,067)
X. Recognition of Deferred (Inflows)/Outflows from Earnings on Investments	(11,093)	(31,041)	(6,311)	(382)	(83)	(90)	-	-	-	-	-	(49,000)
XI. Financial Statement Expense [IV. + V. + VI. + VII. + VIII. + IX. + X.]	331,369	1,798,694	371,865	17,507	3,766	12,709	2,759	20,863	(8,442)	15,398	126,960	2,693,448
XII. Employer Share of Costs	(158,650)	(689,805)	(117,447)	(27,273)	(4,717)	(17,731)	(2,341)	(32,879)	(2)	(19,617)	(74,351)	(1,144,813)
XIII. Employer (Payments) Withdrawals to/from OPEB Trust	(40,075)	(198,212)	(40,300)	(2,442)	(533)	(1,758)	(388)	(2,842)	(625)	(4,979)	(20,739)	(312,893)
XIV. Total Employer Contribution [XII. + XIII.]	(198,725)	(888,017)	(157,747)	(29,715)	(5,250)	(19,489)	(2,729)	(35,721)	(627)	(24,596)	(95,090)	(1,457,706)
XV. Net OPEB Expense [XI. + XIV.]	132,644	910,677	214,118	(12,208)	(1,484)	(6,780)	30	(14,858)	(9,069)	(9,198)	31,870	1,235,742
XVI. Actuarial Determined Contribution (ADC)	309,229	1,716,887	361,746	15,990	3,486	11,512	2,540	18,606	(14,810)	4,008	98,716	2,527,910
XVII. Total Expected Contribution	198,725	888,017	157,747	29,715	5,250	19,489	2,729	35,721	627	24,596	95,090	1,457,706
XVIII. Percentage of ADC Contributed [XVII. / XVI.]	64%	52%	44%	186%	151%	169%	107%	192%	-4%	614%	96%	58%

EXHIBIT A

Financial Statement Disclosure
(As of the July 1, 2017 Measurement Date)
(continued)

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

Source of Deferred Inflow/Outflow		
	For the Reporting Date	
	June 30, 2018	June 30, 2019
I. Deferred (Inflow)/Outflow from Actual vs. Expected Experience	1,403,118	1,128,535
II. Deferred (Inflow)/Outflow from Investment Experience	(132,205)	(162,949)
III. Deferred (Inflow)/Outflow from Changes in Benefit Terms	0	0
IV. Deferred (Inflow)/Outflow from Changes in Assumptions	0	0

Change in Deferred Inflow/Outflow		
	For the period ending on the Measurement Date	
	July 1, 2017	July 1, 2018
I. Deferred Outflow at the beginning of the period	0	1,403,118
II. Deferred Outflow created during the period	1,677,701	0
III. Deferred Outflow recognized during the period	274,583	274,583
IV. Change in Deferred Outflow (III. - II.)	1,403,118	274,583
V. Deferred Outflow at end of the period (I. - IV.)	1,403,118	1,128,535
VI. Deferred Inflow at the beginning of the period	0	(132,205)
VII. Deferred Inflow created during the period	(165,256)	(79,744)
VIII. Deferred Inflow recognized during the period	(33,051)	(49,000)
IX. Change in Deferred Inflow (VIII. - VII.)	(132,205)	30,744
X. Deferred Inflow at end of the period (VI. - IX.)	(132,205)	(162,949)

Net OPEB Liability		
	For the period ending on the Measurement Date	
	July 1, 2017	July 1, 2018
I. Net OPEB Liability at beginning of period	19,854,660	22,024,666
II. Net OPEB Expense - Excluding Payments	2,081,400	2,313,080
III. Total Employer Contributions	(1,423,839)	(1,493,811)
IV. Net OPEB Expense - Before Recognition of Deferred (Inflow)/Outflow (II. + III.)	657,561	819,269
V. Deferred Outflow created during the period	1,677,701	0
VI. Deferred Inflow created during the period	(165,256)	(79,744)
VII. Net OPEB Liability at end of period (I. + IV. + V + VI)	22,024,666	22,764,191

Net OPEB Expense		
	For the period ending on the Measurement Date	
	July 1, 2017	July 1, 2018
I. Service Cost	693,250	770,372
II. Interest on Total OPEB Liability, Service Cost, and Payments	1,601,787	1,814,308
III. Projected Investment Income	(213,637)	(271,600)
IV. Recognition of Deferred (Inflow)/Outflow	0	241,532
V. Financial Statement Expense [I. + II. + III. + IV.]	2,081,400	2,554,612
VI. Benefit Payments	(978,810)	(1,049,963)
VII. Contributions to Trust	(445,029)	(443,848)
VIII. Total Employer Payments [VI. + VII.]	(1,423,839)	(1,493,811)
IX. Total Net OPEB Expense under GASB 75 (V. + VIII.)	657,561	1,060,801

Measurement Date July 1, 2017 July 1, 2018

EXHIBIT A

Financial Statement Disclosure
(As of the July 1, 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 Total OPEB Liability as of the July 1, 2017 Measurement Date would increase to \$33,326,245 or by 29.9% and the Net OPEB Liability would increase to \$29,686,443 or by 34.8%. The corresponding Service Cost would increase to \$1,146,199 or by 48.8%. If such healthcare trend rates were 1% less than forecast and employee contributions were to increase at the forecast rate, the Total OPEB Liability would decrease to \$19,478,523 or by 24.1% and the Net OPEB Liability would decrease to \$15,838,721 or by 28.1%. The corresponding Service Cost would decrease to \$485,599 or by 37.0%.

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

	<u>1% Decrease (4.00%)</u>	<u>Current Trend Rate (5.00%)</u>	<u>1% Increase (6.00%)</u>
I. Total OPEB Liability	19,478,523	25,664,468	33,326,245
II. Fiduciary Net Position	<u>3,639,802</u>	<u>3,639,802</u>	<u>3,639,802</u>
III. Net OPEB Liability (Asset) [I.-II.]	15,838,721	22,024,666	29,686,443
IV. Service Cost	485,599	770,372	1,146,199

Impact of a 1% Change in the Healthcare Trend Rate as of the July 1, 2018 Measurement Date

	<u>1% Decrease (4.00%)</u>	<u>Current Trend Rate (5.00%)</u>	<u>1% Increase (6.00%)</u>
I. Total OPEB Liability	20,642,944	27,199,185	35,319,602
II. Fiduciary Net Position	<u>4,434,994</u>	<u>4,434,994</u>	<u>4,434,994</u>
III. Net OPEB Liability (Asset) [I.-II.]	16,207,950	22,764,191	30,884,608
IV. Service Cost	512,744	813,439	1,210,279

EXHIBIT A

Financial Statement Disclosure
(As of the July 1, 2017 Measurement Date)
(continued)

13. EFFECT OF 1% CHANGE IN DISCOUNT RATES

As of the July 1, 2017 Measurement Date, if the discount rate were 1% higher than what was used in this valuation, the Total OPEB Liability would decrease to \$22,203,258 or by 13.5% and the Net OPEB Liability would decrease to \$18,563,456 or by 15.7%. The corresponding Service Cost would decrease to \$571,837 or by 25.8%. If the discount rate were 1% lower than was used in this valuation, the Total OPEB Liability would increase to \$29,125,678 or by 13.5% and the Net OPEB Liability would increase to \$25,485,876 or by 15.7%. The corresponding Service Cost would increase to \$968,907 or by 25.8%.

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

	<u>1% Decrease (6.00%)</u>	<u>Current Discount Rate (7.00%)</u>	<u>1% Increase (8.00%)</u>
I. Total OPEB Liability	29,125,678	25,664,468	22,203,258
II. Fiduciary Net Position	<u>3,639,802</u>	<u>3,639,802</u>	<u>3,639,802</u>
III. Net OPEB Liability (Asset) [I.-II.]	25,485,876	22,024,666	18,563,456
IV. Service Cost	968,907	770,372	571,837

Impact of a 1% Change in the Discount Rate as of the July 1, 2018 Measurement Date

	<u>1% Decrease (6.00%)</u>	<u>Current Discount Rate (7.00%)</u>	<u>1% Increase (8.00%)</u>
I. Total OPEB Liability	30,867,373	27,199,185	23,530,997
II. Fiduciary Net Position	<u>4,434,994</u>	<u>4,434,994</u>	<u>4,434,994</u>
III. Net OPEB Liability (Asset) [I.-II.]	26,432,379	22,764,191	19,096,003
IV. Service Cost	1,023,072	813,439	603,806

EXHIBIT A

Financial Statement Disclosure
(As of the July 1, 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: 7.00% per annum (previously 4.00%)
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 July 1, 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 Ipswich 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	770,372
II. Interest on Total OPEB Liability (Asset), Service Cost, and Benefit Payments	1,814,308
III. Deferred (Inflows)/Outflows from Plan Design Changes*	0
IV. Deferred (Inflows)/Outflows from Plan Experience**	274,583
V. Deferred (Inflows)/Outflows from Changes of Assumptions**	0
VI. Projected earnings on OPEB plan investments	(271,600)
VII. Deferred (Inflows)/Outflows from Earnings on Plan Investments***	(33,051)
VIII. Total Employer Contributions	(1,493,811)
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.]	1,060,801

* Recognized Immediately

** Amortized over 6.11 years

*** Amortized over 5 years

EXHIBIT A

Financial Statement Disclosure
(As of the July 1, 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 July 1, 2016 GASB 45	33,876,212	2,815,880	31,060,332
II. Change in Assumptions for GASB 75	<u>(11,205,672)</u>	<u>0</u>	<u>(11,205,672)</u>
III. Balances at July 1, 2016 GASB 75 [I. + II.]	22,670,540	2,815,880	19,854,660
Changes for the year:			
IV. Service Cost	693,250	0	693,250
V. Interest on Total OPEB Liability, Service Cost, and Benefit Payments	1,601,787	0	1,601,787
VI. Changes in Benefit terms *	0	0	0
VII. Change in assumptions **	0	0	0
VIII. Differences between actual and expected experience **	1,677,701	0	1,677,701
IX. Net Investment Income	0	378,893	(378,893)
X. Employer Contributions to Trust	0	1,423,839	(1,423,839)
XI. Benefit Payments Withdrawn from Trust	0	(978,810)	978,810
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.]	(978,810)	0	(978,810)
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.]	<u>2,993,928</u>	<u>823,922</u>	<u>2,170,006</u>
XVIII. Balances at July 1, 2017 [III.+XVII.]	25,664,468	3,639,802	22,024,666

* Recognized Immediately

** Amortized over 6.11 years

EXHIBIT A

Financial Statement Disclosure
(As of the July 1, 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		
	Assets as of July 1, 2016	Assets as of July 1, 2017
Assets		
Cash and cash equivalents	0	0
Receivables:		
Investment income	0	0
Receivables from brokers for unsettled trades	0	0
Investments		
Fixed income	647,652	837,154
Stocks	1,126,352	1,455,921
Cash and cash equivalents	0	0
Real estate	394,223	509,572
Alternative investments	647,653	837,155
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	2,815,880	3,639,802

EXHIBIT A

Financial Statement Disclosure
(As of the July 1, 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	2,815,880	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	0	6	0.5000
January	0	5	0.4167
February	0	4	0.3333
March	0	3	0.2500
April	445,029	2	0.1667
May	0	1	0.0833
<u>June</u>	<u>0</u>	0	0.0000
II. Total net external cash flow	445,029		
III. Earnings and increase in fair value	378,893		
IV. Ending value - June 30, 2017 [I.+II.+III.]	3,639,802		
Money Weighted Rate of Return	13.13%		
Asset Value - June 30, 2017	3,639,802		

EXHIBIT A

Financial Statement Disclosure
(As of the July 1, 2017 Measurement Date)
(continued)

19. PLAN CASH FLOWS

Aggregate External (Noninvestment Cash Flows)	
<u>July 1, 2017</u>	
Additions	
<u>Contributions</u>	
Member contributions	0
Employer contributions	445,029
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	445,029

EXHIBIT A

Financial Statement Disclosure
(As of the July 1, 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>As of the July 1, 2017 Measurement Date</u>	
I. Total OPEB plan investments on July 1, 2016	2,815,880
II. Aggregate external cash flows	445,029
III. Net investment income	<u>378,893</u>
IV. Total OPEB plan investments on July 1, 2017 [I.+II.+III.]	<u><u>3,639,802</u></u>

EXHIBIT A

Financial Statement Disclosure
(As of the July 1, 2017 Measurement Date)
(continued)

20. PLAN PROJECTION DISCLOSURES

Projection of Contributions using a July 1, 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	28,521,568	0	28,521,568	0	1,049,963	0	1,049,963
2019	26,712,675	2,664,540	29,377,215	0	1,144,813	0	1,144,813
2020	25,178,959	5,079,572	30,258,531	0	1,276,607	0	1,276,607
2021	23,935,694	7,230,593	31,166,287	0	1,351,754	0	1,351,754
2022	22,820,745	9,280,531	32,101,276	0	1,453,858	0	1,453,858
2023	21,708,679	11,355,635	33,064,314	0	1,552,807	0	1,552,807
2024	20,700,222	13,356,021	34,056,243	0	1,618,793	0	1,618,793
2025	19,715,184	15,362,746	35,077,930	0	1,740,799	0	1,740,799
2026	18,768,780	17,361,488	36,130,268	0	1,850,019	0	1,850,019
2027	17,712,594	19,501,582	37,214,176	0	1,944,673	0	1,944,673
2028	16,722,120	21,608,481	38,330,601	0	2,093,320	0	2,093,320
2029	15,763,295	23,717,224	39,480,519	0	2,249,814	14,514	2,264,328
2030	14,776,624	25,888,311	40,664,935	0	2,347,885	38,630	2,386,515
2031	13,789,690	28,095,193	41,884,883	0	2,483,720	74,715	2,558,435
2032	12,939,741	30,201,688	43,141,429	0	2,625,290	123,215	2,748,505
2033	12,053,290	32,382,382	44,435,672	0	2,739,575	182,791	2,922,366
2034	11,174,275	34,594,467	45,768,742	0	2,866,556	231,673	3,098,229
2035	10,244,841	36,896,963	47,141,804	0	3,012,108	289,030	3,301,138
2036	9,402,504	39,153,554	48,556,058	0	3,077,299	351,948	3,429,247
2037	8,565,377	41,447,363	50,012,740	0	3,030,903	407,741	3,438,644
2038	7,764,878	43,748,244	51,513,122	0	3,081,876	471,053	3,552,929
2039	7,079,266	45,979,250	53,058,516	0	3,081,447	553,285	3,634,732
2040	6,492,804	48,157,467	54,650,271	0	3,073,372	664,686	3,738,058
2041	5,844,445	50,445,334	56,289,779	0	3,120,335	804,692	3,925,027
2042	5,177,665	52,800,807	57,978,472	0	3,098,406	975,436	4,073,842
2043	4,667,448	55,050,378	59,717,826	0	3,172,169	1,173,440	4,345,609
2044	4,186,779	57,322,582	61,509,361	0	3,182,659	1,344,023	4,526,682
2045	3,765,153	59,589,489	63,354,642	0	3,229,317	1,536,826	4,766,143
2046	3,368,260	61,887,021	65,255,281	0	3,191,365	1,744,026	4,935,391
2047	2,975,031	64,237,908	67,212,939	0	3,174,902	1,941,159	5,116,061
2048	2,693,987	66,535,340	69,229,327	0	3,172,729	2,156,867	5,329,596
2049	2,389,132	68,917,075	71,306,207	0	3,088,438	2,393,976	5,482,414
2050	2,109,226	71,336,167	73,445,393	0	3,077,123	2,658,324	5,735,447
2051	1,801,744	73,847,011	75,648,755	0	3,089,134	2,949,060	6,038,194
2052	1,549,547	76,368,671	77,918,218	0	3,026,155	3,265,347	6,291,502
2053	1,305,669	78,950,096	80,255,765	0	2,998,063	3,608,282	6,606,345
2054	1,075,232	81,588,206	82,663,438	0	2,975,688	3,954,413	6,930,101
2055	888,278	84,255,063	85,143,341	0	2,923,804	4,325,779	7,249,583
2056	726,506	86,971,135	87,697,641	0	2,859,341	4,719,531	7,578,872
2057	538,363	89,790,207	90,328,570	0	2,819,975	5,129,321	7,949,296

EXHIBIT A

Financial Statement Disclosure
(As of the July 1, 2017 Measurement Date)
(continued)

Projection of Contributions using a July 1, 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	414,088	92,624,339	93,038,427	0	2,731,363	5,563,541	8,294,904
2059	305,981	95,523,599	95,829,580	0	2,653,809	6,025,196	8,679,005
2060	215,538	98,488,929	98,704,467	0	2,587,705	6,515,525	9,103,230
2061	157,463	101,508,138	101,665,601	0	2,492,399	7,037,233	9,529,632
2062	100,964	104,614,605	104,715,569	0	2,416,103	7,592,497	10,008,600
2063	51,064	107,805,972	107,857,036	0	2,345,101	8,180,951	10,526,052
2064	28,709	111,064,038	111,092,747	0	2,256,427	8,793,417	11,049,844
2065	8,800	114,416,729	114,425,529	0	2,174,964	9,440,195	11,615,159
2066	1,151	117,857,144	117,858,295	0	2,091,139	10,122,601	12,213,740
2067	0	121,394,044	121,394,044	0	2,004,018	10,830,539	12,834,557
2068	0	125,035,865	125,035,865	0	1,914,488	11,573,679	13,488,167
2069	0	128,786,941	128,786,941	0	1,822,885	12,354,314	14,177,199
2070	0	132,650,549	132,650,549	0	1,730,290	13,169,257	14,899,547
2071	0	136,630,065	136,630,065	0	1,637,482	14,023,401	15,660,883
2072	0	140,728,967	140,728,967	0	1,544,753	14,919,953	16,464,706
2073	0	144,950,836	144,950,836	0	1,453,040	15,858,699	17,311,739
2074	0	149,299,361	149,299,361	0	1,376,303	16,845,892	18,222,195
2075	0	153,778,342	153,778,342	0	1,304,667	17,877,600	19,182,267
2076	0	158,391,692	158,391,692	0	1,231,708	18,959,099	20,190,807
2077	0	163,143,443	163,143,443	0	1,157,462	20,090,284	21,247,746
2078	0	168,037,746	168,037,746	0	1,082,727	21,272,819	22,355,546
2079	0	173,078,878	173,078,878	0	1,007,325	22,510,676	23,518,001
2080	0	178,271,244	178,271,244	0	932,623	23,804,858	24,737,481
2081	0	183,619,381	183,619,381	0	858,158	25,161,412	26,019,570
2082	0	189,127,962	189,127,962	0	785,214	26,583,025	27,368,239
2083	0	194,801,801	194,801,801	0	714,091	28,072,901	28,786,992
2084	0	200,645,855	200,645,855	0	645,043	29,637,179	30,282,222
2085	0	206,665,231	206,665,231	0	578,394	31,277,492	31,855,886
2086	0	212,865,188	212,865,188	0	514,604	32,998,166	33,512,770
2087	0	219,251,144	219,251,144	0	453,759	34,803,843	35,257,602
2088	0	225,828,678	225,828,678	0	396,334	36,698,251	37,094,585
2089	0	232,603,538	232,603,538	0	342,697	38,686,407	39,029,104
2090	0	239,581,644	239,581,644	0	293,220	40,774,063	41,067,283
2091	0	246,769,093	246,769,093	0	247,900	42,966,106	43,214,006
2092	0	254,172,166	254,172,166	0	207,464	45,269,689	45,477,153
2093	0	261,797,331	261,797,331	0	171,309	47,689,768	47,861,077
2094	0	269,651,251	269,651,251	0	139,855	50,233,694	50,373,549
2095	0	277,740,789	277,740,789	0	112,760	52,907,037	53,019,797
2096	0	286,073,013	286,073,013	0	89,749	55,716,654	55,806,403

EXHIBIT A

Financial Statement Disclosure
(As of the July 1, 2017 Measurement Date)
(continued)

20. PLAN PROJECTION DISCLOSURES (CONTINUED)

Projection of OPEB Plan's Fiduciary Net Position using a July 1, 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	3,639,802	1,049,963	1,049,963	0	443,848	443,848	351,344	4,434,994
2019	4,434,994	1,144,813	1,144,813	0	312,893	284,513	323,050	5,042,557
2020	5,042,557	1,276,607	1,276,607	0	312,893	260,367	365,823	5,668,747
2021	5,668,747	1,351,754	1,351,754	0	312,893	240,302	409,906	6,318,955
2022	6,318,955	1,453,858	1,453,858	0	312,893	222,435	455,681	6,997,071
2023	6,997,071	1,552,807	1,552,807	0	312,893	205,433	503,420	7,705,924
2024	7,705,924	1,618,793	1,618,793	0	312,893	190,184	553,324	8,449,432
2025	8,449,432	1,740,799	1,740,799	0	312,893	175,858	605,667	9,230,957
2026	9,230,957	1,850,019	1,850,019	0	312,893	162,540	660,686	10,054,183
2027	10,054,183	1,944,673	1,944,673	0	312,893	148,926	718,641	10,921,750
2028	10,921,750	2,093,320	2,093,320	0	312,893	136,503	779,718	11,837,971
2029	11,837,971	2,249,814	2,249,814	0	312,893	124,928	844,220	12,792,605
2030	12,792,605	2,347,885	2,347,885	0	312,893	113,698	911,426	13,779,099
2031	13,779,099	2,483,720	2,483,720	0	312,893	103,013	980,875	14,788,272
2032	14,788,272	2,625,290	2,625,290	0	312,893	93,848	1,051,921	15,810,826
2033	15,810,826	2,739,575	2,739,575	0	312,893	84,873	1,123,909	16,836,817
2034	16,836,817	2,866,556	2,866,556	0	312,893	76,392	1,196,138	17,877,674
2035	17,877,674	3,012,108	3,012,108	0	312,893	67,998	1,269,415	18,926,057
2036	18,926,057	3,077,299	3,077,299	0	3,833,147	742,259	1,465,027	20,781,395
2037	20,781,395	3,030,903	3,030,903	0	3,833,147	656,480	1,595,642	22,625,776
2038	22,625,776	3,081,876	3,081,876	0	3,833,147	577,793	1,725,487	24,458,003
2039	24,458,003	3,081,447	3,081,447	0	3,833,147	511,433	1,854,476	26,270,627
2040	26,270,627	3,073,372	3,073,372	0	3,833,147	455,403	1,982,084	28,043,428
2041	28,043,428	3,120,335	3,120,335	0	3,833,147	397,987	2,106,889	29,743,612
2042	29,743,612	3,098,406	3,098,406	0	3,833,147	342,312	2,226,582	31,337,070
2043	31,337,070	3,172,169	3,172,169	0	3,833,147	299,593	2,338,762	32,801,985
2044	32,801,985	3,182,659	3,182,659	0	3,833,147	260,912	2,441,892	34,160,766
2045	34,160,766	3,229,317	3,229,317	0	3,833,147	227,803	2,537,550	35,389,293
2046	35,389,293	3,191,365	3,191,365	0	0	0	2,491,406	36,136,673
2047	36,136,673	3,174,902	3,174,902	0	0	0	2,544,022	36,739,536
2048	36,739,536	3,172,729	3,172,729	0	0	0	2,586,463	37,169,132
2049	37,169,132	3,088,438	3,088,438	0	0	0	2,616,707	37,391,863
2050	37,391,863	3,077,123	3,077,123	0	0	0	2,632,387	37,365,926
2051	37,365,926	3,089,134	3,089,134	0	0	0	2,630,561	37,047,427
2052	37,047,427	3,026,155	3,026,155	0	0	0	2,608,139	36,390,219
2053	36,390,219	2,998,063	2,998,063	0	0	0	2,561,871	35,343,808
2054	35,343,808	2,975,688	2,975,688	0	0	0	2,488,204	33,877,599
2055	33,877,599	2,923,804	2,923,804	0	0	0	2,384,983	31,936,803
2056	31,936,803	2,859,341	2,859,341	0	0	0	2,248,351	29,465,623
2057	29,465,623	2,819,975	2,819,975	0	0	0	2,074,380	26,410,682

EXHIBIT A

Financial Statement Disclosure
(As of the July 1, 2017 Measurement Date)
(continued)

Projection of OPEB Plan's Fiduciary Net Position using a July 1, 2017 Valuation Date (Continued)

Fiscal Year	I. Projected	II. Portion of	III. Total	IV. Projected	V. Total	VI. Contributions	VII. Projected	VIII. Projected
	Beginning	Employer	Projected	Administrative	Contributions to	to Trust for	Investment	Ending Fiduciary
	Fiduciary Net	Contributions for	Benefit	Expense	Trust	Current Plan	Earnings	Net Position for
	Position	Current Plan	Payments			Members		Current Plan
		Members					Members	Members
2058	26,410,682	2,731,363	8,294,904	0	0	0	1,859,312	23,687,594
2059	23,687,594	2,653,809	8,679,005	0	0	0	1,667,607	21,039,110
2060	21,039,110	2,587,705	9,103,230	0	0	0	1,481,153	18,454,639
2061	18,454,639	2,492,399	9,529,632	0	0	0	1,299,207	15,964,253
2062	15,964,253	2,416,103	10,008,600	0	0	0	1,123,883	13,549,233
2063	13,549,233	2,345,101	10,526,052	0	0	0	953,866	11,204,584
2064	11,204,584	2,256,427	11,049,844	0	0	0	788,803	8,948,361
2065	8,948,361	2,174,964	11,615,159	0	0	0	629,965	6,773,445
2066	6,773,445	2,091,139	12,213,740	0	0	0	476,851	4,682,311
2067	4,682,311	2,004,018	12,834,557	0	0	0	329,635	2,678,293
2068	2,678,293	1,914,488	13,488,167	0	0	0	188,552	763,805
2069	763,805	1,822,885	14,177,199	0	0	0	53,772	53,772
2070	53,772	1,730,290	14,899,547	0	0	0	3,786	3,786
2071	3,786	1,637,482	15,660,883	0	0	0	267	267
2072	267	1,544,753	16,464,706	0	0	0	19	19
2073	19	1,453,040	17,311,739	0	0	0	1	1
2074	1	1,376,303	18,222,195	0	0	0	0	0
2075	0	1,304,667	19,182,267	0	0	0	0	0
2076	0	1,231,708	20,190,807	0	0	0	0	0
2077	0	1,157,462	21,247,746	0	0	0	0	0
2078	0	1,082,727	22,355,546	0	0	0	0	0
2079	0	1,007,325	23,518,001	0	0	0	0	0
2080	0	932,623	24,737,481	0	0	0	0	0
2081	0	858,158	26,019,570	0	0	0	0	0
2082	0	785,214	27,368,239	0	0	0	0	0
2083	0	714,091	28,786,992	0	0	0	0	0
2084	0	645,043	30,282,222	0	0	0	0	0
2085	0	578,394	31,855,886	0	0	0	0	0
2086	0	514,604	33,512,770	0	0	0	0	0
2087	0	453,759	35,257,602	0	0	0	0	0
2088	0	396,334	37,094,585	0	0	0	0	0
2089	0	342,697	39,029,104	0	0	0	0	0
2090	0	293,220	41,067,283	0	0	0	0	0
2091	0	247,900	43,214,006	0	0	0	0	0
2092	0	207,464	45,477,153	0	0	0	0	0
2093	0	171,309	47,861,077	0	0	0	0	0
2094	0	139,855	50,373,549	0	0	0	0	0
2095	0	112,760	53,019,797	0	0	0	0	0
2096	0	89,749	55,806,403	0	0	0	0	0

EXHIBIT A

Financial Statement Disclosure
(As of the July 1, 2017 Measurement Date)
(continued)

20. PLAN PROJECTION DISCLOSURES (CONTINUED)

Actuarial Present Values of Projected Benefit Payments using a July 1, 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	3,639,802	1,049,963	1,049,963	0	1,049,963	0	1,049,963
2019	4,434,994	1,144,813	1,144,813	0	1,069,519	0	1,073,611
2020	5,042,557	1,276,607	1,276,607	0	1,114,205	0	1,122,746
2021	5,668,747	1,351,754	1,351,754	0	1,102,197	0	1,114,896
2022	6,318,955	1,453,858	1,453,858	0	1,107,484	0	1,124,529
2023	6,997,071	1,552,807	1,552,807	0	1,105,063	0	1,126,363
2024	7,705,924	1,618,793	1,618,793	0	1,076,254	0	1,101,196
2025	8,449,432	1,740,799	1,740,799	0	1,081,250	0	1,110,540
2026	9,230,957	1,850,019	1,850,019	0	1,073,513	0	1,106,812
2027	10,054,183	1,944,673	1,944,673	0	1,054,221	0	1,091,080
2028	10,921,750	2,093,320	2,093,320	0	1,060,168	0	1,101,432
2029	11,837,971	2,249,814	2,249,814	0	1,064,485	0	1,110,148
2030	12,792,605	2,347,885	2,347,885	0	1,037,824	0	1,086,484
2031	13,779,099	2,483,720	2,483,720	0	1,025,660	0	1,077,857
2032	14,788,272	2,625,290	2,625,290	0	1,012,819	0	1,068,435
2033	15,810,826	2,739,575	2,739,575	0	987,397	0	1,045,602
2034	16,836,817	2,866,556	2,866,556	0	965,212	0	1,026,020
2035	17,877,674	3,012,108	3,012,108	0	947,517	0	1,011,063
2036	18,926,057	3,077,299	3,077,299	0	904,357	0	968,700
2037	20,781,395	3,030,903	3,030,903	0	832,139	0	894,755
2038	22,625,776	3,081,876	3,081,876	0	790,484	0	853,217
2039	24,458,003	3,081,447	3,081,447	0	738,391	0	800,039
2040	26,270,627	3,073,372	3,073,372	0	688,020	0	748,314
2041	28,043,428	3,120,335	3,120,335	0	652,591	0	712,495
2042	29,743,612	3,098,406	3,098,406	0	605,385	0	663,485
2043	31,337,070	3,172,169	3,172,169	0	579,034	0	637,032
2044	32,801,985	3,182,659	3,182,659	0	542,740	0	599,387
2045	34,160,766	3,229,317	3,229,317	0	514,477	0	570,348
2046	35,389,293	3,191,365	3,191,365	0	474,991	0	528,589
2047	36,136,673	3,174,902	3,174,902	0	441,462	0	493,156
2048	36,739,536	3,172,729	3,172,729	0	412,145	0	462,167
2049	37,169,132	3,088,438	3,088,438	0	374,809	0	421,908
2050	37,391,863	3,077,123	3,077,123	0	348,875	0	394,217
2051	37,365,926	3,089,134	3,089,134	0	327,202	0	371,142
2052	37,047,427	3,026,155	3,026,155	0	299,450	0	340,962
2053	36,390,219	2,998,063	2,998,063	0	277,158	0	316,787
2054	35,343,808	2,975,688	2,975,688	0	256,997	0	294,867
2055	33,877,599	2,923,804	2,923,804	0	235,908	0	271,706
2056	31,936,803	2,859,341	2,859,341	0	215,533	0	249,190
2057	29,465,623	2,819,975	2,819,975	0	198,585	0	230,474

EXHIBIT A

Financial Statement Disclosure
(As of the July 1, 2017 Measurement Date)
(continued)

20. PLAN PROJECTION DISCLOSURES (CONTINUED)

Actuarial Present Values of Projected Benefit Payments using a July 1, 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	26,410,682	2,731,363	2,731,363	0	179,695	0	209,347
2059	23,687,594	2,653,809	2,653,809	0	163,110	0	190,752
2060	21,039,110	2,587,705	2,587,705	0	148,586	0	174,432
2061	18,454,639	2,492,399	2,492,399	0	133,701	0	157,559
2062	15,964,253	2,416,103	2,416,103	0	121,084	0	143,236
2063	13,549,233	2,345,101	2,345,101	0	109,796	0	130,380
2064	11,204,584	2,256,427	2,256,427	0	98,696	0	117,648
2065	8,948,361	2,174,964	2,174,964	0	88,876	0	106,347
2066	6,773,445	2,091,139	2,091,139	0	79,831	0	95,889
2067	4,682,311	2,004,018	2,004,018	0	71,473	0	86,179
2068	2,678,293	1,914,488	1,914,488	0	63,789	0	77,208
2069	763,805	1,822,885	1,506,633	316,252	46,898	65,741	68,942
2070	53,772	1,730,290	398,754	1,331,536	11,596	268,400	61,370
2071	3,786	1,637,482	235,521	1,401,961	6,399	274,024	54,466
2072	267	1,544,753	428,554	1,116,199	10,877	211,553	48,186
2073	19	1,453,040	682,055	770,985	16,173	141,692	42,506
2074	1	1,376,303	739,552	636,751	16,383	113,473	37,757
2075	0	1,304,667	557,040	747,627	11,528	129,191	33,566
2076	0	1,231,708	310,116	921,592	5,996	154,422	29,718
2077	0	1,157,462	205,133	952,329	3,705	154,733	26,189
2078	0	1,082,727	287,509	795,218	4,852	125,287	22,975
2079	0	1,007,325	428,605	578,720	6,757	88,412	20,045
2080	0	932,623	471,942	460,681	6,951	68,244	17,405
2081	0	858,158	376,451	481,707	5,180	69,195	15,019
2082	0	785,214	231,622	553,592	2,977	77,109	12,888
2083	0	714,091	151,326	562,765	1,817	76,009	10,991
2084	0	645,043	168,956	476,087	1,896	62,351	9,311
2085	0	578,394	225,958	352,436	2,368	44,757	7,830
2086	0	514,604	244,499	270,105	2,394	33,261	6,533
2087	0	453,759	200,082	253,677	1,830	30,291	5,402
2088	0	396,334	129,801	266,533	1,109	30,861	4,425
2089	0	342,697	83,736	258,961	669	29,075	3,588
2090	0	293,220	78,020	215,200	582	23,428	2,879
2091	0	247,900	90,791	157,109	633	16,585	2,283
2092	0	207,464	92,978	114,486	605	11,719	1,792
2093	0	171,309	75,086	96,223	457	9,551	1,387
2094	0	139,855	49,255	90,600	280	8,720	1,062
2095	0	112,760	30,927	81,833	164	7,637	803
2096	0	89,749	24,766	64,983	123	5,881	599

EXHIBIT A

Financial Statement Disclosure
(As of the July 1, 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		<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>
	Recognition Period (years)							
2010								
2011								
2012								
2013								
2014								
2015								
2016								
2017								
2018	1,677,701	6.11	274,583	274,583	274,583	274,583	274,583	274,583
2019								
Net increase (decrease) in OPEB expense			274,583	274,583	274,583	274,583	274,583	274,583

EXHIBIT A

Financial Statement Disclosure
(As of the July 1, 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		<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>
	Actuarial Assumptions	Recognition Period (years)						
2010								
2011								
2012								
2013								
2014								
2015								
2016								
2017								
2018	0	6.11	0	0	0	0	0	0
2019								
Net increase (decrease) in OPEB expense			0	0	0	0	0	0

EXHIBIT A

Financial Statement Disclosure
(As of the July 1, 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		<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>
	between actual & expected earnings	Recognition Period (years)						
2010								
2011								
2012								
2013								
2014								
2015								
2016								
2017								
2018	(165,256)	5.00	(33,051)	(33,051)	(33,051)	(33,051)	(33,052)	0
2019	(79,744)	5.00		(15,949)	(15,949)	(15,949)	(15,949)	(15,948)
Net increase (decrease) in OPEB expense			(33,051)	(49,000)	(49,000)	(49,000)	(49,001)	(15,948)

EXHIBIT AFinancial Statement Disclosure
(As of the July 1, 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 Congressional Legislation) 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 \$215,702 and the increase in OPEB Expense is \$24,925. Given your premiums through the 2019 fiscal year and the excise tax threshold your average single premiums are \$5,168 below the excise tax threshold and your average family premiums are \$6,174 below the excise tax threshold. As more regulatory guidance becomes available, the calculation of the excise tax liability will evolve.

EXHIBIT B

Required Supplementary Information
(As of the July 1, 2017 Measurement Date)

Notes to Required Supplementary Information:

Valuation Date:	Actuarially Determined Contribution was calculated as of July 1, 2017.
Actuarial Cost Method:	Individual Entry Age Normal
Asset-Valuation Method:	Market Value of Assets as of the Measurement Date, July 1, 2017.
<u>Actuarial Assumptions:</u>	
Investment Rate of Return:	7.04%, net of OPEB plan investment expense, including inflation.
Municipal Bond Rate	3.13% as of July 1, 2017 (source: S&P Municipal Bond 20-Year High Grade Index - SAPIHG)
Single Equivalent Discount Rate:	7.00%, net of OPEB plan investment expense, including inflation.
Inflation:	2.75% as of July 1, 2017 and for future periods
Salary Increases:	3.00% annually as of July 1, 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

EXHIBIT B

Required Supplementary Information (As of the July 1, 2017 Measurement Date) (continued)

Notes to Required Supplementary Information (Continued):

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

Plan Membership

Plan Membership: At July 1, 2017, OPEB plan membership consisted of the following

Inactive employees or beneficiaries currently receiving benefits:	283
Active Employees:	<u>458</u>
Total:	741

Changes in Assumptions: Effective July 1, 2017

- Discount rate is 7.00% previously 4.00%

EXHIBIT B

Required Supplementary Information
(As of the July 1, 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	1,677,701	0	274,583	1,403,118	0
Total				1,403,118	0

EXHIBIT B

Required Supplementary Information
(As of the July 1, 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 July 1, 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	(165,256)	(33,051)	0	(132,205)
Total				0	(132,205)

EXHIBIT B

Required Supplementary Information
(As of the July 1, 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	1,403,118	0
II. Changes of assumptions	0	0
III. Net difference between projected & actual earnings on OPEB plan investments	<u>0</u>	<u>(132,205)</u>
IV. Total [I.+II.+III.]	1,403,118	(132,205)
Year ended June 30:		
	2019	241,532
	2020	241,532
	2021	241,532
	2022	241,531
	2023	274,583
	Thereafter	30,203

EXHIBIT BRequired Supplementary Information
(As of the July 1, 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 contributed \$443,848 beyond the pay-as-you-go cost for the period ending on the June 30, 2018 Reporting Date. For the year ending on the June 30, 2018 Reporting Date total Town premiums plus implicit costs for the retiree medical program were \$1,049,963 .

EXHIBIT C

Reconciliation of Plan Participation
(As of the July 1, 2017 Valuation Date)

ACTIVE EMPLOYEES

	<u>July 1, 2017</u>	<u>July 1, 2015</u>
A. Average Age at Hire	36.38	36.66
B. Average Service	<u>9.88</u>	<u>10.19</u>
C. Average Current Age	46.26	46.85

RETIRED EMPLOYEES & DEPENDENTS

	<u>July 1, 2017</u>	<u>July 1, 2015</u>
I. Retirees		
A. Under Age 65	41	53
B. Age 65 & Over	<u>188</u>	<u>210</u>
C. Total Retirees	229	263
II. Dependents of Retirees		
A. Under Age 65	5	18
B. Age 65 & Over	<u>49</u>	<u>0</u>
C. Total Retirees	54	18
III. Retirees & Dependents		
A. Under Age 65	46	71
B. Age 65 & Over	<u>237</u>	<u>210</u>
C. Total Retirees	283	281

EXHIBIT D

Projected Cash Flows (Open Group) - Funding Approach

Total Medical, Dental & Life Insurance - Funding - 7.00% discount rate

For the Fiscal Year	Measurement Date	I. Total OPEB Liability ("TOL") as of Measurement Date	II. Fiduciary Net Position as of Measurement Date with expected 7.04% return		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.]
			III. Net OPEB Liability (Asset) [I. - II.]						
2018	July 1, 2017	25,664,468	3,639,802	22,024,666	14.18%	770,372	1,049,963	443,848	1,493,811
2019	July 1, 2018	27,199,185	4,434,994	22,764,191	16.31%	813,439	1,144,813	312,893	1,457,706
2020	July 1, 2019	28,580,145	5,070,937	23,509,208	17.74%	852,738	1,276,607	312,893	1,589,500
2021	July 1, 2020	30,081,533	5,751,650	24,329,883	19.12%	897,821	1,351,754	312,893	1,664,647
2022	July 1, 2021	31,655,640	6,480,286	25,175,354	20.47%	938,433	1,453,858	312,893	1,766,751
2023	July 1, 2022	33,278,595	7,260,218	26,018,377	21.82%	978,429	1,552,807	312,893	1,865,700
2024	July 1, 2023	34,954,589	8,095,057	26,859,532	23.16%	1,030,475	1,618,793	312,893	1,931,686
2025	July 1, 2024	36,728,256	8,988,669	27,739,587	24.47%	1,080,087	1,740,799	312,893	2,053,692
2026	July 1, 2025	38,546,586	9,945,191	28,601,395	25.80%	1,133,056	1,850,019	312,893	2,162,912
2027	July 1, 2026	40,428,760	10,969,052	29,459,708	27.13%	1,183,525	1,944,673	312,893	2,257,566
2028	July 1, 2027	42,408,434	12,064,993	30,343,441	28.45%	1,242,265	2,093,320	312,893	2,406,213
2029	July 1, 2028	44,436,967	13,238,088	31,198,879	29.79%	1,298,901	2,264,328	312,893	2,577,221
2030	July 1, 2029	46,490,828	14,493,769	31,997,059	31.18%	1,360,469	2,386,515	312,893	2,699,408
2031	July 1, 2030	48,523,439	15,837,850	32,685,589	32.64%	1,422,580	2,558,435	312,893	2,871,328
2032	July 1, 2031	50,574,273	17,276,554	33,297,719	34.16%	1,493,726	2,748,505	312,893	3,061,398
2033	July 1, 2032	52,743,174	18,816,543	33,926,631	35.68%	1,565,590	2,922,366	312,893	3,235,259
2034	July 1, 2033	54,956,498	20,464,947	34,491,551	37.24%	1,643,119	3,098,229	312,893	3,411,122
2035	July 1, 2034	57,137,978	22,229,399	34,908,579	38.90%	1,721,998	3,301,138	312,893	3,614,031
2036	July 1, 2035	59,507,900	24,118,068	35,389,832	40.53%	1,807,949	3,429,247	3,833,147	7,262,394
2037	July 1, 2036	61,964,053	29,781,759	32,182,294	48.06%	1,896,117	3,438,644	3,833,147	7,271,791
2038	July 1, 2037	64,605,269	35,844,174	28,761,095	55.48%	1,989,910	3,552,929	3,833,147	7,386,076
2039	July 1, 2038	67,423,756	42,333,383	25,090,373	62.79%	2,088,196	3,634,732	3,833,147	7,467,879
2040	July 1, 2039	70,470,551	49,279,432	21,191,119	69.93%	2,193,968	3,738,058	3,833,147	7,571,205
2041	July 1, 2040	73,670,575	56,714,483	16,956,092	76.98%	2,299,239	3,925,027	3,833,147	7,758,174
2042	July 1, 2041	76,853,576	64,672,962	12,180,614	84.15%	2,415,402	4,073,842	3,833,147	7,906,989
2043	July 1, 2042	80,400,970	73,191,718	7,209,252	91.03%	2,543,271	4,345,609	3,833,147	8,178,756
2044	July 1, 2043	84,003,063	82,310,194	1,692,869	97.98%	2,673,070	4,526,682	3,833,147	8,359,829
2045	July 1, 2044	87,961,617	92,070,611	(4,108,994)	104.67%	2,811,826	4,766,143	3,833,147	8,599,290
2046	July 1, 2045	92,030,525	102,518,161	(10,487,636)	111.40%	2,957,261	4,935,391	(4,108,994)	826,397
2047	July 1, 2046	96,361,448	105,484,269	(9,122,821)	109.47%	3,109,733	5,116,061	(5,116,061)	0
2048	July 1, 2047	101,060,175	107,617,278	(6,557,103)	106.49%	3,273,176	5,329,596	(5,329,596)	0
2049	July 1, 2048	106,017,633	109,679,527	(3,661,894)	103.45%	3,439,079	5,482,414	(5,482,414)	0

EXHIBIT D

Projected Cash Flows (Open Group) - Funding Approach

Total Medical & Life Insurance - 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"
July 1, 2017	283	25,664,468	25,664,468	1,049,963	1,049,963
July 1, 2018	294	27,199,185	26,406,976	1,144,813	1,111,469
July 1, 2019	301	28,580,145	26,939,528	1,276,607	1,203,325
July 1, 2020	312	30,081,533	27,528,864	1,351,754	1,237,046
July 1, 2021	322	31,655,640	28,125,626	1,453,858	1,291,734
July 1, 2022	331	33,278,595	28,706,408	1,552,807	1,339,465
July 1, 2023	342	34,954,589	29,273,918	1,618,793	1,355,714
July 1, 2024	349	36,728,256	29,863,433	1,740,799	1,415,429
July 1, 2025	357	38,546,586	30,429,031	1,850,019	1,460,422
July 1, 2026	364	40,428,760	30,985,278	1,944,673	1,490,430
July 1, 2027	374	42,408,434	31,555,858	2,093,320	1,557,627
July 1, 2028	384	44,436,967	32,102,210	2,264,328	1,635,799
July 1, 2029	395	46,490,828	32,607,731	2,386,515	1,673,854
July 1, 2030	404	48,523,439	33,042,101	2,558,435	1,742,170
July 1, 2031	412	50,574,273	33,435,552	2,748,505	1,817,086
July 1, 2032	419	52,743,174	33,853,836	2,922,366	1,875,756
July 1, 2033	427	54,956,498	34,247,073	3,098,229	1,930,714
July 1, 2034	432	57,137,978	34,569,416	3,301,138	1,997,243
July 1, 2035	435	59,507,900	34,954,620	3,429,247	2,014,321
July 1, 2036	436	61,964,053	35,337,234	3,438,644	1,961,011
July 1, 2037	437	64,605,269	35,770,371	3,552,929	1,967,171
July 1, 2038	437	67,423,756	36,243,591	3,634,732	1,953,848
July 1, 2039	438	70,470,551	36,778,052	3,738,058	1,950,864
July 1, 2040	437	73,670,575	37,328,272	3,925,027	1,988,779
July 1, 2041	439	76,853,576	37,806,867	4,073,842	2,004,060
July 1, 2042	440	80,400,970	38,399,951	4,345,609	2,075,487
July 1, 2043	441	84,003,063	38,951,777	4,526,682	2,098,999
July 1, 2044	442	87,961,617	39,599,357	4,766,143	2,145,665
July 1, 2045	443	92,030,525	40,224,403	4,935,391	2,157,145
July 1, 2046	444	96,361,448	40,890,630	5,116,061	2,170,982
July 1, 2047	445	101,060,175	41,635,454	5,329,596	2,195,723
July 1, 2048	445	106,017,633	42,405,690	5,482,414	2,192,895
July 1, 2049	446	111,340,647	43,237,697	5,735,447	2,227,286
July 1, 2050	447	116,880,570	44,067,043	6,038,194	2,276,558
July 1, 2051	448	122,746,429	44,930,704	6,291,502	2,302,972
July 1, 2052	449	129,022,971	45,852,622	6,606,345	2,347,785
July 1, 2053	450	135,587,729	46,782,163	6,930,101	2,391,110
July 1, 2054	451	142,479,796	47,728,301	7,249,583	2,428,487
July 1, 2055	452	149,804,628	48,720,383	7,578,872	2,464,847
July 1, 2056	453	157,565,191	49,751,768	7,949,296	2,510,018

EXHIBIT E**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 E**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 earnings 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.