

**Town of Ipswich Other  
Postemployment Benefits Plan**

**GASB 45 Actuarial Valuation**

*as of*

July 1, 2013

For the fiscal years ending

June 30, 2014

June 30, 2015

Delivered June 2014

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June 5, 2014

*Personal and Confidential*

Ms. Rita Negri  
Finance Director  
Town of Ipswich  
25 Green Street  
Ipswich, MA 01938

Dear Ms. Negri:

We have performed an actuarial valuation of the Town of Ipswich Other Postemployment Benefits Plan for the fiscal year ending June 30, 2014. The figures presented in this report reflect the adoption, by the Town of Ipswich, of Statement No. 45 of the Governmental Accounting Standards Board ("GASB 45") effective July 1, 2008.

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, taking into account the experience of the plan and reasonable expectations and, in combination, represent our best estimate of the anticipated experience under the plan.

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

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

Very truly yours,

Parker E. Elmore, A.S.A., E.A., M.A.A.A.  
President & CEO

Enclosure

## SECTION I

### PRINCIPAL RESULTS OF THE VALUATION

#### Town of Ipswich Assuming Pay-as-you-go funding - 4.00% discount rate Comparison of Plan Liabilities to Prior Valuation

	<u>July 1, 2013</u>	<u>July 1, 2011</u>
I. Present Value of Future Benefits		
A. Actives	40,368,238	35,438,848
B. Retirees/Disabled	16,988,569	13,391,354
C. Total	57,356,807	48,830,202
II. Present Value of Future Normal Cost	21,214,551	19,019,094
III. Actuarial Accrued Liability (Projected Unit Credit)		
A. Actives	19,153,687	16,419,754
B. Retirees/Disabled	16,988,569	13,391,354
C. Total	36,142,256	29,811,108
IV. Plan Assets	1,393,277	252,794
V. Unfunded Actuarial Accrued Liability ("UAAL")	34,748,979	29,558,314
VI. Funded Ratio	3.85%	0.85%
VII. Annual Covered Payroll	23,637,130	23,426,188
VIII. UAAL as % of Covered Payroll	147.00%	126.2%
IX. Net OPEB Obligation	7,502,832	4,386,393
X. Number of Covered Participants		
A. Actives	446	464
B. Retirees/Disabled	220	208
C. Total	666	672
<b>For the Fiscal Year Ending:</b>	<b><u>June 30, 2014</u></b>	<b><u>June 30, 2012</u></b>
XI. Normal Cost	1,651,755	1,470,523
XII. Amortization of UAAL - 30 year flat dollar	1,121,178	1,121,178
XIII. Annual Required Contribution ('ARC') [ XI. + XII.]	2,772,933	2,591,701
XIV. Interest on Net OPEB Obligation	300,110	175,454
XV. Adjustment to Annual Required Contribution	(417,202)	(379,342)
XVI. Amortization of Actuarial (Gains) / Losses	919,345	475,836
XVII. Annual OPEB Cost [XIII. + XIV. + XV. + XVI.]	3,575,186	2,863,649
XVIII. Expected Employer Contribution	991,196	839,823
XIX. Contribution to Trust Fund over 30 Years	340,401	513,738
XX. Total Employer Contribution	1,331,597	1,353,561
XXI. Percentage of Annual OPEB Cost Contributed	37.2%	47.3%
XXII. Net OPEB Obligation at Beginning of Year (IX.)	7,502,832	4,386,393
XXIII. Increase in Net OPEB Obligations (XVII. - XX.)	2,243,589	1,510,088
XXIV. Net OPEB Obligation at End of Year (XXII. + XXIII.)	9,746,421	5,896,481
XXV. Discount Rate	4.00%	4.00%

SECTION I  
PRINCIPAL RESULTS OF THE VALUATION  
 (continued)

**Town of Ipswich**  
**Comparison of Plan Funding vs. Pay-as-you-go Funding**

	<u>partial-4.00% discount</u> <u>rate</u>	<u>Plan Funding -7.00%</u> <u>discount rate</u>
I. Present Value of Future Benefits		
A. Actives	40,368,238	20,138,645
B. Retirees/Disabled	16,988,569	12,593,900
C. Total	57,356,807	32,732,545
II. Present Value of Future Normal Cost	21,214,551	9,448,779
III. Actuarial Accrued Liability (Projected Unit Credit)		
A. Actives	19,153,687	10,689,866
B. Retirees/Disabled	16,988,569	12,593,900
C. Total	36,142,256	23,283,766
IV. Plan Assets	1,393,277	1,393,277
V. Unfunded Actuarial Accrued Liability ("UAAL")	34,748,979	21,890,489
VI. Funded Ratio	3.85%	5.98%
VII. Annual Covered Payroll	23,637,130	23,637,130
VIII. UAAL as % of Covered Payroll	147.00%	92.60%
IX. Net OPEB Obligation	7,502,832	7,502,832
X. Number of Covered Participants		
A. Actives	446	446
B. Retirees/Disabled	220	220
C. Total	666	666
<b>For Fiscal Year Ending June 30, 2014</b>		
XI. Normal Cost	1,651,755	853,949
XII. Amortization of UAAL - 30 year flat dollar	1,121,178	1,460,842
XIII. Annual Required Contribution ("ARC") [ XI. + XII.]	2,772,933	2,314,791
XIV. Interest on Net OPEB Obligation	300,110	525,198
XV. Adjustment to Annual Required Contribution	(417,202)	(565,071)
XVI. Amortization of Actuarial (Gains) / Losses	919,345	276,762
XVII. Annual OPEB Cost [XIII. + XIV. + XV. + XVI.]	3,575,186	2,551,680
XVIII. Expected Employer Contribution	991,196	991,196
XIX. Contribution over 30 Years increasing at .00% per yr	340,401	905,133
XX. Total Employer Contribution	1,331,597	1,896,329
XXI. Percentage of Annual OPEB Cost Contributed	37.2%	74.3%
XXII. Net OPEB Obligation at Beginning of Year (IX.)	7,502,832	7,502,832
XXIII. Increase in Net OPEB Obligations (XVII. - XVIII.)	2,243,589	655,351
XXIV. Net OPEB Obligation at End of Year (XXII. + XXIII.)	9,746,421	8,158,183
XXV. Discount Rate	4.00%	7.00%

SECTION I
PRINCIPAL RESULTS OF THE VALUATION

(continued)

**Town of Ipswich**  
**Assuming partial - 4.00% discount rate**  
**Plan Liabilities as of July 1, 2013**

	<u>Medical</u>	<u>Dental</u>	<u>Life</u>	<u>Excise Tax</u>	<u>Total</u>
I. Present Value of Future Benefits					
A. Actives	39,582,638	0	30,900	754,700	40,368,238
B. Retirees/Disabled	<u>16,497,928</u>	<u>0</u>	<u>11,775</u>	<u>478,866</u>	<u>16,988,569</u>
C. Total	56,080,566	0	42,675	1,233,566	57,356,807
II. Present Value of Future Normal Cost	20,630,688	0	13,196	570,667	21,214,551
III. Actuarial Accrued Liability (Projected Unit Credit)					
A. Actives	18,951,950	0	17,704	184,033	19,153,687
B. Retirees/Disabled	<u>16,497,928</u>	<u>0</u>	<u>11,775</u>	<u>478,866</u>	<u>16,988,569</u>
C. Total	35,449,878	0	29,479	662,899	36,142,256
IV. Plan Assets	1,383,301	0	752	9,224	1,393,277
V. Unfunded Actuarial Accrued Liability ("UAAL")	34,066,577	0	28,727	653,675	34,748,979
VI. Annual Covered Payroll	23,637,130	23,637,130	23,637,130	23,637,130	23,637,130
VII. UAAL as % of Covered Payroll	144.1%	0.0%	0.1%	2.8%	147.0%
VIII. Net OPEB Obligation @ Beginning of Fiscal Year	7,359,100	0	6,120	137,612	7,502,832
IX. Number of Eligible Participants					
A. Actives	446	64	446	446	
B. Retirees/Disabled	<u>220</u>	<u>0</u>	<u>41</u>	<u>220</u>	
C. Total	666	64	487	666	
<b>For Fiscal Year Ending June 30, 2014</b>					
X. Normal Cost	1,624,501	0	1,335	25,919	1,651,755
XI. Amortization of UAAL - 30 year flat dollar	1,099,700	0	914	20,564	1,121,178
XII. Annual Required Contribution ("ARC") [ X. + XI.]	2,724,201	0	2,249	46,483	2,772,933
XIII. Interest on Net OPEB Obligation	294,363	0	245	5,502	300,110
XIV. Adjustment to Annual Required Contribution	(409,210)	0	(341)	(7,651)	(417,202)
XV. Amortization of Actuarial (Gains) / Losses	901,734	0	750	16,861	919,345
XVI. Annual OPEB Cost [XII. + XIII. + XIV. + XV.]	3,511,088	0	2,903	61,195	3,575,186
XVII. Expected Employer Contribution	990,589	0	607	0	991,196
XVIII. Contribution to Trust Fund over 30 Years	333,880	0	278	6,243	340,401
XIX. Total Employer Contribution	1,324,469	0	885	6,243	1,331,597
XX. Percentage of Annual OPEB Cost Contributed	37.7%	0.0%	30.5%	10.2%	37.2%
XXI. Net OPEB Obligation at Beginning of Year (VIII.)	7,359,100	0	6,120	137,612	7,502,832
XXII. Increase in Net OPEB Obligations (XVI. - XIX.)	2,186,619	0	2,018	54,952	2,243,589
XXIII. Net OPEB Obligation at End of Year (XXI. + XXII.)	9,545,719	0	8,138	192,564	9,746,421

**SECTION I**  
**PRINCIPAL RESULTS OF THE VALUATION**  
(continued)

**Town of Ipswich**  
**Plan Liabilities as of July 1, 2013**  
**Assuming maintain partial funding method**

	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	Planning and Development 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	171,824	25,055,282	7,166,817	1,095,690	114,977	682,940	598,658	602,543	1,979,708	354,836	1,131,610	1,413,353	40,368,238
B. Retirees/Disabled	340,722	9,861,015	2,757,582	764,601	121,595	98,851	0	0	866,048	545,765	252,906	1,379,484	16,988,569
C. Total	512,546	34,916,297	9,924,399	1,860,291	236,572	781,791	598,658	602,543	2,845,756	900,601	1,384,516	2,792,837	57,356,807
II. Present Value of Future Normal Cost	141,263	13,659,286	4,015,700	474,880	46,228	149,082	247,484	181,518	905,413	199,922	587,647	606,128	21,214,551
III. Actuarial Accrued Liability (Projected Unit Credit)													
A. Actives	30,561	11,395,996	3,151,117	620,810	68,749	533,858	351,174	421,025	1,074,295	154,914	543,963	807,225	19,153,687
B. Retirees/Disabled	340,722	9,861,015	2,757,582	764,601	121,595	98,851	0	0	866,048	545,765	252,906	1,379,484	16,988,569
C. Total	371,283	21,257,011	5,908,699	1,385,411	190,344	632,709	351,174	421,025	1,940,343	700,679	796,869	2,186,709	36,142,256
IV. Plan Assets	20,480	727,630	140,402	27,968	5,002	13,808	5,154	7,842	40,879	48,973	90,393	264,746	1,393,277
V. Unfunded Actuarial Accrued Liability ("UAAL")	350,803	20,529,381	5,768,297	1,357,443	185,342	618,901	346,020	413,183	1,899,464	651,706	706,476	1,921,963	34,748,979
VI. Annual Covered Payroll	197,829	15,692,846	2,843,122	781,057	23,301	214,072	256,049	313,297	1,253,046	361,548	689,158	1,011,807	23,637,130
VII. UAAL as % of Covered Payroll	177.3%	130.8%	202.9%	173.8%	795.4%	289.1%	135.1%	131.9%	151.6%	180.3%	102.5%	190.0%	147.0%
VIII. Net OPEB Obligation	4,674	5,289,260	960,709	223,900	66,081	96,776	94,176	113,048	392,385	76,932	145,070	39,821	7,502,832
IX. Number of Covered Participants													
A. Actives	3	310	48	13	2	7	6	5	23	4	12	13	446
B. Retirees/Disabled	5	127	35	14	2	2	0	0	9	6	4	16	220
C. Total	8	437	83	27	4	9	6	5	32	10	16	29	666
<b>For Fiscal Year Ending June 30, 2014</b>													
X. Normal Cost	8,507	1,042,749	259,084	54,279	5,625	28,415	25,180	28,470	87,065	11,618	49,077	51,686	1,651,755
XI. Amortization of UAAL - 30 year flat dollar	30,797	649,578	177,939	42,218	5,814	19,599	10,871	13,066	59,605	21,287	24,411	65,993	1,121,178
XII. Annual Required Contribution ("ARC") [ X. + XI.]	39,304	1,692,327	437,023	96,497	11,439	48,014	36,051	41,536	146,670	32,905	73,488	117,679	2,772,933
XIII. Interest on Net OPEB Obligation	186	211,570	38,428	8,955	2,643	3,871	3,767	4,522	15,696	3,077	5,803	1,592	300,110
XIV. Adjustment to Annual Required Contribution	(260)	(294,114)	(53,422)	(12,450)	(3,674)	(5,381)	(5,236)	(6,296)	(21,819)	(4,278)	(8,067)	(2,215)	(417,202)
XV. Amortization of Actuarial (Gains) / Losses	(908)	532,691	142,568	44,977	4,002	16,569	11,005	11,164	54,684	24,600	17,239	60,754	919,345
XVI. Annual OPEB Cost [XII. + XIII. + XIV. + XV.]	38,322	2,142,474	564,597	137,979	14,410	63,073	45,587	50,936	195,231	56,304	88,463	177,810	3,575,186
XVII. Expected Employer Contribution	18,915	587,626	148,564	52,229	7,435	10,760	1,398	2,159	47,760	29,239	15,052	70,059	991,196
XVIII. Contribution to Trust Fund over 30 Years	4,719	129,371	35,961	8,432	1,158	3,851	2,137	2,562	11,809	18,993	41,408	80,000	340,401
XIX. Total Employer Contribution	23,634	716,997	184,525	60,661	8,593	14,611	3,535	4,721	59,569	48,232	56,460	150,059	1,331,597
XX. Percentage of Annual OPEB Cost Contributed	49.4%	27.4%	26.3%	37.9%	51.6%	17.1%	3.1%	4.2%	24.5%	51.9%	17.0%	39.4%	27.7%
XXI. Net OPEB Obligation at Beginning of Year (VIII.)	4,674	5,289,260	960,709	223,900	66,081	96,776	94,176	113,048	392,385	76,932	145,070	39,821	7,502,832
XXII. Increase in Net OPEB Obligations (XVI. - XIX.)	14,688	1,425,477	380,072	77,318	5,817	48,462	42,052	46,215	135,662	8,072	32,003	27,751	2,243,589
XXIII. Net OPEB Obligation at End of Year (XXI. + XXII.)	19,362	6,714,737	1,340,781	301,218	71,898	145,238	136,228	159,263	528,047	85,004	177,073	67,572	9,746,421

SECTION I
PRINCIPAL RESULTS OF THE VALUATION

(continued)

**Town of Ipswich**  
**Detail of Plan Liabilities by Group and Dependency Status**  
**Assuming Pay-as-you-go funding - 4.00% discount rate**  
**Plan Liabilities as of July 1, 2013**

	<u>Present Value of Future Benefits</u>	<u>Actuarial Accrued Liability (Projected Unit Credit)</u>	<u>Normal Cost</u>
<b>Actives</b>			
Under Age 65			
A. Participants	4,482,416	2,172,884	186,692
B. Spouses	<u>2,582,152</u>	<u>1,260,528</u>	<u>102,950</u>
C. Total	7,064,568	3,433,412	289,642
Age 65 and Over			
A. Participants	18,954,616	8,856,191	773,558
B. Spouses	<u>14,349,054</u>	<u>6,864,084</u>	<u>588,555</u>
C. Total	33,303,670	15,720,275	1,362,113
Actives Total			
A. Participants	23,437,032	11,029,075	960,250
B. Spouses	<u>16,931,206</u>	<u>8,124,612</u>	<u>691,505</u>
C. Total	40,368,238	19,153,687	1,651,755
<b>Retirees/Disabled</b>			
Under Age 65			
A. Participants	1,161,646	1,161,646	0
B. Spouses	<u>187,035</u>	<u>187,035</u>	<u>0</u>
C. Total	1,348,681	1,348,681	0
Age 65 and Over			
A. Participants	13,778,435	13,778,435	<u>0</u>
B. Spouses	<u>1,861,453</u>	<u>1,861,453</u>	<u>0</u>
C. Total	15,639,888	15,639,888	0
Retirees/Disabled Total			
A. Participants	14,940,081	14,940,081	0
B. Spouses	<u>2,048,488</u>	<u>2,048,488</u>	<u>0</u>
C. Total	16,988,569	16,988,569	0
<b>Total Population</b>			
A. Participants	38,377,113	25,969,156	960,250
B. Spouses	<u>18,979,694</u>	<u>10,173,100</u>	<u>691,505</u>
C. Total	57,356,807	36,142,256	1,651,755



## SECTION I

### PRINCIPAL RESULTS OF THE VALUATION

(continued)

**Town of Ipswich**  
**Assuming Funding over 30 years at 7.00% discount rate**  
**Plan Liabilities as of July 1, 2013**

	<u>Medical</u>	<u>Dental</u>	<u>Life</u>	<u>Excise Tax</u>	<u>Total</u>
I. Present Value of Future Benefits					
A. Actives	19,448,068	0	14,611	675,966	20,138,645
B. Retirees/Disabled	<u>12,342,266</u>	<u>0</u>	<u>8,509</u>	<u>243,125</u>	<u>12,593,900</u>
C. Total	31,790,334	0	23,120	919,091	32,732,545
II. Present Value of Future Normal Cost	8,992,177	0	5,522	451,080	9,448,779
III. Actuarial Accrued Liability (Projected Unit Credit)					
A. Actives	10,455,891	0	9,089	224,886	10,689,866
B. Retirees/Disabled	<u>12,342,266</u>	<u>0</u>	<u>8,509</u>	<u>243,125</u>	<u>12,593,900</u>
C. Total	22,798,157	0	17,598	468,011	23,283,766
IV. Plan Assets	1,364,219	0	1,053	28,005	1,393,277
V. Unfunded Actuarial Accrued Liability ("UAAL")	21,433,938	0	16,545	440,006	21,890,489
VI. Annual Covered Payroll	23,637,130	23,637,130	23,637,130	23,637,130	23,637,130
VII. UAAL as % of Covered Payroll	90.7%	0.0%	0.1%	1.9%	92.6%
VIII. Net OPEB Obligation	7,359,100	0	6,120	137,612	7,502,832
IX. Number of Covered Participants					
A. Actives	446	64	446	446	
B. Retirees/Disabled	<u>220</u>	<u>0</u>	<u>41</u>	<u>220</u>	
C. Total	666	64	487	666	
<b>For Fiscal Year Ending June 30, 2014</b>					
X. Normal Cost	827,432	0	642	25,875	853,949
XI. Amortization of UAAL - 30 year flat dollar	1,430,375	0	1,104	29,363	1,460,842
XII. Annual Required Contribution ("ARC") [ X. + XI.]	2,257,807	0	1,746	55,238	2,314,791
XIII. Interest on Net OPEB Obligation	515,137	0	428	9,633	525,198
XIV. Adjustment to Annual Required Contribution	<b>(554,246)</b>	0	<b>(461)</b>	<b>(10,364)</b>	<b>(565,071)</b>
XV. Amortization of Actuarial (Gains) / Losses	270,990	0	209	5,563	276,762
XVI. Annual OPEB Cost [XII. + XIII. + XIV. + XV.]	2,489,688	0	1,922	60,070	2,551,680
XVII. Expected Employer Contribution	990,589	0	607	0	991,196
XVIII. Contribution over 30 Years increasing at 0.00% per year	843,748	0	1,315	60,070	905,133
XIX. Total Employer Contribution	1,834,337	0	1,922	60,070	1,896,329
XX. Percentage of Annual OPEB Cost Contributed	73.7%	0.0%	100.0%	100.0%	74.3%
XXI. Net OPEB Obligation at Beginning of Year (VIII.)	7,359,100	0	6,120	137,612	7,502,832
XXII. Increase in Net OPEB Obligations (XVI. - XVII.)	655,351	0	0	0	655,351
XXIII. Net OPEB Obligation at End of Year (XXI. + XXII.)	8,014,451	0	6,120	137,612	8,158,183

SECTION I  
PRINCIPAL RESULTS OF THE VALUATION  
(continued)

Town of Ipswich  
Plan Liabilities as of July 1, 2013  
Assuming Funding over 30 years at 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	Planning and Development 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	85,718	12,499,417	3,575,335	546,611	57,359	340,701	298,655	300,593	987,624	177,018	564,530	705,084	20,138,645
B. Retirees/Disabled	252,584	7,310,129	2,044,240	566,811	90,140	73,280	0	0	642,015	404,584	187,483	1,022,634	12,593,900
C. Total	338,302	19,809,546	5,619,575	1,113,422	147,499	413,981	298,655	300,593	1,629,639	581,602	752,013	1,727,718	32,732,545
II. Present Value of Future Normal Cost	62,917	6,083,729	1,788,558	211,507	20,590	66,400	110,227	80,847	403,263	89,044	261,733	269,964	9,448,779
III. Actuarial Accrued Liability (Projected Unit Credit)													
A. Actives	17,057	6,360,220	1,758,670	346,480	38,370	297,952	195,994	234,978	599,575	86,459	303,591	450,520	10,689,866
B. Retirees/Disabled	252,584	7,310,129	2,044,240	566,811	90,140	73,280	0	0	642,015	404,584	187,483	1,022,634	12,593,900
C. Total	269,641	13,670,349	3,802,910	913,291	128,510	371,232	195,994	234,978	1,241,590	491,043	491,074	1,473,154	23,283,766
IV. Plan Assets	20,480	727,630	140,402	27,968	5,002	13,808	5,154	7,842	40,879	48,973	90,393	264,746	1,393,277
V. Unfunded Actuarial Accrued Liability ("UAAL")	249,161	12,942,719	3,662,508	885,323	123,508	357,424	190,840	227,136	1,200,711	442,070	400,681	1,208,408	21,890,489
VI. Annual Covered Payroll	197,829	15,692,846	2,843,122	781,057	23,301	214,072	256,049	313,297	1,253,046	361,548	689,158	1,011,807	23,637,130
VII. UAAL as % of Covered Payroll	125.9%	82.5%	128.8%	113.3%	530.1%	167.0%	74.5%	72.5%	95.8%	122.3%	58.1%	119.4%	92.6%
VIII. Net OPEB Obligation	4,674	5,289,260	960,709	223,900	66,081	96,776	94,176	113,048	392,385	76,932	145,070	39,821	7,502,832
IX. Number of Covered Participants													
A. Actives	3	310	48	13	2	7	6	5	23	4	12	13	446
B. Retirees/Disabled	5	127	35	14	2	2	0	0	9	6	4	16	220
C. Total	8	437	83	27	4	9	6	5	32	10	16	29	666
<b>For Fiscal Year Ending June 30, 2014</b>													
X. Normal Cost	4,399	539,096	133,945	28,062	2,908	14,690	13,018	14,719	45,012	6,006	25,373	26,721	853,949
XI. Amortization of UAAL - 30 year fl at dollar	40,128	846,369	231,846	55,008	7,575	25,537	14,164	17,024	77,663	27,736	31,806	85,986	1,460,842
XII. Annual Required Contribution ("ARC") [ X. + XI.]	44,527	1,385,465	365,791	83,070	10,483	40,227	27,182	31,743	122,675	33,742	57,179	112,707	2,314,791
XIII. Interest on Net OPEB Obligation	327	370,251	67,250	15,671	4,625	6,774	6,592	7,914	27,468	5,385	10,155	2,786	525,198
XIV. Adjustment to Annual Required Contribution	(353)	(398,357)	(72,356)	(16,863)	(4,976)	(7,288)	(7,092)	(8,514)	(29,552)	(5,794)	(10,926)	(3,000)	(565,071)
XV. Amortization of Actuarial (Gains) / Losses	(275)	160,363	42,919	13,540	1,205	4,988	3,313	3,361	16,462	7,406	5,190	18,290	276,762
XVI. Annual OPEB Cost [XII. + XIII. + XIV. + XV.]	44,226	1,517,722	403,604	95,418	11,337	44,701	29,995	34,504	137,053	40,739	61,598	130,783	2,551,680
XVII. Expected Employer Contribution	18,915	587,626	148,564	52,229	7,435	10,760	1,398	2,159	47,760	29,239	15,052	70,059	991,196
XVIII. Contribution over 30 Years increasing at 0.00% per year	10,482	531,421	147,834	35,503	4,996	14,431	7,619	9,135	48,266	19,089	19,090	57,267	905,133
XIX. Total Employer Contribution	29,397	1,119,047	296,398	87,732	12,431	25,191	9,017	11,294	96,026	48,328	34,142	127,326	1,896,329
XX. Percentage of Annual OPEB Cost Contributed	66.5%	73.7%	73.4%	91.9%	109.6%	56.4%	30.1%	32.7%	70.1%	118.6%	55.4%	97.4%	74.3%
XXI. Net OPEB Obligation at Beginning of Year (VIII.)	4,674	5,289,260	960,709	223,900	66,081	96,776	94,176	113,048	392,385	76,932	145,070	39,821	7,502,832
XXII. Increase in Net OPEB Obligations (XVI. - XIX.)	14,829	398,675	107,206	7,686	(1,094)	19,510	20,978	23,210	41,027	(7,589)	27,456	3,457	655,351
XXIII. Net OPEB Obligation at End of Year (XXI. + XXII.)	19,503	5,687,935	1,067,915	231,586	64,987	116,286	115,154	136,258	433,412	69,343	172,526	43,278	8,158,183

## Overview of GASB 43 and 45

GASB 43 requires retiree medical plans to disclose information about asset and liability levels and show historical contribution information. GASB 43 only applies in situations where a separate trust is established to prefund these benefits. GASB 45 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 43 and 45 apply to those benefits provided after retirement except for pension benefits such as medical insurance, 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 43 and 45 extend this practice to all other post-employment benefits.

## Overview of GASB 43 and 45

(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 "Accrued Liability" or "Past Service Liability"), the part that is being earned this year (the "Normal Cost"), and the part that will be earned in future years (the "Future Service Liability").

Once the Accrued Liability and the Normal Cost have been calculated, the next step is to determine an annual contribution. This consists of two pieces:

- ✓ Normal Cost - because the benefits earned each year should be paid for each year
- ✓ Past Service Cost - a catch-up payment to fund the Accrued Liability over the next 10-30 years

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 OPEB liability. 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. Transition to GASB 45:

The Plan adopted and implemented GASB 45 (“Accounting and Financial Reporting by Employers for Postemployment Benefits other than Pensions”) effective for the fiscal year ending June 30, 2009. As part of this implementation, the Employer must recognize the Actuarial Accrued Liability for past service. Under GASB 45, this amount may be amortized over a period not to exceed thirty (30) years. The Unfunded Actuarial Accrued Liability at transition was amortized over a 30 year period and a flat dollar amortization of the Unfunded Actuarial Accrued Liability at transition. This approach yields an amortization charge of \$1,121,178. Additionally the Employer must recognize a “normal cost” which represents the annual accrual of benefits for current active employees toward their ultimate postemployment benefits. The normal cost for the 2014 fiscal year is \$1,651,755. The combined amortization charge and normal cost represent the Annual Required Contribution (“ARC”) for the plan for the 2014 fiscal year. As the Employer has chosen to continue their “pay-as-you-go” funding policy, this valuation must utilize a discount rate which represents earnings on short term investments. For this discount rate, we have used 4.00% per annum. The incremental cost of GASB 45 for the 2014 fiscal year beyond the “pay-as-you-go” costs is \$2,583,990 reduced by contributions to an OPEB Trust of \$340,401 for a net change in the OPEB liability of \$2,243,589 .

### 2. Plan Experience:

Plan experience was less favorable than expectation. The introduction of a more conservative mortality table accounts for \$2 million of the loss, factoring in the excise tax accounts for \$662 thousand of the loss, and the remaining loss is due to higher than expected retirements. The actuarial experience loss is amortized into the annual OPEB costs over a 30-year period. The net impact of plan experience is an increase in the annual OPEB cost.

SECTION IISUMMARY OF PLAN PROVISIONS

<u>Effective Date</u>	July 1, 2008; GASB 45 is adopted.
<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>Credited 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 Projected Unit Credit Actuarial Cost Method. Under this method, the normal cost and actuarial accrued liability are both based on an accrual of projected benefits over the period for which benefits are accrued. The normal cost is the actuarial present value of one year's benefit accrual on this basis. 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 over a 30 year period.

All employees who are plan participants on a 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.

SECTION III

ACTUARIAL COST METHOD, ASSET VALUATION METHOD  
 AND ACTUARIAL ASSUMPTIONS

(continued)

C. ACTUARIAL ASSUMPTIONS

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

Pre- and Post-Retirement Mortality

It is assumed that both pre-retirement and post-retirement mortality are represented by the RP-2000 Mortality Table projected to 2017 for males and females.

Discount Rate

4.00% per annum (previously 4.00%)

Employee Termination

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

<u>Service</u>	<u>Non Public Safety Male</u>	<u>Non Public</u>	
		<u>Safety Female</u>	<u>Public Safety</u>
0	15.00%	15.00%	1.50%
5	7.60%	7.60%	1.50%
10	5.40%	5.40%	1.50%
15	3.30%	3.30%	0.00%
20	2.00%	2.00%	0.00%
25	1.00%	1.00%	0.00%
30	0.00%	0.00%	0.00%



SECTION III

ACTUARIAL COST METHOD, ASSET VALUATION METHOD  
 AND ACTUARIAL ASSUMPTIONS

(continued)

C. ACTUARIAL ASSUMPTIONS (continued)

Retirement Rates for non-teachers

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

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

SECTION III

ACTUARIAL COST METHOD, ASSET VALUATION METHOD  
 AND ACTUARIAL ASSUMPTIONS

(continued)

C. ACTUARIAL ASSUMPTIONS (continued)

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>
FY 2008	11.0%
FY 2009	10.0%
FY 2010	9.0%
FY 2011	8.0%
FY 2012	7.0%
FY 2013	6.0%
FY 2014	5.0%
FY 2015	5.0%

Participation Rate

It was assumed that 70% of employees eligible to receive retirement benefits would enroll in the retiree medical and dental plans upon retirement. For life insurance plans, it was assumed that 70% of eligible employees would elect coverage upon retirement.

Percent Married

It was assumed that 80% of participants who elect retiree healthcare coverage for themselves would also elect coverage for a spouse upon retirement. It was further assumed that husbands are three years older than their wives. For current retirees, the actual census information was used.

SECTION IIIACTUARIAL COST METHOD, ASSET VALUATION METHOD  
AND ACTUARIAL ASSUMPTIONS

(continued)

C. ACTUARIAL ASSUMPTIONS (continued)Compensation Increases

3.00% per year.

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.

### 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 43 and 45 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. 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 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	126		186	312
Blue Care Elect	9		17	26
Medex	157	20		177
<b>Total</b>	292	20	203	515

	Per Contract Costs (monthly) - FY 2015		
	Single	Two-Person	Family
HMO Blue	649.00	0.00	1,731.38
Blue Care Elect	865.09	0.00	2,218.90
Medex	562.19	1,124.38	

Gross Expected FY 2015 Incurred Premiums	6,720,831
Adjustment to reflect children's claims	(1,067,003)
<b>Total Expected FY 2015 Incurred Premiums (adults only)</b>	<b>5,653,828</b>

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

	<b>Employer Primary</b>	<b>Medicare Primary</b>
Age 65	10,906	6,746
Average Age	10,086	6,746

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**

5,653,828 Active and Retired Claims (No Children) - Including Administrative fees & trend

5,100 Average Per-Capita Claim (including Retention & Pooling)

**ALL ACTIVE EMPLOYEES AND SPOUSES (non-GIC)**

Age Bracket	Number of Females	Number of Males	Female Aging Factor	Male Aging Factor	Aged (F) Average Claims	Aged (M) Average Claims	Age Related Claims
24 & Under	0	0	1.312	0.549	6,691	2,800	0
25 to 29	11	6	1.312	0.591	6,691	3,014	91,685
30 to 34	23	12	1.312	0.712	6,691	3,631	197,465
35 to 39	21	22	1.312	0.850	6,691	4,335	235,881
40 to 44	38	30	1.312	1.000	6,691	5,100	407,258
45 to 49	34	27	1.456	1.193	7,426	6,084	416,752
50 to 54	38	40	1.599	1.441	8,155	7,349	603,850
55 to 59	51	43	1.740	1.753	8,874	8,940	836,994
60 to 64	24	35	1.968	2.102	10,037	10,720	616,088
65 to 69	14	14	2.168	2.316	11,057	11,812	320,166
70 & Over	1	4	2.396	2.557	12,220	13,041	64,384
Total	255	233					3,790,523

**ALL RETIREES AND SPOUSES - NOT MEDICARE ELIGIBLE (non-GIC)**

Age Bracket	Number of Females	Number of Males	Female Aging Factor	Male Aging Factor	Aged (F) Average Claims	Aged (M) Average Claims	Age Related Claims
44 & Under	0	0	1.312	1.000	6,691	5,100	0
45 to 49	1	0	1.456	1.193	7,426	6,084	7,426
50 to 54	2	0	1.599	1.441	8,155	7,349	16,310
55 to 59	6	8	1.740	1.753	8,874	8,940	124,764
60 to 64	16	10	1.968	2.102	10,037	10,720	267,792
65 to 69	5	2	2.168	2.316	11,057	11,812	78,909
70 to 74	1	0	2.396	2.557	12,220	13,041	12,220
75 to 79	1	0	2.593	2.769	13,224	14,122	13,224
80 to 84	1	0	2.724	2.910	13,892	14,841	13,892
85 to 89	0	0	2.864	3.059	14,606	15,601	0
90 & Over	0	0	3.010	3.215	15,351	16,397	0
Total	33	20					534,537

**ALL RETIREES AND SPOUSES - MEDICARE ELIGIBLE (non-GIC)**

Age Bracket	Number of Females	Number of Males	Female Aging Factor	Male Aging Factor	Aged (F) Average Claims	Aged (M) Average Claims	Age Related Claims
65 to 69	37	26	2.168	2.316	6,746	6,746	424,998
70 to 74	30	38	2.396	2.557	6,746	6,746	458,728
75 to 79	18	18	2.593	2.769	6,746	6,746	242,856
80 to 84	10	5	2.724	2.910	6,746	6,746	101,190
85 to 89	6	4	2.864	3.059	6,746	6,746	67,460
90 & Over	1	4	3.010	3.215	6,746	6,746	33,730
Total	102	95					1,328,962

Grand Totals 390 348 5,654,022

SECTION III

ACTUARIAL COST METHOD, ASSET VALUATION METHOD  
 AND ACTUARIAL ASSUMPTIONS

(continued)

E. DEVELOPMENT OF REPRESENTATIVE DENTAL PER CAPITA CLAIMS COSTS

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

	Per Contract Costs (monthly) - FY 2015		
	Single	Two-Person	Family
Dental Plan	N/A		N/A
	FY 2015 Expected Per Person Rate		N/A

EXHIBIT A

Financial Statement Disclosure  
(As of July 1, 2013)

The GASB Standards for accounting and financial reporting for postemployment benefits other than pensions requires the following disclosures in the financial statements with regard to the retiree medical 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 MIIA 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 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 July 1, 2013)  
 (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. The Town expects to contribute \$0 beyond the pay-as-you-go. For the 2014 fiscal year, total Town premiums plus implicit costs for the retiree medical program are \$991,196. The Town is also projected to make a contribution to an OPEB Trust of \$340,401 for the 2014 fiscal year for a total contribution of \$1,331,597 .

EXHIBIT A

Financial Statement Disclosure  
 (As of July 1, 2013)  
 (continued)

**6. ANNUAL OPEB COST AND NET OPEB OBLIGATION**

The Town’s annual other postemployment benefit (“OPEB”) cost (expense) is calculated based on the annual required contribution of the employer (“ARC”), an amount actuarially determined in accordance with the parameters of GASB Statement No. 45. The ARC represents a level of funding that, if paid on an ongoing basis, is projected to cover normal cost each year and amortize any unfunded actuarial liabilities (or funding excess) over a period not to exceed thirty (30) years. The following table shows the components of the Town’s annual OPEB costs for the fiscal year, the amount actually contributed to the plan and changes in the Town’s net OPEB obligation to the plan:

Annual Required Contribution	\$2,772,933
Interest on net OPEB obligation	\$300,110
Adjustment to annual required contribution	(\$417,202)
Amortization of Actuarial (Gains) / Losses	\$919,345
Annual OPEB cost (expense)	\$3,575,186
Contributions made to pay benefits	\$991,196
Contributions made to OPEB Trust	\$340,401
Increase in net OPEB obligation	\$2,243,589
Net OPEB Obligation – beginning of year	\$7,502,832
Net OPEB Obligation – end of year	\$9,746,421

EXHIBIT A

Financial Statement Disclosure  
(As of July 1, 2013)  
(continued)

The Town's annual OPEB cost, the percentage of the annual OPEB cost contributed to the plan, and the net OPEB obligation for the 2014 fiscal year and the three preceding years were as follows:

Fiscal Year Ended	Annual OPEB Cost	Expected Employer Payments	Percentage of OPEB Cost Contributed	Increase in OPEB Obligation	Net OPEB Obligation
06/30/2016 (est.)	\$3,933,602	\$1,146,088	29.1%	\$2,787,514	\$15,227,178
06/30/2015 (est.)	\$3,747,567	\$1,054,324	28.1%	\$2,693,243	\$12,439,664
06/30/2014	\$3,575,186	\$1,331,597	37.2%	\$2,243,589	\$9,746,421
06/30/2013	\$3,007,811	\$1,443,044	48.0%	\$1,564,767	\$7,502,832
06/30/2012	\$2,857,147	\$1,353,561	47.4%	\$1,503,586	\$5,938,065
06/30/2011	\$2,175,044	\$963,544	44.3%	\$1,211,500	\$4,434,479

**Schedule of Funding Progress:**

Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability	Funded Ratio	Covered Payroll	UAAL as a % of Covered Payroll
07/01/2015 (est.)	\$1,860,985	\$40,513,194	\$38,616,591	4.6%	\$25,076,632	154.0%
07/01/2014 (est.)	\$1,789,409	\$38,274,929	\$36,452,029	4.7%	\$24,346,244	149.7%
07/01/2013	\$1,393,277	\$36,142,256	\$34,748,979	3.9%	\$23,637,130	147.0%
07/01/2012	\$786,000	\$31,659,479	\$30,873,479	2.5%	\$24,128,974	131.2%
07/01/2011	\$252,794	\$29,719,285	\$29,466,491	0.9%	\$23,426,188	126.9%
07/01/2010	\$0	\$25,292,880	\$25,292,880	0.0%	\$24,068,762	105.1%

EXHIBIT A

Financial Statement Disclosure  
(As of July 1, 2013)  
(continued)

Fiscal Year Ending June 30, 2014													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	Planning and Development Employees and Retirees	Public Works Employees and Retirees	Sewer Enterprise Employees and Retirees	Water Enterprise Employees and Retirees	Electric Enterprise Employees and Retirees	Total	
OPEB obligation at beginning of year	4,674	5,289,260	960,709	223,900	66,081	96,776	94,176	113,048	392,385	76,932	145,070	39,821	7,502,832
Annual Required Contribution	39,304	1,692,327	437,023	96,497	11,439	48,014	36,051	41,536	146,670	32,905	73,488	117,679	2,772,933
Interest on Net OPEB Obligation	186	211,570	38,428	8,965	2,843	3,871	4,522	15,696	3,077	5,803	1,592	300,110	
Adjustment to the ARC	(260)	(294,114)	(53,422)	(12,450)	(3,674)	(5,381)	(5,236)	(21,819)	(4,278)	(8,067)	(2,215)	(417,202)	
Amortization of Actuarial (Gains)/Losses	(908)	532,691	142,568	44,977	4,002	16,569	11,005	11,164	54,684	24,600	17,239	60,754	919,345
Annual OPEB Cost	38,322	2,142,474	564,597	137,979	14,410	63,073	45,587	50,936	195,231	56,304	88,463	177,810	3,575,186
Expected Employer Contribution	18,915	587,626	148,564	52,229	7,435	10,760	1,398	2,159	47,760	29,239	15,052	70,059	991,196
Contribution to Trust Fund over 30 Years	4,719	129,371	35,961	8,432	1,158	3,851	2,137	2,562	11,809	18,993	41,408	80,000	340,401
Total Expected Employer Payments	23,634	716,997	184,525	60,661	8,593	14,611	3,535	4,721	59,569	48,232	56,460	150,059	1,331,597
Increase in OPEB Obligation	14,688	1,425,477	380,072	77,318	5,817	48,462	42,052	46,215	135,662	8,072	32,003	27,751	2,243,589
OPEB obligation at end of year	19,362	6,714,737	1,340,781	301,218	71,898	145,238	136,228	159,263	528,047	85,004	177,073	67,572	9,746,421
APBO as of July 1, 2013	371,283	21,257,011	5,908,699	1,385,411	190,344	632,709	351,174	421,025	1,940,343	700,679	796,869	2,186,709	36,142,256
Plan Assets as of July 1, 2013	20,480	727,630	140,402	27,968	5,002	13,808	5,154	7,842	40,879	48,973	90,393	264,746	1,393,277
Unfunded Actuarial Liability as of July 1, 2013	350,803	20,529,381	5,768,297	1,357,443	185,342	618,901	346,020	413,183	1,899,464	651,706	706,476	1,921,963	34,748,979

  

Fiscal Year Ending June 30, 2015													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	Planning and Development Employees and Retirees	Public Works Employees and Retirees	Sewer Enterprise Employees and Retirees	Water Enterprise Employees and Retirees	Electric Enterprise Employees and Retirees	Total	
OPEB obligation at beginning of year	19,362	6,714,737	1,340,781	301,218	71,898	145,238	136,228	159,263	528,047	85,004	177,073	67,572	9,746,421
Annual Required Contribution	40,474	1,742,758	450,046	99,373	11,780	49,445	37,125	42,774	151,041	33,886	75,678	121,186	2,855,566
Interest on Net OPEB Obligation	242	274,840	49,920	11,633	3,433	5,029	4,894	5,874	20,390	3,997	7,538	2,068	389,858
Adjustment to the ARC	(337)	(382,064)	(69,397)	(16,173)	(4,773)	(6,990)	(8,602)	(8,166)	(28,344)	(5,557)	(10,479)	(2,877)	(541,959)
Amortization of Actuarial (Gains)/Losses	(209)	610,241	161,251	49,799	4,665	18,630	12,568	12,910	61,557	26,693	19,991	66,006	1,044,102
Annual OPEB Cost	40,170	2,245,775	591,820	144,632	15,105	66,114	47,785	53,392	204,644	59,019	92,728	186,383	3,747,567
Expected Employer Contribution	18,711	567,700	146,102	48,030	6,804	11,569	2,799	3,738	47,165	38,189	44,704	118,813	1,054,324
Contribution to Trust Fund over 30 Years	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Expected Employer Payments	18,711	567,700	146,102	48,030	6,804	11,569	2,799	3,738	47,165	38,189	44,704	118,813	1,054,324
Increase in OPEB Obligation	21,459	1,678,075	445,718	96,602	8,301	54,545	44,986	49,654	157,479	20,830	48,024	67,570	2,693,243
OPEB obligation at end of year	40,821	8,392,812	1,786,499	397,820	80,199	199,783	181,214	208,917	685,526	105,834	225,097	135,142	12,439,664
APBO as of July 1, 2014	393,192	22,511,339	6,257,358	1,467,161	201,576	670,044	371,896	445,869	2,054,838	742,024	843,890	2,315,742	38,274,929
Plan Assets as of July 1, 2014	26,113	888,694	182,698	37,687	6,383	18,288	7,540	10,769	54,559	70,305	136,245	356,936	1,796,217
Unfunded Actuarial Liability as of July 1, 2014	367,079	21,622,645	6,074,660	1,429,474	195,193	651,756	364,356	435,100	2,000,279	671,719	707,645	1,958,806	36,478,712

EXHIBIT AFinancial Statement Disclosure

(As of July 1, 2013)

(continued)

**7. FUNDED STATUS AND FUNDING PROGRESS**

As of July 1, 2013, the most recent valuation date, the plan was 3.85% funded. The actuarial liability for benefits was \$36,142,256, and the actuarial value of assets was \$1,393,277, resulting in an unfunded actuarial accrued liability (UAAL) of \$34,748,979. The covered payroll (annual payroll of active employees covered by the plan) was \$ 23,637,130 and the ratio of the UAAL to the covered payroll was 147.0%.

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 annual required 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 actuarial accrued liabilities for benefits.

**8. EFFECT OF 1% CHANGE IN HEALTHCARE TREND RATES**

In the event that healthcare trend rates were 1% higher than forecast and employee contributions were to increase at the forecast rates, the Actuarial Accrued Liability would increase to \$49,419,341 or by 36.7% and the corresponding Normal Cost would increase to \$2,585,581 or by 56.5%. If such healthcare trend rates were 1% less than forecast and employee contributions were to increase at the forecast rate, the Actuarial Accrued Liability would decrease to \$25,701,219 or by 28.9% and the corresponding Normal Cost would decrease to \$958,741 or by 42.0%.

EXHIBIT A

Financial Statement Disclosure  
 (As of July 1, 2013)  
 (continued)

**9. 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: Projected Unit Credit  
 Investment Rate of Return: 4.00% per annum (previously 4.00%)  
 Healthcare Trend Rates

<u>Year</u>	<u>Medical</u>
FY 2008	11.0%
FY 2009	10.0%
FY 2010	9.0%
FY 2011	8.0%
FY 2012	7.0%
FY 2013	6.0%
FY 2014	5.0%
FY 2015	5.0%

General Inflation Assumption: 2.50% per annum  
 Annual Compensation Increases: 3.00% per annum  
 Actuarial Value of Assets: Market Value  
 Amortization of UAAL: Level dollar amortization over 30 years at the last valuation  
 Remaining Amortization Period: 25 years at July 1, 2013

EXHIBIT A

Financial Statement Disclosure  
 (As of July 1, 2013)  
 (continued)

**10. Remaining Amortization Bases**

The initial Actuarial Accrued Liability as of the date GASB 45 was adopted is amortized as a component of the Annual Required Contribution (“ARC”). The Unfunded Actuarial Accrued Liability at transition was amortized over a 30 year period and a flat dollar amortization of the Unfunded Actuarial Accrued Liability at transition. For years subsequent to the initial adoption of GASB 45, cumulative gains/losses are amortized on a level dollar basis over a 30 year period. Gains and losses arise from experience and contribution deficiencies and excess contributions in relation to each year’s ARC under GASB 45.

<b>Changes in Unfunded Actuarial Liability Since Prior Valuation</b>
--

***Expected Unfunded Actuarial Liability***

1. Actuarial Accrued Liability at prior valuation date	29,811,108
2. Actuarial Value of Assets at prior valuation date	<u>252,794</u>
3. Unfunded Actuarial Accrued Liability at prior valuation date [1. - 2.]	29,558,314
4. Normal Cost for prior periods	2,941,046
5. Employer Contributions for prior periods	<b>(2,796,605)</b>
6. Interest to current valuation date	<u>2,537,332</u>
7. Expected Unfunded Actuarial Accrued Liability [3. + 4. + 5. + 6.]	32,240,087

***Actual Unfunded Actuarial Liability***

8. Actuarial Accrued Liability at current valuation date	36,142,256
9. Actuarial Value of Assets at current valuation date	<u>1,393,277</u>
10. Unfunded Actuarial Accrued Liability at current valuation date [8. - 9.]	34,748,979

***Net Actuarial (Gain) / Loss from Plan Experience [10. - 7.]*** 2,508,892

11. Unfunded Actuarial Accrued Liability at current valuation date [10.]	34,748,979
12. Remaining Initial Unfunded to be amortized	<u>18,215,738</u>
13. Actuarial (Gain) / Loss to be amortized: [11. - 12.]	16,533,241

EXHIBIT A

Financial Statement Disclosure  
 (As of July 1, 2013)  
 (continued)

Amortization of Initial Unfunded and Plan Experience under GASB 45						
Date Established	Description	Initial Amount	Initial Amortization Period	Remaining Balance at Valuation Date	Remaining Amortization Period	Annual Amortization Payment
July 1, 2008	GASB 45 Liability	20,162,942	30	18,215,738	25	1,121,178
July 1, 2013	Cumulative (Gain) / Loss	16,533,241	30	16,533,241	30	919,345
July 1, 2013	Adjustment to ARC	(7,502,832)	30	(7,502,832)	30	(417,201)
Total				27,246,147		1,623,322

**11. Recognition of OPEB trust assets**

The State of Massachusetts has recently passed legislation allowing municipal entities to establish a trust for Other Than Postemployment Benefits (“OPEB”) under M.G.L. Chapter 32B, Section 20 for purposes of accumulating assets to pre-fund the liabilities under GASB 45. To the best of our knowledge, Town of Ipswich has established an irrevocable trust for the purposes of prefunding liabilities under GASB 45.



EXHIBIT AFinancial Statement Disclosure  
(As of July 1, 2013)  
(continued)**12. 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, 2017 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 basic dollar amount for 2018 is \$10,200 for single coverage and \$27,500 for family coverage and the "kicker" amount for 2018 is \$1,650 for single coverage and \$3,450 for family coverage.

The excise tax liability will vary significantly over time as it is highly leveraged with the basic amount increased with general CPI and medical costs increasing with medical trend (generally higher). For purposes of the fiscal year ending June 30, 2014, the APBO for the excise tax is \$662,899 and the increase in annual OPEB Cost is \$61,195. As more regulatory guidance becomes available, the calculation of the excise tax liability will evolve.

EXHIBIT AFinancial Statement Disclosure  
(As of July 1, 2013)  
(continued)**13. Impact of Section 9A1/2 of M.G.L. Chapter 32B**

For employees who retire on or after January 1, 2011 whenever a retired employee or beneficiary receives a healthcare premium contribution from a governmental unit in a case where a portion of the retiree's creditable service is attributable to service in 1 or more other governmental units, the first governmental unit shall be reimbursed in full, in accordance with this paragraph, by the other governmental units for the portion of the premium contributions that corresponds to the percentage of the retiree's creditable service that is attributable to each governmental unit. The other governmental units shall be charged based on their own contribution rate or the contribution rate of the first employer, whichever is lower.

For purposes of the valuation we have not attempted to value the impact of prior governmental service at other entities in the State of Massachusetts for current employees of the Town of Ipswich nor have we attempted to value the impact of prior Town of Ipswich employees currently working at other governmental entities in the State of Massachusetts.

EXHIBIT B

Reconciliation of Plan Participation  
(As of July 1, 2013)

**ACTIVE EMPLOYEES**

	<u>July 1, 2013</u>	<u>July 1, 2011</u>
A. Average Age at Hire	36.77	36.94
B. Average Service	10.47	10.32
C. Average Current Age	47.24	47.26

EXHIBIT C

Projected Cash Flows (Open Group) – partial Approach

**Total Medical, Dental & Life Insurance - partial - 4.00% discount rate**

Fiscal Year	Total APBO as of July 1	Normal Cost	Expected Amortization	Interest on Net OPEB Obligation	Adjustment to ARC	Amortization of Actuarial (Gain) / Loss	Expected Annual OPEB Cost	OPEB Obligation as of June 30	Employer Share of Premiums / Claims	Excess Employer Payments (beyond claims)	Plan Assets as of July 1	Unfunded Accrued Actuarial Liability ("UAAL")
2014	36,142,256	1,651,755	1,121,178	300,110	(417,202)	919,345	3,575,186	7,502,832	991,196	340,401	1,393,277	34,748,979
2015	38,274,929	1,734,388	1,121,178	389,858	(541,959)	1,044,102	3,747,567	9,746,421	1,054,324	0	1,789,409	36,452,029
2016	40,513,194	1,812,694	1,121,178	497,587	(691,719)	1,193,862	3,933,602	12,439,664	1,146,088	0	1,860,985	38,616,591
2017	42,826,992	1,894,435	1,121,178	609,086	(846,720)	1,348,863	4,126,842	15,227,178	1,225,431	0	1,935,424	40,853,601
2018	45,235,836	1,976,722	1,121,178	725,143	(1,008,056)	1,510,199	4,325,186	18,128,589	1,325,576	0	2,012,841	43,182,473
2019	47,722,460	2,076,865	1,121,178	845,127	(1,174,851)	1,676,994	4,545,313	21,128,199	1,430,231	0	2,093,355	45,585,798
2020	50,304,475	2,159,524	1,121,178	969,732	(1,348,069)	1,850,212	4,752,577	24,243,281	1,547,959	0	2,177,089	48,081,226
2021	52,952,681	2,270,721	1,121,178	1,097,916	(1,526,264)	2,028,407	4,991,958	27,447,899	1,633,756	0	2,264,173	50,639,236
2022	55,735,775	2,378,774	1,121,178	1,232,244	(1,712,999)	2,215,142	5,234,339	30,806,101	1,750,603	0	2,354,740	53,328,483
2023	58,621,476	2,486,958	1,121,178	1,371,594	(1,906,716)	2,408,859	5,481,873	34,289,837	1,876,510	0	2,448,930	56,116,519
2024	61,601,201	2,597,360	1,121,178	1,515,808	(2,107,195)	2,609,338	5,736,489	37,895,200	1,984,171	0	2,546,887	58,994,591
2025	64,703,487	2,716,092	1,121,178	1,665,901	(2,315,846)	2,817,989	6,005,314	41,647,518	2,127,972	0	2,648,762	61,991,120
2026	67,903,271	2,850,760	1,121,178	1,820,994	(2,531,449)	3,033,592	6,295,075	45,524,860	2,264,052	0	2,754,712	65,080,798
2027	71,229,754	2,969,994	1,121,178	1,982,235	(2,755,598)	3,257,741	6,575,550	49,555,883	2,413,678	0	2,864,900	68,292,753
2028	74,657,514	3,114,748	1,121,178	2,148,710	(2,987,022)	3,489,165	6,886,779	53,717,755	2,562,820	0	2,979,496	71,601,378
2029	78,218,595	3,262,351	1,121,178	2,321,669	(3,227,459)	3,729,602	7,207,341	58,041,714	2,749,334	0	3,098,676	75,038,841
2030	81,880,875	3,426,361	1,121,178	2,499,989	(3,475,350)	3,977,493	7,549,671	62,499,721	2,897,502	0	3,222,623	78,573,070
2031	85,706,123	3,590,717	1,121,178	2,686,076	(3,734,039)	4,236,182	7,900,114	67,151,890	3,081,468	0	3,351,528	82,265,961
2032	89,664,411	3,763,442	1,121,178	2,878,821	(4,001,984)	4,504,127	8,265,584	71,970,536	3,264,621	0	3,485,589	86,087,441
2033	93,770,130	3,944,710	1,121,178	3,078,860	(4,280,067)	4,782,210	8,646,891	76,971,499	3,439,838	0	3,625,013	90,051,572
2034	98,046,003	4,134,777	1,121,178	3,287,143	(4,569,609)	5,071,752	9,045,241	82,178,552	3,629,493	0	3,770,014	94,180,917
2035	102,493,597	4,335,865	1,121,178	3,503,771	(4,870,757)	5,372,900	9,462,957	88,646,891	3,847,340	0	3,920,815	98,476,751
2036	107,101,477	4,543,191	1,121,178	3,728,396	(5,183,018)	5,685,161	9,894,908	93,209,917	4,046,370	0	4,077,648	102,927,708
2037	111,902,484	4,754,497	1,121,178	3,962,338	(5,508,231)	6,010,374	10,340,156	99,058,455	4,242,797	0	4,240,754	107,566,100
2038	116,910,750	4,984,530	1,121,178	4,206,233	(5,847,280)	6,349,423	10,814,084	105,155,814	4,483,173	0	4,410,384	112,405,354
2039	122,108,814	5,228,221	0	4,459,469	(6,199,316)	6,701,459	11,168,597	111,486,725	4,710,133	0	4,586,799	117,428,586
2040	127,531,978	5,488,824	0	4,678,657	(6,504,019)	7,006,162	11,658,597	116,966,425	4,901,731	0	4,770,271	122,670,227
2041	133,243,833	5,757,082	0	4,909,372	(6,824,748)	7,326,891	11,997,664	122,734,318	5,132,102	0	4,961,082	128,193,610
2042	139,223,567	6,044,688	0	5,150,833	(7,160,412)	7,662,555	12,255,769	128,770,813	5,342,023	0	5,159,525	133,977,227
2043	145,523,525	6,348,568	0	5,405,058	(7,513,824)	8,015,967	7,884,629	135,126,454	5,587,309	0	5,365,906	140,072,889
2044	152,136,376	6,663,062	0	5,671,797	(7,884,629)	8,247,001	12,334,859	141,794,914	5,818,042	0	5,580,542	146,473,590
2045	159,100,652	6,996,680	0	5,932,469	(8,247,001)	8,247,001	12,929,149	148,311,731	6,088,527	0	5,803,764	153,216,811

EXHIBIT D

Projected Cash Flows (Open Group) - Funded Approach

**Total Medical, Dental & Life Insurance - Funding over 30 years at 7.00% discount rate increasing at 0.00% per year**

Fiscal Year	Total APBO as of July 1	Normal Cost	Expected Amortization	Interest on Net OPEB Obligation	Adjustment to ARC	Amortization of Actuarial (Gain) / Loss	Expected Annual OPEB Cost	OPEB Obligation as of June 30	Employer Share of Premiums / Claims	Annual Funding / (Payments)	Plan Assets as of July 1	Unfunded Accrued Actuarial Liability ("UAAAL")
2014	23,283,766	853,949	1,460,842	525,198	(565,071)	276,762	2,551,680	7,502,832	991,196	905,133	1,393,277	21,890,489
2015	24,238,319	872,181	1,460,842	571,073	(614,429)	326,120	2,645,059	8,158,183	1,054,324	905,133	2,395,939	21,842,380
2016	25,740,107	913,032	1,460,842	619,065	(666,064)	377,755	2,737,335	9,529,899	1,146,088	905,133	3,468,788	22,271,319
2017	27,292,544	956,032	1,460,842	667,093	(717,738)	429,429	2,831,816	10,231,151	1,225,431	905,133	4,616,736	22,675,808
2018	28,914,765	997,955	1,460,842	716,180	(770,553)	482,244	2,926,352	10,926,794	1,325,576	905,133	5,845,041	23,069,724
2019	30,588,244	1,051,381	1,460,842	764,875	(822,945)	534,636	3,031,995	11,623,425	1,430,231	905,133	7,159,327	23,428,917
2020	32,328,129	1,092,327	1,460,842	813,640	(875,411)	587,102	3,125,147	12,295,480	1,547,959	905,133	8,565,613	23,762,516
2021	34,106,952	1,150,754	1,460,842	860,683	(926,027)	637,718	3,234,063	12,990,654	1,633,756	905,133	10,070,339	24,036,613
2022	35,983,655	1,207,334	1,460,842	909,346	(978,383)	690,074	3,342,425	13,677,343	1,750,603	905,133	11,680,396	24,303,259
2023	37,928,395	1,262,005	1,460,842	957,414	(1,030,101)	741,792	3,447,997	14,343,697	1,876,510	905,133	13,403,157	24,525,238
2024	39,931,299	1,316,611	1,460,842	1,004,059	(1,080,287)	791,978	3,551,571	15,005,964	1,984,171	905,133	15,246,511	24,684,788
2025	42,018,812	1,375,865	1,460,842	1,050,417	(1,130,165)	841,856	3,659,332	15,632,191	2,127,972	905,133	17,218,900	24,799,912
2026	44,160,891	1,444,547	1,460,842	1,094,253	(1,177,329)	889,020	3,773,746	16,236,752	2,264,052	905,133	19,329,356	24,831,535
2027	46,381,946	1,502,205	1,460,842	1,136,572	(1,222,861)	934,552	3,874,621	16,792,562	2,413,678	905,133	21,587,544	24,794,402
2028	48,660,839	1,575,256	1,460,842	1,175,479	(1,264,722)	976,413	3,987,624	17,312,233	2,562,820	905,133	24,003,805	24,657,034
2029	51,026,595	1,649,994	1,460,842	1,211,856	(1,303,860)	1,015,551	4,099,579	17,757,345	2,749,334	905,133	26,589,204	24,437,391
2030	53,452,797	1,734,010	1,460,842	1,243,014	(1,337,384)	1,049,075	4,215,389	18,170,099	2,897,502	905,133	29,355,581	24,097,216
2031	56,001,664	1,817,849	1,460,842	1,271,907	(1,368,470)	1,080,161	4,328,337	18,511,835	3,081,468	905,133	32,315,605	23,686,059
2032	58,645,260	1,906,207	1,460,842	1,295,828	(1,394,208)	1,105,899	4,440,134	18,782,215	3,264,621	905,133	35,482,830	23,162,430
2033	61,391,009	1,999,243	1,460,842	1,314,755	(1,414,571)	1,126,262	4,551,372	18,988,616	3,439,838	905,133	38,871,761	22,519,248
2034	64,259,726	2,097,141	1,460,842	1,329,203	(1,430,116)	1,141,807	4,662,358	19,116,348	3,629,493	905,133	42,497,917	21,761,809
2035	67,247,509	2,201,243	1,460,842	1,338,144	(1,439,736)	1,151,427	4,774,068	19,137,943	3,847,340	905,133	46,377,904	20,869,605
2036	70,346,995	2,307,639	1,460,842	1,339,656	(1,441,363)	1,153,054	4,880,095	19,066,535	4,046,370	905,133	50,529,490	19,817,505
2037	73,579,322	2,415,069	1,460,842	1,334,657	(1,435,984)	1,147,675	4,980,269	18,898,874	4,242,797	905,133	54,971,687	18,607,635
2038	76,944,054	2,532,243	1,460,842	1,322,921	(1,423,357)	1,135,048	5,083,157	18,593,725	4,483,173	905,133	59,724,838	17,219,216
2039	80,437,408	2,656,638	0	1,301,561	(1,400,375)	1,112,066	5,173,023	16,701,482	4,710,133	905,133	64,810,710	15,626,698
2040	84,072,452	2,790,547	0	1,169,104	(1,257,862)	969,553	3,722,196	14,616,814	4,901,731	905,133	70,252,593	13,819,859
2041	87,906,654	2,927,710	0	1,023,177	(1,100,856)	812,547	3,711,300	12,290,879	5,132,102	905,133	76,075,408	11,831,246
2042	91,905,309	3,074,751	0	860,361	(925,680)	637,371	3,693,394	9,737,117	5,342,023	905,133	82,305,820	9,599,489
2043	96,105,546	3,230,797	0	681,598	(733,345)	445,036	3,668,528	6,913,203	5,587,309	905,133	88,972,360	7,133,186
2044	100,511,668	3,391,980	0	483,924	(520,664)	520,664	3,918,418	4,108,446	5,818,042	905,133	96,105,558	4,406,110
2045	105,138,304	3,563,207	0	287,591	(309,425)	309,425	3,891,393	1,006,179	6,088,527	905,133	103,738,080	1,400,224

EXHIBIT D

Projected Cash Flows (Open Group) - Funded Approach

**Total Medical, Dental & Life Insurance - Funding over 30 years at 7.00% discount rate and increasing at 2.50% per year**

Fiscal Year	Total APBO as of July 1	Normal Cost	Expected Amortization	Interest on Net OPEB Obligation	Adjustment to ARC	Amortization of Actuarial (Gain) / Loss	Expected Annual OPEB Cost	OPEB Obligation as of June 30	Employer Share of Premiums / Claims	Annual Funding / (Payments)	Plan Assets as of July 1	Unfunded Accrued Actuarial Liability ("UAAL")
2014	23,283,766	853,949	1,460,842	525,198	(565,071)	276,762	2,551,680	7,502,832	991,196	699,790	1,393,277	21,890,489
2015	24,238,319	872,181	1,460,842	571,073	(614,429)	326,120	2,645,059	8,363,526	1,054,324	717,284	2,190,596	22,047,723
2016	25,740,107	913,032	1,460,842	619,065	(666,064)	377,755	2,737,335	10,093,008	1,146,088	735,216	3,061,222	22,678,885
2017	27,292,544	956,032	1,460,842	667,093	(717,738)	429,429	2,831,816	10,945,797	1,225,431	753,596	4,010,724	23,281,820
2018	28,914,765	997,955	1,460,842	716,180	(770,553)	482,244	2,926,352	11,774,137	1,325,576	772,436	5,045,071	23,869,694
2019	30,588,244	1,051,381	1,460,842	764,875	(822,945)	534,636	3,031,995	12,584,154	1,430,231	791,747	6,170,662	24,417,582
2020	32,328,129	1,092,327	1,460,842	813,640	(875,411)	587,102	3,125,147	13,349,801	1,547,959	811,541	7,394,355	24,933,774
2021	34,106,952	1,150,754	1,460,842	860,683	(926,027)	637,718	3,234,063	14,118,278	1,633,756	831,830	8,723,501	25,383,451
2022	35,983,655	1,207,334	1,460,842	909,346	(978,383)	690,074	3,342,425	14,857,474	1,750,603	852,626	10,165,976	25,817,679
2023	37,928,395	1,262,005	1,460,842	957,414	(1,030,101)	741,792	3,447,997	15,555,019	1,876,510	873,942	11,730,220	26,198,175
2024	39,931,299	1,316,611	1,460,842	1,004,059	(1,080,287)	791,978	3,551,571	16,226,628	1,984,171	895,791	13,425,277	26,506,022
2025	42,018,812	1,375,865	1,460,842	1,050,417	(1,130,165)	841,856	3,659,332	16,839,802	2,127,972	918,186	15,260,837	26,757,975
2026	44,160,891	1,444,547	1,460,842	1,094,253	(1,177,329)	889,020	3,773,746	17,408,355	2,264,052	941,141	17,247,282	26,913,609
2027	46,381,946	1,502,205	1,460,842	1,136,572	(1,222,861)	934,552	3,874,621	17,904,628	2,413,678	964,670	19,395,733	26,986,213
2028	48,660,839	1,575,256	1,460,842	1,175,479	(1,264,722)	976,413	3,987,624	18,340,645	2,562,820	988,787	21,718,104	26,942,735
2029	51,026,595	1,649,994	1,460,842	1,211,856	(1,303,860)	1,015,551	4,099,579	18,677,383	2,749,334	1,013,507	24,227,158	26,799,437
2030	53,452,797	1,734,010	1,460,842	1,243,014	(1,337,384)	1,049,075	4,215,389	18,956,425	2,897,502	1,038,845	26,936,566	26,516,231
2031	56,001,664	1,817,849	1,460,842	1,271,907	(1,368,470)	1,080,161	4,328,337	19,138,478	3,081,468	1,064,816	29,860,971	26,140,693
2032	58,645,260	1,906,207	1,460,842	1,295,828	(1,394,208)	1,105,899	4,440,134	19,222,555	3,264,621	1,091,436	33,016,055	25,629,205
2033	61,391,009	1,999,243	1,460,842	1,314,755	(1,414,571)	1,126,262	4,551,372	19,215,367	3,439,838	1,118,722	36,418,615	24,972,394
2034	64,259,726	2,097,141	1,460,842	1,329,203	(1,430,116)	1,141,807	4,662,358	19,101,542	3,629,493	1,146,690	40,086,640	24,173,086
2035	67,247,509	2,201,243	1,460,842	1,338,144	(1,439,736)	1,151,427	4,774,068	18,852,913	3,847,340	1,175,357	44,039,395	23,208,114
2036	70,346,995	2,307,639	1,460,842	1,339,656	(1,441,363)	1,153,054	4,880,095	18,481,897	4,046,370	1,204,741	48,297,510	22,049,485
2037	73,579,322	2,415,069	1,460,842	1,334,657	(1,435,984)	1,147,675	4,980,269	17,984,509	4,242,797	1,234,860	52,883,077	20,696,245
2038	76,944,054	2,532,243	1,460,842	1,322,921	(1,423,357)	1,135,048	5,083,157	17,318,761	4,483,173	1,265,732	57,819,752	19,124,302
2039	80,437,408	2,656,638	0	1,301,561	(1,400,375)	1,112,066	3,723,023	15,034,276	4,710,133	1,297,375	63,132,867	17,304,541
2040	84,072,452	2,790,547	0	1,169,104	(1,257,862)	969,553	3,722,196	12,524,932	4,901,731	1,329,809	68,849,543	15,222,909
2041	87,906,654	2,927,710	0	1,023,177	(1,100,856)	812,547	3,711,300	9,741,076	5,132,102	1,363,054	74,998,820	12,907,834
2042	91,905,309	3,074,751	0	860,361	(925,680)	637,371	3,693,394	6,695,317	5,342,023	1,397,130	81,611,791	10,293,518
2043	96,105,546	3,230,797	0	681,598	(733,345)	445,036	3,668,528	3,344,478	5,587,309	1,432,058	88,721,746	7,383,800
2044	100,511,668	3,391,980	0	483,924	(520,664)	520,664	3,918,418	(23,005)	5,818,042	1,467,859	96,364,326	4,147,342

EXHIBIT D

Projected Cash Flows (Open Group) - Funded Approach

**Total Medical, Dental & Life Insurance - Funding Annual Normal Cost - 4.00% discount rate**

Fiscal Year	Total APBO	Normal Cost	Employer Share of Premiums / Claims including "implicit cost"	Funding Normal Cost beyond claims	Total Funding Costs	Present Value of Employer Share of Premiums / Claims including "implicit cost"	Present Value of Funding Normal Cost beyond claims	Present Value of Total Funding Costs	Plan Assets at Beginning of year	Unfunded Accrued Actuarial Liability ("UAAL")	Present Value of Unfunded Accrued Actuarial Liability ("UAAL")
2014	36,142,256	1,651,755	991,196	660,559	1,651,755	991,196	660,559	1,651,755	1,393,277	34,748,979	34,748,979
2015	38,274,929	1,734,388	1,054,324	680,064	1,734,388	1,013,773	653,908	1,693,837	2,109,567	36,165,362	34,774,387
2016	40,513,194	1,812,694	1,146,088	666,606	1,812,694	1,059,623	616,315	1,726,229	2,874,014	37,639,180	34,799,538
2017	42,826,992	1,894,435	1,225,431	669,004	1,894,435	1,089,404	594,742	1,758,408	3,655,581	39,171,411	34,823,242
2018	45,235,836	1,976,722	1,325,576	651,146	1,976,722	1,133,108	556,602	1,784,254	4,470,808	40,765,028	34,846,117
2019	47,722,460	2,076,865	1,430,231	646,634	2,076,865	1,175,546	531,486	1,822,180	5,300,786	42,421,674	34,867,524
2020	50,304,475	2,159,524	1,547,959	611,565	2,159,524	1,223,374	483,329	1,834,939	6,159,451	44,145,024	34,888,454
2021	52,952,681	2,270,721	1,633,756	636,965	2,270,721	1,241,520	484,041	1,878,485	7,017,394	45,935,287	34,907,043
2022	55,735,775	2,378,774	1,750,603	628,171	2,378,774	1,279,148	458,998	1,907,319	7,935,055	47,800,720	34,927,518
2023	58,621,476	2,486,958	1,876,510	610,448	2,486,958	1,318,411	428,893	1,928,859	8,880,628	49,740,848	34,947,260
2024	61,601,201	2,597,360	1,984,171	613,189	2,597,360	1,340,435	414,249	1,953,624	9,846,301	51,754,900	34,963,756
2025	64,703,487	2,716,092	2,127,972	588,120	2,716,092	1,382,290	382,032	1,970,410	10,853,342	53,850,145	34,980,027
2026	67,903,271	2,850,760	2,264,052	586,708	2,850,760	1,414,120	366,456	2,000,828	11,875,596	56,027,675	34,994,720
2027	71,229,754	2,969,994	2,413,678	556,316	2,969,994	1,449,592	334,109	2,005,908	12,937,328	58,292,426	35,008,920
2028	74,657,514	3,114,748	2,562,820	551,928	3,114,748	1,479,965	318,725	2,031,893	14,011,137	60,646,377	35,021,772
2029	78,218,595	3,262,351	2,749,334	513,017	3,262,351	1,526,608	284,860	2,039,625	15,123,510	63,095,085	35,034,461
2030	81,880,875	3,426,361	2,897,502	528,859	3,426,361	1,547,000	282,362	2,075,859	16,241,467	65,639,408	35,045,417
2031	85,706,123	3,590,717	3,081,468	509,249	3,590,717	1,581,943	261,435	2,091,192	17,419,985	68,286,138	35,056,276
2032	89,664,411	3,763,442	3,264,621	498,821	3,763,442	1,611,509	246,232	2,110,330	18,626,033	71,038,378	35,066,541
2033	93,770,130	3,944,710	3,439,838	504,872	3,944,710	1,632,693	239,634	2,137,565	19,869,895	73,900,235	35,076,187
2034	98,046,003	4,134,777	3,629,493	505,284	4,134,777	1,656,453	230,605	2,161,737	21,169,563	76,876,440	35,085,404
2035	102,493,597	4,335,865	3,847,340	488,525	4,335,865	1,688,342	214,381	2,176,867	22,521,630	79,971,967	35,094,386
2036	107,101,477	4,543,191	4,046,370	496,821	4,543,191	1,707,388	209,636	2,204,209	23,911,020	83,190,457	35,102,661
2037	111,902,484	4,754,497	4,242,797	511,700	4,754,497	1,721,414	207,610	2,233,114	25,364,282	86,538,202	35,110,827
2038	116,910,750	4,984,530	4,483,173	501,357	4,984,530	1,748,982	195,590	2,250,339	26,890,553	90,020,197	35,118,812
2039	122,108,814	5,228,221	4,710,133	518,088	5,228,221	1,766,850	194,344	2,284,938	28,467,532	93,641,282	35,126,418
2040	127,531,978	5,488,824	4,901,731	587,093	5,488,824	1,768,002	211,758	2,355,095	30,124,321	97,407,657	35,133,893
2041	133,243,833	5,757,082	5,132,102	624,980	5,757,082	1,779,898	216,753	2,404,878	31,916,387	101,327,446	35,142,037
2042	139,223,567	6,044,688	5,342,023	702,665	6,044,688	1,781,444	234,323	2,484,109	33,818,022	105,405,545	35,150,375
2043	145,523,525	6,348,568	5,587,309	761,259	6,348,568	1,791,579	244,099	2,552,838	35,873,408	109,650,117	35,159,465
2044	152,136,376	6,663,062	5,818,042	845,020	6,663,062	1,793,811	260,535	2,638,831	38,069,603	114,066,773	35,168,916

EXHIBIT D

Projected Cash Flows (Open Group) – Funded Approach

**Total Medical, Dental & Life Insurance - partial**

<b>Fiscal Year</b>	<b>Number of Retirees, Spouses &amp; Surviving Spouses</b>	<b>Total Accumulated Postretirement Benefit Obligation ("APBO")</b>	<b>Present Value of Total Accumulated Postretirement Benefit Obligation ("APBO")</b>	<b>Employer Share of Premiums / Claims including "implicit cost"</b>	<b>Present Value of Employer Share of Premiums / Claims including "implicit cost"</b>
2014	250	36,142,256	36,142,256	991,196	991,196
2015	258	38,274,929	36,802,816	1,054,324	1,013,773
2016	265	40,513,194	37,456,725	1,146,088	1,059,623
2017	273	42,826,992	38,073,040	1,225,431	1,089,404
2018	281	45,235,836	38,667,782	1,325,576	1,133,108
2019	289	47,722,460	39,224,383	1,430,231	1,175,546
2020	295	50,304,475	39,756,357	1,547,959	1,223,374
2021	304	52,952,681	40,239,686	1,633,756	1,241,520
2022	310	55,735,775	40,725,585	1,750,603	1,279,148
2023	317	58,621,476	41,186,671	1,876,510	1,318,411
2024	324	61,601,201	41,615,564	1,984,171	1,340,435
2025	331	64,703,487	42,030,151	2,127,972	1,382,290
2026	338	67,903,271	42,412,183	2,264,052	1,414,120
2027	343	71,229,754	42,778,744	2,413,678	1,449,592
2028	350	74,657,514	43,112,854	2,562,820	1,479,965
2029	353	78,218,595	43,432,009	2,749,334	1,526,608
2030	358	81,880,875	43,716,869	2,897,502	1,547,000
2031	360	85,706,123	43,999,231	3,081,468	1,581,943
2032	363	89,664,411	44,260,875	3,264,621	1,611,509
2033	365	93,770,130	44,507,282	3,439,838	1,632,693
2034	367	98,046,003	44,746,916	3,629,493	1,656,453
2035	368	102,493,597	44,977,634	3,847,340	1,688,342
2036	368	107,101,477	45,192,045	4,046,370	1,707,388
2037	369	111,902,484	45,401,785	4,242,797	1,721,414
2038	370	116,910,750	45,609,394	4,483,173	1,748,982
2039	370	122,108,814	45,805,068	4,710,133	1,766,850
2040	370	127,531,978	45,999,411	4,901,731	1,768,002
2041	369	133,243,833	46,211,169	5,132,102	1,779,898
2042	369	139,223,567	46,427,923	5,342,023	1,781,444
2043	368	145,523,525	46,662,324	5,587,309	1,791,579
2044	367	152,136,376	46,906,485	5,818,042	1,793,811
2045	366	159,100,652	47,167,020	6,088,527	1,805,006
2046	365	166,409,509	47,436,352	6,345,863	1,808,939
2047	364	174,104,621	47,721,062	6,595,435	1,807,770
2048	363	182,234,110	48,028,180	6,868,653	1,810,248
2049	362	190,806,761	48,353,385	7,138,238	1,808,940
2050	360	199,864,125	48,700,636	7,439,186	1,812,697
2051	358	209,415,625	49,065,421	7,763,912	1,819,060
2052	357	219,469,965	49,443,386	8,074,901	1,819,158
2053	356	230,092,626	49,842,804	8,423,565	1,824,718



## 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.

**Actuarial Value of Assets** - The value of cash, investments, other assets and property belonging to an OPEB trust, pension fund or similar entity, as used by the actuary for the purpose of actuarial valuation. Some funds may be restricted for other purposes, and “smoothing” of investment gains and losses often make the actuarial value of assets different from the market value of assets.

**Annual Required Contribution** - Normal Cost plus an amortization of the funding shortfall over a period of no more than 30 years.

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

**Discount Rate** - The interest rate used to calculate present value of a series of future cash flows. Under GASB 45, the rate should be “long term expected yield on the investments that are expected to be used to pay benefits as they come due. These would be plan investments for a funded plan, the employer’s investments for a pay as you go plan [e.g. short term county investment pool], or a weighted average of expected plan and employer investments for a plan that is partially funded”.

**FASB - Financial Accounting Standards Board.** “Since 1973, the Financial Accounting Standards Board (FASB) has been the designated organization in the private sector for establishing standards of financial accounting and reporting”.

**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.”

## EXHIBIT E

### **GLOSSARY**

*(continued)*

**GFOA – Government Finance Officers Association.** “GFOA is the professional association of state/provincial and local finance officers in the United States and Canada, and has served the public finance profession since 1906. Approximately 16,000 GFOA members are dedicated to the sound management of government financial resources.”

**Implicit Subsidy** – “The difference between a premium rate charged to retirees for a particular benefit and the estimated rate that would have been applicable to those retirees if that benefit was acquired for them as a separate group.”

**Irrevocable Contribution** – “Irrevocably transferred assets to a qualifying trust, or equivalent arrangement, in which plan assets are dedicated to providing benefits to retirees and their beneficiaries in accordance with the terms of the plan and are legally protected from creditors of the employer(s) or plan administrator. The preceding criteria preclude counting as [irrevocable] contributions (a) designations of net assets of a governmental or proprietary fund to be used for OPEB or (b) internal transfers of assets to a separate governmental or proprietary fund for the same purpose. Rather, such actions should be regarded as earmarking of employer assets.”

**Level Dollar Amortization** – Funding a shortfall in OPEB assets with equal dollar payments over a designated number of years (no more than 30 years). The present value of the level payments equals the present value of unfunded liabilities, the UAAL.

**Level Percent of Payroll Amortization** – Funding a shortfall in OPEB assets as a level percent of payroll over a designated number of years (no more than 30 years). The present value of the payments equals the present value of unfunded liabilities, the UAAL. Level percent of payroll typically has lower payments in the early years than level dollar amortization. When using level payroll amortization, employee count is assumed to be constant, and the payroll differences arise from overall wage trends.

EXHIBIT E**GLOSSARY***(continued)*

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

**OPEB** - Other Post Employment Benefits

**OPEB Trust** - An entity other than a pension or retirement system which manages OPEB assets. In many respects it is similar to a pension fund for OPEB. For reasons detailed in GASB 45, contributions to an OPEB trust should be irrevocable in order to obtain the most favorable accounting treatment.

**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.

**POB** - Pension Obligation Bond. Generally yielding taxable interest, POBs are issued to help fund a previously unfunded or underfunded pension liability.

**UAAL** - Unfunded Accrued Actuarial Liability. Actuarial Accrued Liability minus the Actuarial Value of Assets.