

Town of Holliston Other Postemployment Benefits Plan

GASB 45 Actuarial Valuation

as of

June 30, 2016

For the fiscal years ending

June 30, 2016 June 30, 2017

Delivered September 2016



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LETTER

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September 4, 2016

Personal and Confidential

Ms. Mary Bousquet Treasurer/Collector Town of Holliston 703 Washington Street, PO Box 6737 Holliston, MA 01746

Dear Ms. Bousquet:

We have performed an actuarial valuation of the Town of Holliston Other Postemployment Benefits Plan for the fiscal year ending June 30, 2016. The figures presented in this report reflect the adoption, by the Town of Holliston, of Statement No. 45 of the Governmental Accounting Standards Board ("GASB 45") effective July 1, 2007.

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.

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

Very truly yours,

Parker E. Elmore, ASA, EA, FCA, MAAA

President, CEO & Actuary





September 4, 2016

ACTUARIAL CERTIFICATION

This is to certify that Odyssey Advisors has conducted an actuarial valuation of certain benefit obligations of the Town of Holliston other postemployment benefit programs as of June 30, 2016 for the fiscal year ending June 30, 2016 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 Number 43 and 45 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 43 and 45 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



PRINCIPAL RESULTS OF THE VALUATION

Town of Holliston Assuming Partial Funding - 6.00% discount rate Comparison of Plan Liabilities to Prior Valuation

| | | June 30, 2016 | June 30, 2014 |
|--|---|--|---|
| I. | Present Value of Future Benefits A. Actives B. Retirees/Disabled C. Total | 31,223,471 14,354,958 45,578,429 | N/A N/A N/A |
| II. | Present Value of Future Normal Cost | 11,910,263 | N/A |
| III. | Actuarial Accrued Liability (Individual Entry Age Normal) A. Actives B. Retirees/Disabled C. Total | 19,313,208 14,354,958 33,668,166 | 14,207,953 16,207,676 30,415,629 |
| IV. | Plan Assets | 6,426,846 | 0 |
| V. | Unfunded Actuarial Accrued Liability ("UAAL") [III IV.] | 27,241,320 | 30,415,629 |
| VI. | Funded Ratio [IV. / III.] | 19.09% | 0.00% |
| VII. | Annual Covered Payroll | N/A | N/A |
| VIII. | UAAL as % of Covered Payroll | N/A | N/A |
| IX. | Net OPEB Obligation (Asset) @ Beginning of Fiscal Year | 8,599,930 | 10,851,470 |
| X. | Number of Eligible Participants A. Actives B. Retirees/Disabled C. Total | 574 <u>324</u> 898 | 300 326 626 |
| | | | |
| | For Fiscal Year Ending June 30, 2016 | June 30, 2016 | June 30, 2014 |
| XI. | For Fiscal Year Ending June 30, 2016 Normal Cost | June 30, 2016 1,149,805 | June 30, 2014 922,388 |
| XI. XII. | g , | <u> </u> | |
| XII. | Normal Cost | 1,149,805 | 922,388 |
| XII. XIII. | Normal Cost Amortization of UAAL - 30 year increase 3.50% per yr | 1,149,805 2,815,483 | 922,388 1,374,672 |
| XII. XIII. | Normal Cost Amortization of UAAL - 30 year increase 3.50% per yr Annual Required Contribution ('ARC') [XI. + XII.] | 1,149,805 2,815,483 3,965,288 | 922,388 1,374,672 2,297,060 |
| XII. XIII. XIV. XV. | Normal Cost Amortization of UAAL - 30 year increase 3.50% per yr Annual Required Contribution ('ARC') [XI. + XII.] Interest on Net OPEB Obligation (Asset) | 1,149,805 2,815,483 3,965,288 515,997 | 922,388 1,374,672 2,297,060 651,088 |
| XII. XIII. XIV. XV. XVI. | Normal Cost Amortization of UAAL - 30 year increase 3.50% per yr Annual Required Contribution ('ARC') [XI. + XII.] Interest on Net OPEB Obligation (Asset) Adjustment to Annual Required Contribution | 1,149,805 2,815,483 3,965,288 515,997 (589,411) | 922,388 1,374,672 2,297,060 651,088 (743,724) |
| XII. XIV. XV. XVI. | Normal Cost Amortization of UAAL - 30 year increase 3.50% per yr Annual Required Contribution ('ARC') [XI. + XII.] Interest on Net OPEB Obligation (Asset) Adjustment to Annual Required Contribution Amortization of Actuarial (Gains) / Losses | 1,149,805 2,815,483 3,965,288 515,997 (589,411) (1,475,139) | 922,388 1,374,672 2,297,060 651,088 (743,724) 228,386 |
| XII. XIV. XV. XVI. XVIIX | Normal Cost Amortization of UAAL - 30 year increase 3.50% per yr Annual Required Contribution ('ARC') [XI. + XII.] Interest on Net OPEB Obligation (Asset) Adjustment to Annual Required Contribution Amortization of Actuarial (Gains) / Losses Annual OPEB Expense [XIII. + XIV. + XV. + XVI.] | 1,149,805 2,815,483 3,965,288 515,997 (589,411) (1,475,139) 2,416,735 | 922,388 1,374,672 2,297,060 651,088 (743,724) 228,386 2,432,810 |
| XII. XIV. XV. XVI. XVIIX | Normal Cost Amortization of UAAL - 30 year increase 3.50% per yr Annual Required Contribution ('ARC') [XI. + XII.] Interest on Net OPEB Obligation (Asset) Adjustment to Annual Required Contribution Amortization of Actuarial (Gains) / Losses . Annual OPEB Expense [XIII. + XIV. + XV. + XVI.] I. Employer Share of Costs | 1,149,805 2,815,483 3,965,288 515,997 (589,411) (1,475,139) 2,416,735 1,253,500 | 922,388 1,374,672 2,297,060 651,088 (743,724) 228,386 2,432,810 1,182,331 |
| XII. XIV. XV. XVI. XVIII XVIII XVIII XXIII | Normal Cost Amortization of UAAL - 30 year increase 3.50% per yr Annual Required Contribution ('ARC') [XI. + XII.] Interest on Net OPEB Obligation (Asset) Adjustment to Annual Required Contribution Amortization of Actuarial (Gains) / Losses Annual OPEB Expense [XIII. + XIV. + XV. + XVI.] I. Employer Share of Costs Employer Payments (Withdrawals) to/from OPEB Trust | 1,149,805 2,815,483 3,965,288 515,997 (589,411) (1,475,139) 2,416,735 1,253,500 1,500,000 | 922,388 1,374,672 2,297,060 651,088 (743,724) 228,386 2,432,810 1,182,331 |
| XII. XIII. XIV. XV. XVI. XVIII XVIII XVIII XXIII XXIII XXIII XXIII XXIII XXIII XXIII | Normal Cost Amortization of UAAL - 30 year increase 3.50% per yr Annual Required Contribution ('ARC') [XI. + XII.] Interest on Net OPEB Obligation (Asset) Adjustment to Annual Required Contribution Amortization of Actuarial (Gains) / Losses Annual OPEB Expense [XIII. + XIV. + XV. + XVI.] I. Employer Share of Costs Employer Payments (Withdrawals) to/from OPEB Trust Total Employer Contribution [XVIII. + XIX.] | 1,149,805 2,815,483 3,965,288 515,997 (589,411) (1,475,139) 2,416,735 1,253,500 1,500,000 2,753,500 | 922,388 1,374,672 2,297,060 651,088 (743,724) 228,386 2,432,810 1,182,331 0 1,182,331 |
| XII. XIII. XIV. XV. XVI. XVIII XVIII XIX. XXI. XXI | Normal Cost Amortization of UAAL - 30 year increase 3.50% per yr Annual Required Contribution ('ARC') [XI. + XII.] Interest on Net OPEB Obligation (Asset) Adjustment to Annual Required Contribution Amortization of Actuarial (Gains) / Losses Annual OPEB Expense [XIII. + XIV. + XV. + XVI.] I. Employer Share of Costs Employer Payments (Withdrawals) to/from OPEB Trust Total Employer Contribution [XVIII. + XIX.] Percentage of Annual OPEB Expense Contributed | 1,149,805 2,815,483 3,965,288 515,997 (589,411) (1,475,139) 2,416,735 1,253,500 1,500,000 2,753,500 113.9% | 922,388 1,374,672 2,297,060 651,088 (743,724) 228,386 2,432,810 1,182,331 0 1,182,331 48.6% |
| XII. XIII. XIV. XV. XVI. XVII XVII XIX. XX. XXII XXII | Normal Cost Amortization of UAAL - 30 year increase 3.50% per yr Annual Required Contribution ('ARC') [XI. + XII.] Interest on Net OPEB Obligation (Asset) Adjustment to Annual Required Contribution Amortization of Actuarial (Gains) / Losses Annual OPEB Expense [XIII. + XIV. + XV. + XVI.] I. Employer Share of Costs Employer Payments (Withdrawals) to/from OPEB Trust Total Employer Contribution [XVIII. + XIX.] Percentage of Annual OPEB Expense Contributed Net OPEB Obligation (Asset) at Beginning of Year [IX.] | 1,149,805 2,815,483 3,965,288 515,997 (589,411) (1,475,139) 2,416,735 1,253,500 1,500,000 2,753,500 113.9% 8,599,930 | 922,388 1,374,672 2,297,060 651,088 (743,724) 228,386 2,432,810 1,182,331 0 1,182,331 48.6% 10,851,470 |



PRINCIPAL RESULTS OF THE VALUATION

(continued)

Town of Holliston Comparison of Plan Funding vs. Partial Funding

| | | Partial Funding - 5.00% discount rate | Partial Funding - 6.00% discount rate | Plan Funding -7.00% discount rate |
|-------|---|--|--|--------------------------------------|
| I. | Present Value of Future Benefits | | | |
| | A. Actives | 39,926,803 | 31,223,471 | 24,940,158 |
| | B. Retirees/Disabled C. Total | 15,718,929 55,645,732 | 14,354,958 45,578,429 | 13,192,122 38,132,280 |
| | | 25,015,752 | 15,575,125 | 30,132,200 |
| II. | Present Value of Future Normal Cost | 17,043,760 | 11,910,263 | 8,478,284 |
| III. | Actuarial Accrued Liability (Individual Entry Age Normal) | | | |
| | A. Actives | 22,883,043 | 19,313,208 | 16,461,874 |
| | B. Retirees/Disabled C. Total | 15,718,929 38,601,972 | 14,354,958 33,668,166 | 13,192,122 29,653,996 |
| *** | | | | |
| IV. | Plan Assets | 6,426,846 | 6,426,846 | 6,426,846 |
| V. | Unfunded Actuarial Accrued Liability ("UAAL") [III IV.] | 32,175,126 | 27,241,320 | 23,227,150 |
| VI. | Funded Ratio [IV. / III.] | 16.65% | 19.09% | 21.67% |
| VII. | Annual Covered Payroll | N/A | N/A | N/A |
| VIII. | UAAL as % of Covered Payroll | N/A | N/A | N/A |
| IX. | Net OPEB Obligation (Asset) @ Beginning of Fiscal Year | 8,599,930 | 8,599,930 | 8,599,930 |
| X. | Number of Eligible Participants | | | |
| | A. Actives | 574 | 574 | 574 |
| | B. Retirees/Disabled C. Total | 324 898 | 324 898 | 324 898 |
| | C. Total | 676 | 070 | 070 |
| | For Fiscal Year Ending June 30, 2016 | | | |
| XI. | Normal Cost | 1,491,142 | 1,149,805 | 895,563 |
| XII. | Amortization of UAAL - 30 year increase 3.50% per yr | 2,567,370 | 2,815,483 | 3,074,074 |
| XIII. | Annual Required Contribution ('ARC') [XI. + XII.] | 4,058,512 | 3,965,288 | 3,969,637 |
| XIV. | Interest on Net OPEB Obligation (Asset) | 429,997 | 515,997 | 601,996 |
| XV. | Adjustment to Annual Required Contribution | (532,798) | (589,411) | (647,698) |
| XVI. | Amortization of Actuarial (Gains) / Losses | (1,027,784) | (1,475,139) | (1,923,342) |
| XVII | . Annual OPEB Expense [XIII. + XIV. + XV. + XVI.] | 2,927,927 | 2,416,735 | 2,000,593 |
| XVII | I. Employer Share of Costs | 1,253,500 | 1,253,500 | 1,253,500 |
| XIX. | Employer Payments (Withdrawals) to/from OPEB Trust | 1,500,000 | 1,500,000 | 1,500,000 |
| XX. | Total Employer Contribution [XVIII. + XIX.] | 2,753,500 | 2,753,500 | 2,753,500 |
| XXI. | Percentage of Annual OPEB Expense Contributed | 94.0% | 113.9% | 137.6% |
| XXII | . Net OPEB Obligation (Asset) at Beginning of Year [IX.] | 8,599,930 | 8,599,930 | 8,599,930 |
| XXII | I. Increase (Decrease) in Net OPEB Obligations (Asset) [XVII XX.] | 174,427 | (336,765) | (752,907) |
| XXIV | 7. Net OPEB Obligation (Asset) at End of Year [XXII. + XXIII.] | 8,774,357 | 8,263,165 | 7,847,023 |
| XXV | . Discount Rate | 5.00% | 6.00% | 7.00% |



PRINCIPAL RESULTS OF THE VALUATION

(continued)

Town of Holliston Assuming Partial Funding - 6.00% discount rate Plan Liabilities as of June 30, 2016

| | | <u>Medical</u> | <u>Dental</u> | <u>Life</u> | Excise Tax | <u>Total</u> |
|-------|--|--------------------------|--------------------|--------------------|--------------------------|--------------------------|
| I. | Present Value of Future Benefits A. Actives | 29,840,244 | 0 | 73,114 | 1,310,113 | 31,223,471 |
| | B. Retirees/DisabledC. Total | 14,088,868 43,929,112 | <u>0</u> 0 | 164,901 238,015 | 101,189 1,411,302 | 14,354,958 45,578,429 |
| II. | Present Value of Future Normal Cost | 11,120,029 | 0 | 18,218 | 772,016 | 11,910,263 |
| III. | Actuarial Accrued Liability (Individual Entry Age Normal) A. Actives | 18,720,215 | 0 | 54,896 | 538,097 | 19,313,208 |
| | B. Retirees/DisabledC. Total | 14,088,868 32,809,083 | $\frac{0}{0}$ | 164,901 219,797 | 101,189 639,286 | 14,354,958 33,668,166 |
| IV. | Plan Assets | 6,263,071 | 0 | 42,093 | 121,682 | 6,426,846 |
| V. | Unfunded Actuarial Accrued Liability ("UAAL") [III IV.] | 26,546,012 | 0 | 177,704 | 517,604 | 27,241,320 |
| VI. | Annual Covered Payroll | N/A | N/A | N/A | N/A | N/A |
| VII. | UAAL as % of Covered Payroll | N/A | N/A | N/A | N/A | N/A |
| VIII. | Net OPEB Obligation (Asset) @ Beginning of Fiscal Year | 8,380,493 | 0 | 56,143 | 163,294 | 8,599,930 |
| IX. | Number of Eligible Participants A. Actives B. Retirees/Disabled C. Total | 574 <u>324</u> 898 | 0 <u>0</u> 0 | 574 213 787 | 574 <u>324</u> 898 | |
| | For Fiscal Year Ending June 30, 2016 | | | | | |
| X. | Normal Cost | 1,092,006 | 0 | 2,321 | 55,478 | 1,149,805 |
| XI. | Amortization of UAAL - 30 year increase 3.50% per yr | 2,743,643 | 0 | 18,380 | 53,460 | 2,815,483 |
| XII. | Annual Required Contribution ('ARC') [X. + XI.] | 3,835,649 | 0 | 20,701 | 108,938 | 3,965,288 |
| XIII. | Interest on Net OPEB Obligation (Asset) | 502,831 | 0 | 3,369 | 9,797 | 515,997 |
| XIV. | Adjustment to Annual Required Contribution | (574,372) | 0 | (3,848) | (11,191) | (589,411) |
| XV. | Amortization of Actuarial (Gains) / Losses | (1,437,500) | 0 | (9,630) | (28,009) | (1,475,139) |
| XVI. | Annual OPEB Expense [XII. + XIII. + XIV. + XV.] | 2,326,608 | 0 | 10,592 | 79,535 | 2,416,735 |
| XVII | . Employer Share of Costs | 1,240,778 | 0 | 12,722 | 0 | 1,253,500 |
| XVII | I. Employer Payments (Withdrawals) to/from OPEB Trust | 1,461,726 | 0 | 9,792 | 28,482 | 1,500,000 |
| XIX. | Total Employer Contribution [XVII. + XVIII.] | 2,702,504 | 0 | 22,514 | 28,482 | 2,753,500 |
| XX. | Percentage of Annual OPEB Expense Contributed | 116.2% | 0.0% | 212.6% | 35.8% | 113.9% |
| XXI. | Net OPEB Obligation (Asset) at Beginning of Year [VIII.] | 8,380,493 | 0 | 56,143 | 163,294 | 8,599,930 |
| XXII | . Increase (Decrease) in Net OPEB Obligations (Asset) [XVI XIX.] | (375,896) | 0 | (11,922) | 51,053 | (336,765) |
| XXII | I. Net OPEB Obligation (Asset) at End of Year [XXI. + XXII.] | 8,004,597 | 0 | 44,221 | 214,347 | 8,263,165 |



PRINCIPAL RESULTS OF THE VALUATION

(continued)

Town of Holliston Plan Liabilities as of June 30, 2016 Assuming Partial Funding Method

| | | Town Employees and Retirees | School Employees and Retirees | Public Safety Employees and Retirees | Water Enterprise Employees and Retirees | Total |
|-------|---|--------------------------------|----------------------------------|--|---|--------------------------|
| I. | Present Value of Future Benefits | | | | | |
| | A. Actives B. Retirees/Disabled | 3,388,520 2,812,390 | 17,993,002 11,362,403 | 9,424,015 0 | 417,934 180,165 | 31,223,471 14,354,958 |
| | C. Total | 6,200,910 | 29,355,405 | 9,424,015 | 598,099 | 45,578,429 |
| II. | Present Value of Future Normal Cost | 930,196 | 6,685,409 | 4,109,398 | 185,260 | 11,910,263 |
| III. | Actuarial Accrued Liability (Individual Entry Age Normal) | | | | | |
| | A. ActivesB. Retirees/Disabled | 2,458,324 | 11,307,593 11,362,403 | 5,314,617 | 232,674 180,165 | 19,313,208 14,354,958 |
| | C. Total | 2,812,390 5,270,714 | 22,669,996 | <u>0</u> 5,314,617 | 412,839 | 33,668,166 |
| | | | | | | |
| IV. | Plan Assets | 1,016,165 | 4,330,840 | 1,000,905 | 78,936 | 6,426,846 |
| V. | Unfunded Actuarial Accrued Liability ("UAAL") [III IV.] | 4,254,549 | 18,339,156 | 4,313,712 | 333,903 | 27,241,320 |
| VI. | Annual Covered Payroll | N/A | N/A | N/A | N/A | N/A |
| VII. | UAAL as % of Covered Payroll | N/A | N/A | N/A | N/A | N/A |
| VIII. | Net OPEB Obligation (Asset) @ Beginning of Fiscal Year | 1,336,519 | 5,753,714 | 1,348,779 | 160,918 | 8,599,930 |
| IX. | Number of Eligible Participants | | | | | |
| | A. Actives B. Retirees/Disabled | 72 | 389 | 105 | 8 | 574 |
| | C. Total | <u>68</u> 140 | <u>252</u> 641 | <u>0</u> 105 | 4 12 | 324 898 |
| | | | | | | |
| | For Fiscal Year Ending June 30, 2016 | | | | | |
| X. | Normal Cost | 111,763 | 717,137 | 300,746 | 20,159 | 1,149,805 |
| XI. | Amortization of UAAL - 30 year increase 3.50% per yr | 411,296 | 1,919,311 | 449,924 | 34,952 | 2,815,483 |
| XII. | Annual Required Contribution ('ARC') [X. + XI.] | 523,059 | 2,636,448 | 750,670 | 55,111 | 3,965,288 |
| XIII. | Interest on Net OPEB Obligation (Asset) | 80,192 | 345,223 | 80,927 | 9,655 | 515,997 |
| XIV. | Adjustment to Annual Required Contribution | (91,601) | (394,341) | (92,441) | (11,028) | (589,411) |
| XV. | Amortization of Actuarial (Gains) / Losses | (230,931) | (993,265) | (232,855) | (18,088) | (1,475,139) |
| XVI. | Annual OPEB Expense [XII. + XIII. + XIV. + XV.] | 280,719 | 1,594,065 | 506,301 | 35,650 | 2,416,735 |
| XVII | I. Employer Share of Costs | 272,590 | 922,429 | 45,822 | 12,659 | 1,253,500 |
| XVII | II. Employer Payments (Withdrawals) to/from OPEB Trust | 234,824 | 1,010,004 | 236,779 | 18,393 | 1,500,000 |
| XIX. | Total Employer Contribution [XVII. + XVIII.] | 507,414 | 1,932,433 | 282,601 | 31,052 | 2,753,500 |
| XX. | Percentage of Annual OPEB Expense Contributed | 97.1% | 57.9% | 9.1% | 35.5% | 51.9% |
| XXI. | Net OPEB Obligation (Asset) at Beginning of Year [VIII.] | 1,336,519 | 5,753,714 | 1,348,779 | 160,918 | 8,599,930 |
| XXII | I. Increase (Decrease) in Net OPEB Obligations (Asset) [XVI XIX.] | (226,695) | (338,368) | 223,700 | 4,598 | (336,765) |
| XXII | II. Net OPEB Obligation (Asset) at End of Year [XXI. + XXII.] | 1,109,824 | 5,415,346 | 1,572,479 | 165,516 | 8,263,165 |



PRINCIPAL RESULTS OF THE VALUATION

(continued)

Town of Holliston Detail of Plan Liabilities by Group and Dependency Status Assuming Partial Funding - 6.00% discount rate

Plan Liabilities as of June 30, 2016

| | | Present Value of Future Benefits | Actuarial Accrued Liability (Individual Entry Age Normal) | Normal Cost |
|------------|-------------------------|----------------------------------|---|----------------|
| Actives | | | | |
| | Under Age 65 | | | |
| | A. Participants | 6,784,002 | 3,959,083 | 241,820 |
| | B. Spouses | <u>3,360,859</u> | <u>2,087,685</u> | <u>110,436</u> |
| | C. Total | 10,144,861 | 6,046,768 | 352,256 |
| | Age 65 and Over | | | |
| | A. Participants | 12,546,799 | 7,892,650 | 478,044 |
| | B. Spouses | <u>8,531,811</u> | <u>5,373,790</u> | <u>319,505</u> |
| | C. Total | 21,078,610 | 13,266,440 | 797,549 |
| | Actives Total | | | |
| | A. Participants | 19,330,801 | 11,851,733 | 719,864 |
| | B. Spouses | 11,892,670 | <u>7,461,475</u> | <u>429,941</u> |
| | C. Total | 31,223,471 | 19,313,208 | 1,149,805 |
| Retirees/L | Nachlad | | | |
| Retirees/L | Under Age 65 | | | |
| | A. Participants | 844,657 | 844,657 | 0 |
| | B. Spouses | 437,635 | 437,635 | |
| | C. Total | 1,282,292 | 1,282,292 | $\frac{0}{0}$ |
| | Age 65 and Over | | | |
| | A. Participants | 9,989,904 | 9,989,904 | <u>0</u> |
| | B. Spouses | 3,082,762 | 3,082,762 | <u></u> |
| | C. Total | 13,072,666 | 13,072,666 | $\overline{0}$ |
| | Retirees/Disabled Total | I | | |
| | A. Participants | 10,834,561 | 10,834,561 | 0 |
| | B. Spouses | 3,520,397 | 3,520,397 | <u>0</u> |
| | C. Total | 14,354,958 | 14,354,958 | 0 |
| Total Pop | ulation | | | |
| | A. Participants | 30,165,362 | 22,686,294 | 719,864 |
| | B. Spouses | <u>15,413,067</u> | <u>10,981,872</u> | <u>429,941</u> |
| | C. Total | 45,578,429 | 33,668,166 | 1,149,805 |



PRINCIPAL RESULTS OF THE VALUATION

(continued)

Town of Holliston Assuming Funding over 30 years at 7.00% discount rate Plan Liabilities as of June 30, 2016

| | | Medical | <u>Dental</u> | <u>Life</u> | Excise Tax | <u>Total</u> |
|-------|--|--------------------------|---------------|--------------------|--------------------------|--------------------------|
| I. | Present Value of Future Benefits | | | | | |
| | A. Actives | 23,872,526 | 0 | 58,091 | 1,009,541 | 24,940,158 |
| | B. Retirees/Disabled | 12,954,010 | <u>0</u> | <u>151,460</u> | 86,652 | 13,192,122 |
| | C. Total | 36,826,536 | 0 | 209,551 | 1,096,193 | 38,132,280 |
| II. | Present Value of Future Normal Cost | 7,918,291 | 0 | 12,765 | 547,228 | 8,478,284 |
| III. | Actuarial Accrued Liability (Individual Entry Age Normal) | | | | | |
| | A. Actives | 15,954,235 | 0 | 45,326 | 462,313 | 16,461,874 |
| | B. Retirees/Disabled C. Total | 12,954,010 28,908,245 | <u>0</u> 0 | 151,460 196,786 | <u>86,652</u> 548,965 | 13,192,122 29,653,996 |
| | - 15tm | 20,500,213 | Ü | 1,0,,00 | 3.0,503 | 27,000,770 |
| IV. | Plan Assets | 6,265,221 | 0 | 42,649 | 118,976 | 6,426,846 |
| V. | Unfunded Actuarial Accrued Liability ("UAAL") [III IV.] | 22,643,024 | 0 | 154,137 | 429,989 | 23,227,150 |
| VI. | Annual Covered Payroll | N/A | N/A | N/A | N/A | N/A |
| VII. | UAAL as % of Covered Payroll | N/A | N/A | N/A | N/A | N/A |
| VIII. | Net OPEB Obligation (Asset) @ Beginning of Fiscal Year | 8,380,493 | 0 | 56,143 | 163,294 | 8,599,930 |
| IX. | Number of Eligible Participants | | | | | |
| | A. Actives | 574 | 0 | 574 | 574 | |
| | B. Retirees/Disabled | <u>324</u> | 0 | <u>213</u> | 324 | |
| | C. Total | 898 | 0 | 787 | 898 | |
| | For Fiscal Year Ending June 30, 2016 | | | | | |
| X. | Normal Cost | 850,189 | 0 | 1,748 | 43,626 | 895,563 |
| XI. | Amortization of UAAL - 30 year increase 3.50% per yr | 2,996,766 | 0 | 20,400 | 56,908 | 3,074,074 |
| XII. | Annual Required Contribution ('ARC') [X. + XI.] | 3,846,955 | 0 | 22,148 | 100,534 | 3,969,637 |
| XIII. | Interest on Net OPEB Obligation (Asset) | 586,635 | 0 | 3,930 | 11,431 | 601,996 |
| XIV. | Adjustment to Annual Required Contribution | (631,172) | 0 | (4,228) | (12,298) | (647,698) |
| XV. | Amortization of Actuarial (Gains) / Losses | (1,874,973) | 0 | (12,763) | (35,606) | (1,923,342) |
| XVI. | Annual OPEB Expense [XII. + XIII. + XIV. + XV.] | 1,927,445 | 0 | 9,087 | 64,061 | 2,000,593 |
| XVII | . Employer Share of Costs | 1,240,778 | 0 | 12,722 | 0 | 1,253,500 |
| XVII | I. Employer Payments (Withdrawals) to/from OPEB Trust | 1,462,277 | 0 | 9,954 | 27,769 | 1,500,000 |
| XIX. | Total Employer Contribution [XVII. + XVIII.] | 2,703,055 | 0 | 22,676 | 27,769 | 2,753,500 |
| XX. | Percentage of Annual OPEB Expense Contributed | 140.2% | 0.0% | 249.5% | 43.3% | 137.6% |
| XXI. | Net OPEB Obligation (Asset) at Beginning of Year [VIII.] | 8,380,493 | 0 | 56,143 | 163,294 | 8,599,930 |
| XXII | . Increase (Decrease) in Net OPEB Obligations (Asset) [XVI XIX.] | (775,610) | 0 | (13,589) | 36,292 | (752,907) |
| XXII | I. Net OPEB Obligation (Asset) at End of Year [XXI. + XXII.] | 7,604,883 | 0 | 42,554 | 199,586 | 7,847,023 |



PRINCIPAL RESULTS OF THE VALUATION

(continued)

Town of Holliston Plan Liabilities as of June 30, 2016 Assuming Funding over 30 years at 7.00% discount rate

| | | Town Employees and Retirees | School Employees and Retirees | Public Safety Employees and Retirees | Water Enterprise Employees and Retirees | Total |
|-------|--|--------------------------------|----------------------------------|--|---|--------------------------|
| I. | Present Value of Future Benefits | | | | | |
| | A. Actives B. Retirees/Disabled | 2,706,625 2,584,569 | 14,372,147 10,441,982 | 7,527,556 0 | 333,830 165,571 | 24,940,158 13,192,122 |
| | C. Total | 5,291,194 | 24,814,129 | 7,527,556 | 499,401 | 38,132,280 |
| II. | Present Value of Future Normal Cost | 662,157 | 4,758,988 | 2,925,262 | 131,877 | 8,478,284 |
| III. | Actuarial Accrued Liability (Individual Entry Age Normal) | | | | | |
| | A. Actives B. Retirees/Disabled | 2,095,385 2,584,569 | 9,638,180 10,441,982 | 4,529,986 0 | 198,323 165,571 | 16,461,874 13,192,122 |
| | C. Total | 4,679,954 | 20,080,162 | 4,529,986 | 363,894 | 29,653,996 |
| | | | | | | |
| IV. | Plan Assets | 1,016,165 | 4,330,840 | 1,000,905 | 78,936 | 6,426,846 |
| V. | Unfunded Actuarial Accrued Liability ("UAAL") [III IV.] | 3,663,789 | 15,749,322 | 3,529,081 | 284,958 | 23,227,150 |
| VI. | Annual Covered Payroll | N/A | N/A | N/A | N/A | N/A |
| VII. | UAAL as % of Covered Payroll | N/A | N/A | N/A | N/A | N/A |
| VIII. | Net OPEB Obligation (Asset) @ Beginning of Fiscal Year | 1,336,519 | 5,753,714 | 1,348,779 | 160,918 | 8,599,930 |
| IX. | Number of Eligible Participants | | | | | |
| | A. Actives B. Retirees/Disabled | 72 <u>68</u> | 389 252 | 105 <u>0</u> | 8 <u>4</u> | 574 324 |
| | C. Total | 140 | 641 | 105 | 12 | 898 |
| | For Fiscal Year Ending June 30, 2016 | | | | | |
| X. | Normal Cost | 87,051 | 558,565 | 234,246 | 15,701 | 895,563 |
| XI. | Amortization of UAAL - 30 year increase 3.50% per yr | 449,072 | 2,095,592 | 491,248 | 38,162 | 3,074,074 |
| XII. | Annual Required Contribution ('ARC') [X. + XI.] | 536,123 | 2,654,157 | 725,494 | 53,863 | 3,969,637 |
| XIII. | Interest on Net OPEB Obligation (Asset) | 93,557 | 402,760 | 94,415 | 11,264 | 601,996 |
| XIV. | Adjustment to Annual Required Contribution | (100,659) | (433,337) | (101,583) | (12,119) | (647,698) |
| XV. | Amortization of Actuarial (Gains) / Losses | (301,097) | (1,295,056) | (303,605) | (23,584) | (1,923,342) |
| XVI. | Annual OPEB Expense [XII. $+$ XIII. $+$ XIV. $+$ XV.] | 227,924 | 1,328,524 | 414,721 | 29,424 | 2,000,593 |
| XVII | . Employer Share of Costs | 272,590 | 922,429 | 45,822 | 12,659 | 1,253,500 |
| XVII | I. Employer Payments (Withdrawals) to/from OPEB Trust | 236,728 | 1,015,723 | 229,142 | 18,407 | 1,500,000 |
| XIX. | Total Employer Contribution [XVII. + XVIII.] | 509,318 | 1,938,152 | 274,964 | 31,066 | 2,753,500 |
| XX. | Percentage of Annual OPEB Expense Contributed | 223.5% | 145.9% | 66.3% | 105.6% | 137.6% |
| XXI. | Net OPEB Obligation (Asset) at Beginning of Year [VIII.] | 1,336,519 | 5,753,714 | 1,348,779 | 160,918 | 8,599,930 |
| XXII | . Increase (Decrease) in Net OPEB Obligations (Asset) [XVI XIX.] | (281,394) | (609,628) | 139,757 | (1,642) | (752,907) |
| XXII | I. Net OPEB Obligation (Asset) at End of Year [XXI. + XXII.] | 1,055,125 | 5,144,086 | 1,488,536 | 159,276 | 7,847,023 |





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 Net OPEB Obligation. If you decide to fully fund the OPEB obligation 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 45 – How we got here:

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, 2008. GASB 45 is designed to recognize the Other Postemployment Benefits ("OPEB") earned by employees throughout their working career vs. when they are actually paid in retirement – accrual accounting vs. "pay-as-you-go" accounting. When GASB 45 was adopted, there was an Unfunded Actuarial Accrued Liability ("UAAL") or "past service liability" which reflected all benefits earned until the date of such adoption. To smooth the impact of transitioning to GASB 45 on your financial statement, the UAAL was amortized over a 30 year period using a flat dollar amortization. Additionally, each eligible active employee earns benefits each year representing benefits to be paid in retirement or a "Normal 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.

2. **Summary of Results:**

During the fiscal year ending June 30, 2016, the Plan saw an experience gain of \$1,390,622 or 4.86%. Plan experience was in line with expectation. This was mainly due to premiums for Medicare integrated plans increasing less than the expected 15% increase as well as a reduction in average service. This was mostly offset by the preparations for GASB 75 including the introduction of a new Actuarial Cost Method (increasing disclosed liabilities by \$3 million) and a more conservative mortality table as recommended by PERAC. For comparison purposes when reviewing per active employee costs, it is important to note that we have valued all benefit eligible active employees while the prior valuation only considered those currently taking medical coverage. The actuarial experience gain is amortized into the annual OPEB costs over a 30-year period. The net impact of plan experience is a decrease in the annual OPEB cost. Please note there was a change in methodology to include spouses of retirees in the count.



Commentary on Plan Experience and Contribution Amounts (continued)

3.

Balance Sheet Items

| | June 30, 2016 | June 30, 2014 |
|---|---------------|---------------|
| Actuarial Accrued Liability | \$33,668,166 | \$30,415,629 |
| Plan Assets | \$6,426,846 | \$0 |
| Unfunded Actuarial Accrued Liability | \$27,241,320 | \$30,415,629 |
| Funded % | 19.09% | 0.00% |
| Net OPEB Obligation | \$8,599,930 | \$10,851,470 |

4.

Income Statement Items

| | June 30, 2016 | June 30, 2014 |
|--|---------------|---------------|
| Normal Cost | \$1,149,805 | \$922,388 |
| Amortization of UAAL | \$2,815,483 | \$1,374,672 |
| Interest on Net OPEB Obligation | \$515,997 | \$651,088 |
| Adjustment to Annual Required Contribution | \$(589,411) | \$(743,724) |
| Amortization of Actuarial (Gains)/Losses | \$(1,475,139) | \$228,386 |
| Annual OPEB Expense | \$2,416,735 | \$2,432,810 |
| Employer Share of Costs Employer | \$1,253,500 | \$1,182,331 |
| Contributions/(Withdrawals) | \$1,500,000 | \$0 |
| to/from OPEB Trust Total Employer Contribution | \$2,753,500 | \$1,182,331 |
| Discount Rate | 6.00% | 6.00% |





Commentary on Plan Experience and Contribution Amounts (continued)

5. **GASB 75 – Where we're going:**

The Governmental Accounting Standards Board ("GASB") issued GASB 75 "Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions" on June 2, 2015 which will become effective for your 2018 fiscal year. This standard largely mirrors the GASB 68 standard for pension plans. The new standards require increased disclosures and will tie interest rates used in the valuation to the plan's underlying investment and funding policy. This may increase the pressure on many entities to begin funding their OPEB liabilities. For more information, please review our white papers at www.GASB75.com or on our website.





SUMMARY OF PLAN PROVISIONS

Effective Date July 1, 2007; GASB 45 is adopted.

<u>Plan Year</u> July 1 through June 30.

Eligibility An employee hired before April 2, 2012 shall

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

age 60 with 10 years of creditable service.

<u>Creditable Service</u> Elapsed time from date of hire to termination of

service date.

<u>Participant Contributions</u> Retirees will pay 40% of premiums for Medical

Insurance (50% for Harvard Pilgrim PPO) & 50% of premiums for life insurance. Surviving Spouses will

pay 100% of premiums.

Benefits Offered Comprehensive Medical Insurance offered through

Blue Cross, Harvard Pilgrim, Tufts Health Plan & Fallon Insurance and Group Term Life Insurance.

Normal Retirement Date The normal retirement date is the first day of the

month following a participant's 65th birthday.

Early Retirement is available for any participant who

has attained benefit eligibility.





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, each individual's annual normal cost is a level dollar amount. 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 as of the valuation date.



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 generationally with scale BB and a base year 2009 for males and females.

Discount Rate

6.00% per annum (previously 6.00%)

Employee Termination

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

| Service | Non Public Safety Male | Non Public Safety Female | Public Safety |
|---------|---------------------------|--------------------------|------------------|
| 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% |



ACTUARIAL COST METHOD, ASSET VALUATION METHOD AND ACTUARIAL ASSUMPTIONS

(continued)

C. <u>ACTUARIAL ASSUMPTIONS</u> (continued)

Retirement Rates for non-teachers

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

| | | Non Public | |
|-----|-------------|------------|---------------|
| | Non Public | Safety | Public |
| Age | Safety Male | Female | Safety |
| 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% |



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> | Dental |
|-------------|----------------|---------------|
| 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

eligible to receive retirement benefits would enroll in the retiree medical and dental plans upon retirement. For life insurance plans, it was assumed that 75% of eligible employees would elect coverage upon retirement.

It was assumed that 75% of employees

Percent Married

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



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 replace 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> | 4.0% |
| 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.





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.



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 | | | | | |
| | | I WO-PEISOII | | | | |
| Blue Choice Benchmark | 4 | | 4 | 8 | | |
| Blue Choice Rate Saver | 13 | | 8 | 21 | | |
| Fallon Direct Benchmark | 2 | | 3 | 5 | | |
| Fallon Direct Rate Saver | 7 | | 6 | 13 | | |
| Fallon Select Benchmark | 3 | | 1 | 4 | | |
| Fallon Select Rate Saver | 19 | | 39 | 58 | | |
| Harvard Pilgrim Benchmark | 3 | | 1 | 4 | | |
| Harvard Pilgrim Rate Saver | 87 | | 109 | 196 | | |
| Harvard Pilgrim PPO | | | 2 | 2 | | |
| Tufts Benchmark | 1 | | | 1 | | |
| Tufts Rate Saver | 14 | | 23 | 37 | | |
| Harvard Pilgtim Medicare Enhanced | 41 | 28 | | 69 | | |
| Managed Blue for Seniors | 1 | | | 1 | | |
| Tufts Medicare Preferred | 3 | 8 | | 11 | | |
| Tufts Medicare Plus | 8 | 9 | | 17 | | |
| Medex | <u>38</u> | <u>34</u> | | <u>72</u> | | |
| Total | 244 | 79 | 196 | 519 | | |

| | Per Contract Costs (monthly) - FY 2017 | | | | |
|-----------------------------------|--|------------|----------|--|--|
| | Single | Two-Person | Family | | |
| Blue Choice Benchmark | 814.00 | 0.00 | 2,184.00 | | |
| Blue Choice Rate Saver | 885.00 | 0.00 | 2,374.00 | | |
| Fallon Direct Benchmark | 550.00 | 0.00 | 1,480.00 | | |
| Fallon Direct Rate Saver | 596.00 | | 1,600.00 | | |
| Fallon Select Benchmark | 591.00 | | 1,591.00 | | |
| Fallon Select Rate Saver | 639.00 | | 1,721.00 | | |
| Harvard Pilgrim Benchmark | 735.00 | | 1,915.00 | | |
| Harvard Pilgrim Rate Saver | 799.00 | | 2,081.00 | | |
| Harvard Pilgrim PPO | 2,336.00 | | 5,187.00 | | |
| Tufts Benchmark | 774.00 | | 2,027.00 | | |
| Tufts Rate Saver | 841.00 | | 2,203.00 | | |
| Harvard Pilgtim Medicare Enhanced | 342.00 | 684.00 | | | |
| Managed Blue for Seniors | 313.20 | 626.40 | | | |
| Tufts Medicare Preferred | 267.00 | 534.00 | | | |
| Tufts Medicare Plus | 321.00 | 642.00 | | | |
| Medex | 360.00 | 720.00 | | | |
| | | | | | |

Gross Expected FY 2017 Incurred Premiums 7,242,530
Adjustment to reflect children's claims (1,133,220)
Total Expected FY 2017 Incurred Premiums (adults only) 6,109,310

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

| | Employer | Medicare |
|-------------|----------------|----------------|
| | Primary | Primary |
| Age 65 | 12,408 | 4,100 |
| Average Age | 11,891 | 4,100 |



ACTUARIAL COST METHOD, ASSET VALUATION METHOD AND ACTUARIAL ASSUMPTIONS

(continued)

D. DEVELOPMENT OF REPRESENTATIVE MEDICAL PER CAPITA CLAIMS COSTS

III. BREAKDOWN OF CLAIM COSTS

6,109,310 Active and Retired Claims (No Children)

ALL ACTIVE EMPLOYEES AND SPOUSES

| | | | Female | Male | Aged (F) | Aged (M) | |
|-------------|-----------|-----------|--------|--------|----------|----------|-------------|
| | Number of | Number of | Aging | Aging | Average | Average | Age Related |
| Age Bracket | Females | Males | Factor | Factor | Claims | Claims | Claims |
| 24 & Under | 1 | 0 | 1.312 | 0.549 | 7,612 | 3,185 | 7,612 |
| 25 to 29 | 16 | 3 | 1.312 | 0.591 | 7,612 | 3,429 | 132,079 |
| 30 to 34 | 15 | 9 | 1.312 | 0.712 | 7,612 | 4,131 | 151,359 |
| 35 to 39 | 26 | 12 | 1.312 | 0.850 | 7,612 | 4,932 | 257,096 |
| 40 to 44 | 28 | 28 | 1.312 | 1.000 | 7,612 | 5,802 | 375,592 |
| 45 to 49 | 39 | 23 | 1.456 | 1.193 | 8,448 | 6,922 | 488,678 |
| 50 to 54 | 45 | 45 | 1.599 | 1.441 | 9,277 | 8,361 | 793,710 |
| 55 to 59 | 48 | 38 | 1.740 | 1.753 | 10,095 | 10,171 | 871,058 |
| 60 to 64 | 24 | 32 | 1.968 | 2.102 | 11,418 | 12,196 | 664,304 |
| 65 to 69 | 16 | 10 | 2.168 | 2.316 | 12,579 | 13,437 | 335,634 |
| 70 & Over | <u>2</u> | <u>4</u> | 2.396 | 2.557 | 13,902 | 14,836 | 87,148 |
| Total | 260 | 204 | | | | | 4,164,270 |

ALL RETIREES AND SPOUSES - NOT MEDICARE ELIGIBLE

| | | | Female | Male | Aged (F) | Aged (M) | |
|-------------|-------------|-----------|--------|--------|----------|----------|-------------|
| | Number of 1 | Number of | Aging | Aging | Average | Average | Age Related |
| Age Bracket | Females | Males | Factor | Factor | Claims | Claims | Claims |
| 44 & Under | 4 | 2 | 1.312 | 1.000 | 7,612 | 5,802 | 42,052 |
| 45 to 49 | 1 | 0 | 1.456 | 1.193 | 8,448 | 6,922 | 8,448 |
| 50 to 54 | 1 | 2 | 1.599 | 1.441 | 9,277 | 8,361 | 25,999 |
| 55 to 59 | 5 | 3 | 1.740 | 1.753 | 10,095 | 10,171 | 80,988 |
| 60 to 64 | 20 | 16 | 1.968 | 2.102 | 11,418 | 12,196 | 423,496 |
| 65 to 69 | 4 | 1 | 2.168 | 2.316 | 12,579 | 13,437 | 63,753 |
| 70 to 74 | 6 | 1 | 2.396 | 2.557 | 13,902 | 14,836 | 98,248 |
| 75 to 79 | 3 | 0 | 2.593 | 2.769 | 15,045 | 16,066 | 45,135 |
| 80 to 84 | 4 | 1 | 2.724 | 2.910 | 15,805 | 16,884 | 80,104 |
| 85 to 89 | 0 | 2 | 2.864 | 3.059 | 16,617 | 17,748 | 35,496 |
| 90 & Over | <u>0</u> | <u>0</u> | 3.010 | 3.215 | 17,464 | 18,653 | <u>0</u> |
| Total | 48 | 28 | | | | | 903,719 |

ALL RETIREES AND SPOUSES - MEDICARE ELIGIBLE

| | | | Female | Male | Aged (F) | Aged (M) | |
|--------------|-------------|-----------|--------|--------|----------|----------|-------------|
| | Number of 1 | Number of | Aging | Aging | Average | Average | Age Related |
| Age Bracket | Females | Males | Factor | Factor | Claims | Claims | Claims |
| 65 to 69 | 38 | 23 | 2.168 | 2.316 | 4,100 | 4,100 | 250,100 |
| 70 to 74 | 43 | 41 | 2.396 | 2.557 | 4,100 | 4,100 | 344,400 |
| 75 to 79 | 23 | 36 | 2.593 | 2.769 | 4,100 | 4,100 | 241,900 |
| 80 to 84 | 17 | 9 | 2.724 | 2.910 | 4,100 | 4,100 | 106,600 |
| 85 to 89 | 11 | 5 | 2.864 | 3.059 | 4,100 | 4,100 | 65,600 |
| 90 & Over | <u>4</u> | <u>4</u> | 3.010 | 3.215 | 4,100 | 4,100 | 32,800 |
| Total | 136 | 118 | | | | | 1,041,400 |
| Grand Totals | 444 | 350 | | | | | 6,109,389 |



Dental Plan

SECTION III

ACTUARIAL COST METHOD, ASSET VALUATION METHOD AND ACTUARIAL ASSUMPTIONS

(continued)

FY 2017 Expected Per Person Rate

- E. DEVELOPMENT OF REPRESENTATIVE DENTAL PER CAPITA CLAIMS COSTS
- I. CLAIMS COSTS DEVELOPMENT with Active & Retiree Incurred Premiums

| Per Contract Costs (monthly) - FY 2017 | | | | | |
|--|------------|---------------|--|--|--|
| Single | Two-Person | <u>Family</u> | | | |
| N/A | | N/A | | | |





<u>Financial Statement Disclosure</u> (As of June 30, 2016)

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

A DESCRIPTION OF THE RETIREE MEDICAL INSURANCE PROGRAM:

a. Plan Type: Comprehensive Medical & Medicare Supplement coverages

through Blue Cross, Fallon Healthcare, Harvard Pilgrim and

Tufts.

b. Administrator: Town of Holliston

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: Employees will pay 40% of premiums in retirement (50% for

Harvard Pilgrim PPO). Surviving Spouses will pay 100% of

premiums.

2. A DESCRIPTION OF THE DENTAL INSURANCE PROGRAM:

a. Plan Type: Not Offered

b. Administrator: N/Ac. Eligibility: N/Ad. Cost sharing: N/A

3. A DESCRIPTION OF THE RETIREE LIFE INSURANCE PROGRAM:

a. Plan Type: Group Term Life Insurance - \$3,000

b. Administrator: Town of Hollistonc. Eligibility: Same as above

d. Cost sharing: Employees will pay 50% of premiums in retirement.



Financial Statement Disclosure (As of June 30, 2016) (continued)

4. RETIREE MEDICAL AND LIFE INSURANCE CONTRIBUTIONS:

| Group | Individual | Family |
|---------|------------|---------|
| Medical | 40%-50% | 40%-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 \$1,500,000 beyond the pay-as-you-go. For the 2016 fiscal year, total Town premiums plus implicit costs for the retiree medical program are \$1,253,500. The Town is also projected to make a contribution to an OPEB Trust of \$1,500,000 for the 2016 fiscal year for a total contribution of \$2,753,500.



Financial Statement Disclosure (As of June 30, 2016) (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 | \$3,965,288 |
|--|--------------------|
| Interest on net OPEB Obligation (Asset) | \$515,997 |
| Adjustment to annual required contribution | (\$589,411) |
| Amortization of Actuarial (Gains) / Losses | (\$1,475,139) |
| Annual OPEB expense | \$2,416,735 |
| Contributions made to pay benefits | \$1,253,500 |
| Contributions made to OPEB Trust | <u>\$1,500,000</u> |
| Increase (Decrease) in net OPEB Obligation (Asset) | (\$336,765) |
| Net OPEB Obligation (Asset) – beginning of year | \$8,599,930 |
| Net OPEB Obligation (Asset) – end of year | \$8,263,165 |



Financial Statement Disclosure (As of June 30, 2016) (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 2016 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 (Decrease) in Net OPEB Obligation (Asset) | Net OPEB Obligation (Asset) |
|----------------------|---------------------|----------------------------------|---|---|--------------------------------|
| 06/30/2018 (est.) | \$2,684,171 | \$2,955,881 | 110.1% | (\$271,710) | \$7,691,938 |
| 06/30/2017 (est.) | \$2,551,803 | \$2,851,320 | 111.7% | (\$299,517) | \$7,963,648 |
| 06/30/2016 | \$2,416,735 | \$2,753,500 | 113.9% | (\$336,765) | \$8,263,165 |
| 06/30/2015 | \$2,584,897 | \$6,086,916 | 235.5% | (\$3,502,019) | \$8,599,930 |
| 06/30/2014 | \$2,432,810 | \$1,182,331 | 48.6% | \$1,250,479 | \$12,101,949 |
| 06/30/2013 | \$3,487,659 | \$1,425,583 | 40.9% | \$2,062,076 | \$10,851,470 |

Schedule of Funding Progress:

| Actuarial | Unfunded | | | | | | | | | |
|----------------------|------------------------|-------------------|--------------------------|--------|-----------------|------------|--|--|--|--|
| Valuation | Actuarial Value | Actuarial Accrued | Actuarial Accrued | Funded | | of Covered | | | | |
| Date | of Assets | Liability | Liability | Ratio | Covered Payroll | Payroll | | | | |
| 06/30/2018 (est.) | \$10,882,509 | \$37,559,575 | \$26,677,066 | 29.0% | N/A | N/A | | | | |
| 06/30/2017 (est.) | \$8,788,210 | \$35,578,344 | \$26,790,134 | 24.7% | N/A | N/A | | | | |
| 06/30/2016 | \$6,426,846 | \$33,668,166 | \$27,241,320 | 19.1% | N/A | N/A | | | | |
| 06/30/2015 | \$4,818,613 | \$31,923,000 | \$27,104,387 | 15.1% | N/A | N/A | | | | |
| 06/30/2014 | \$0 | \$30,415,629 | \$30,415,629 | 0.0% | N/A | N/A | | | | |
| 06/30/2013 | \$0 | N/A | N/A | N/A | N/A | N/A | | | | |



Financial Statement Disclosure

(As of June 30, 2016) (continued)

| | Fiscal Year Ending June 30, 2016 | | | | | | | |
|--|----------------------------------|----------------------------------|--|---|-------------|--|--|--|
| | Town Employees and Retirees | School Employees and Retirees | Public Safety Employees and Retirees | Water Enterprise Employees and Retirees | Total | | | |
| OPEB Obligation (Asset) at beginning of year | 1,336,519 | 5,753,714 | 1,348,779 | 160,918 | 8,599,930 | | | |
| Annual Required Contribution | 523,059 | 2,636,448 | 750,670 | 55,111 | 3,965,288 | | | |
| Interest on Net OPEB Obligation | 80,192 | 345,223 | 80,927 | 9,655 | 515,997 | | | |
| Adjustment to the ARC | (91,601) | (394,341) | (92,441) | (11,028) | (589,411) | | | |
| Amortization of Actuarial (Gains)/Losses | (230,931) | (993,265) | (232,855) | (18,088) | (1,475,139) | | | |
| Annual OPEB Cost | 280,719 | 1,594,065 | 506,301 | 35,650 | 2,416,735 | | | |
| Expected Employer Contribution | 272,590 | 922,429 | 45,822 | 12,659 | 1,253,500 | | | |
| Contribution (Withdrawal) to/from Trust Fund over 30 Years | 234,824 | 1,010,004 | 236,779 | 18,393 | 1,500,000 | | | |
| Total Expected Employer Payments | 507,414 | 1,932,433 | 282,601 | 31,052 | 2,753,500 | | | |
| Increase (Decrease) in OPEB Obligation (Asset) | (226,695) | (338,368) | 223,700 | 4,598 | (336,765) | | | |
| OPEB Obligation (Asset) at end of year | 1,109,824 | 5,415,346 | 1,572,479 | 165,516 | 8,263,165 | | | |
| AAL as of June 30, 2016 | 5,270,714 | 22,669,996 | 5,314,617 | 412,839 | 33,668,166 | | | |
| Plan Assets as of June 30, 2016 | 1,016,165 | 4,330,840 | 1,000,905 | 78,936 | 6,426,846 | | | |
| Unfunded Actuarial Liability as of June 30, 2016 | 4,254,549 | 18,339,156 | 4,313,712 | 333,903 | 27,241,320 | | | |

| | | Fiscal Year Ending June 30, 2017 | | | | | | |
|--|--------------------------------|----------------------------------|--|---|-------------|--|--|--|
| | Town Employees and Retirees | School Employees and Retirees | Public Safety Employees and Retirees | Water Enterprise Employees and Retirees | Total | | | |
| OPEB Obligation (Asset) at beginning of year | 1,109,824 | 5,415,346 | 1,572,479 | 165,516 | 8,263,165 | | | |
| Annual Required Contribution | 543,541 | 2,739,688 | 780,065 | 57,269 | 4,120,563 | | | |
| Interest on Net OPEB Obligation | 77,051 | 331,704 | 77,758 | 9,277 | 495,790 | | | |
| Adjustment to the ARC | (88,015) | (378,899) | (88,821) | (10,596) | (566,331) | | | |
| Amortization of Actuarial (Gains)/Losses | (236,168) | (1,009,338) | (234,405) | (18,308) | (1,498,219) | | | |
| Annual OPEB Cost | 296,409 | 1,683,155 | 534,597 | 37,642 | 2,551,803 | | | |
| Expected Employer Contribution | 290,616 | 991,080 | 55,862 | 13,762 | 1,351,320 | | | |
| Contribution (Withdrawal) to/from Trust Fund over 30 Years | 234,824 | 1,010,004 | 236,779 | 18,393 | 1,500,000 | | | |
| Total Expected Employer Payments | 525,440 | 2,001,084 | 292,641 | 32,155 | 2,851,320 | | | |
| Increase (Decrease) in OPEB Obligation (Asset) | (229,031) | (317,929) | 241,956 | 5,487 | (299,517) | | | |
| OPEB Obligation (Asset) at end of year | 880,793 | 5,097,417 | 1,814,435 | 171,003 | 7,963,648 | | | |
| AAL as of June 30, 2017 | 5,569,750 | 23,956,188 | 5,616,144 | 436,262 | 35,578,344 | | | |
| Plan Assets as of June 30, 2017 | 1,731,196 | 5,645,812 | 1,308,315 | 102,887 | 8,788,210 | | | |
| Unfunded Actuarial Liability as of June 30, 2017 | 3,838,554 | 18,310,376 | 4,307,829 | 333,375 | 26,790,134 | | | |





Financial Statement Disclosure
(As of June 30, 2016)
(continued)

7. FUNDED STATUS AND FUNDING PROGRESS

As of June 30, 2016, the most recent valuation date, the plan was 19.09% funded. The actuarial liability for benefits was \$33,668,166, and the actuarial value of assets was \$6,426,846, resulting in an unfunded actuarial accrued liability (UAAL) of \$27,241,320. The covered payroll (annual payroll of active employees covered by the plan) was \$ N/A and the ratio of the UAAL to the covered payroll was N/A.

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 \$42,966,060 or by 27.6% and the corresponding Normal Cost would increase to \$1,719,636 or by 49.6%. 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 \$26,341,026 or by 21.8% and the corresponding Normal Cost would decrease to \$739,277 or by 35.7%.



Financial Statement Disclosure (As of June 30, 2016) (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: Individual Entry Age Normal

Investment Rate of Return: 6.00% per annum (previously 6.00%)

Healthcare Trend Rates

| <u>Year</u> | <u>Medical</u> | Dental |
|-------------|----------------|---------------|
| 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

Amortization of UAAL: Amortized increasing at 3.50% per year

over 30 years at transition

Remaining Amortization Period: 22 years at June 30, 2016

(1,390,622)



EXHIBIT A

<u>Financial Statement Disclosure</u>

(As of June 30, 2016) (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 was amortized beginning in 2007 over a 30 year period with amortization payments increasing at 3.50% per year. 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.

Changes in Unfunded Actuarial Liability Since Prior Valuation

Expected Unfunded Actuarial Liability

| 1. Actuarial Accrued Liability at prior valuation date | 30,415,629 |
|--|-------------|
| 2. Actuarial Value of Assets at prior valuation date | <u>0</u> |
| 3. Unfunded Actuarial Accrued Liability at prior valuation date [1 2.] | 30,415,629 |
| 4. Normal Cost for prior periods | 1,844,776 |
| 5. Employer Contributions for prior periods | (7,269,247) |
| 6. Interest to current valuation date | 3,640,784 |
| 7. Expected Unfunded Actuarial Accrued Liability [3. + 4. + 5. + 6.] | 28,631,942 |

Actual Unfunded Actuarial Liability

| 8. Actuarial Accrued Liability at current valuation date | 33,668,166 |
|---|------------------|
| 9. Actuarial Value of Assets at current valuation date | <u>6,426,846</u> |
| 10. Unfunded Actuarial Accrued Liability at current valuation date [8 9.] | 27,241,320 |

Net Actuarial (Gain) / Loss from Plan Experience [10. - 7.]

| 11. Unfunded Actuarial Accrued Liability at current valuation date [10.] | 27,241,320 |
|--|--------------|
| 12. Remaining Initial Unfunded to be amortized | 48,764,660 |
| 13. Actuarial (Gain) / Loss to be amortized: [11 12.] | (21,523,340) |



Financial Statement Disclosure (As of June 30, 2016) (continued)

| Amortization of Initial Unfunded and Plan Experience under GASB 45 | | | | | | | | | | |
|--|--------------------------|----------------|--------------|----------------|--------------|--------------|--|--|--|--|
| | | | Initial | Remaining | Remaining | Annual | | | | |
| | | | Amortization | Balance at | Amortization | Amortization | | | | |
| Date Established | Description | Initial Amount | Period | Valuation Date | Period | Payment | | | | |
| July 1, 2007 | GASB 45 Liability | 46,065,109 | 30 | 48,764,660 | 22 | 2,815,483 | | | | |
| June 30, 2016 | Cumulative (Gain) / Loss | (21,523,340) | 30 | (21,523,340) | 30 | (1,475,139) | | | | |
| June 30, 2016 | Adjustment to ARC | (8,599,930) | 30 | (8,599,930) | 30 | (589,411) | | | | |
| Total | | | | 18,641,390 | | 750,933 | | | | |

11. Recognition of OPEB trust assets

The State of Massachusetts has recently 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 45. To the best of our knowledge, Town of Holliston has established an irrevocable trust for the purposes of prefunding liabilities under GASB 45.





Financial Statement Disclosure
(As of June 30, 2016)
(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, 2019 (formerly December 31, 2017, but amended by Consolidated Appropriations Act) for high cost employer sponsored health coverage. The law specifies a 40% excise tax, to be paid by the provider of such coverage, of the excess value beyond a basic dollar amount plus an additional "kicker" for qualified retirees or those engaged in a high risk profession. The threshold amounts for 2018 (original legislation) were \$10,200 for single coverage and \$27,500 for family coverage and a "kicker" amount of \$1,650 for single coverage and \$3,450 for family coverage. These threshold and kicker amounts are expected to be updated because of the Consolidated Appropriations Act before the tax takes effect in 2020, but currently the updated amounts have not been released.

The excise tax liability will vary significantly over time as it is highly leveraged with the basic threshold amount increased with general CPI and medical costs increasing with medical trend (generally higher). For purposes of the fiscal year ending June 30, 2016, the AAL for the excise tax is \$639,286 and the increase in annual OPEB Cost is \$79,535. Given your premiums through the 2017 fiscal year and the excise tax threshold, your single premiums are within 38.64% of the excise tax and your family premiums are within 12.22% of the excise tax. As more regulatory guidance becomes available, the calculation of the excise tax liability will evolve.





Financial Statement Disclosure
(As of June 30, 2016)
(continued)

13. Impact of Section 9A 1/2 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 Holliston nor have we attempted to value the impact of prior Town of Holliston employees currently working at other governmental entities in the State of Massachusetts.



EXHIBIT B

Reconciliation of Plan Participation (As of June 30, 2016)

ACTIVE EMPLOYEES

| | June 30, 2016 | June 30, 2014 |
|------------------------|---------------|----------------------|
| | | |
| A. Average Age at Hire | 35.47 | 35.70 |
| | | |
| B. Average Service | 11.06 | 12.70 |
| | | |
| C. Average Current Age | 46.53 | 48.40 |

RETIRED EMPLOYEES & DEPENDENTS

| | June 30, 2016 | June 30, 2014 |
|----------------------------|---------------|---------------|
| | | |
| | | |
| | | |
| I. Retirees | | |
| A. Under Age 65 | 31 | N/A |
| B. Age 65 & Over | <u>194</u> | <u>N/A</u> |
| C. Total Retirees | 225 | N/A |
| | | |
| II. Dependents of Retirees | | |
| A. Under Age 65 | 17 | N/A |
| B. Age 65 & Over | <u>82</u> | <u>N/A</u> |
| C. Total Retirees | 99 | N/A |
| III. Retirees & Dependents | | |
| - | 40 | DT / A |
| A. Under Age 65 | 48 | N/A |
| B. Age 65 & Over | <u>276</u> | <u>N/A</u> |
| C. Total Retirees | 324 | N/A |



EXHIBIT C

Projected Cash Flows (Open Group) - Partial Funding Approach

Total Medical, Dental & Life Insurance - Partial Funding - 6.00% discount rate

| Fiscal Year | I. Total Actuarial Accrued Liability ("AAL") as of June 30 | II. Plan Assets as of June 30 | III. Unfunded Accrued Actuarial Liability ("UAAL") [I II.] | IV. Normal Cost | V. Expected Amortization (increasing at 3.50%) | VI. Interest on Net OPEB Obligation (Asset) | VII. Adjustment to ARC | VIII. Amortization of Actuarial (Gain) / Loss | IX. Expected Annual OPEB Expense [IV. + V. + VI. + VII. + VIII.] | X. OPEB Obligation (Asset) as of June 30 8,599,930 | XI. Employer Share of Premiums / Claims | XII. Excess Employer Payments (beyond claims) |
|-------------|---|----------------------------------|---|--------------------|---|--|------------------------------|--|--|--|--|---|
| 2016 | 33,668,166 | 6,426,846 | 27,241,320 | 1,149,805 | 2,815,483 | 515,997 | (589,411) | (1,475,139) | 2,416,735 | 8,263,165 | 1,253,500 | 1,500,000 |
| 2017 | 35,578,344 | 8,788,210 | 26,790,134 | 1,206,538 | 2,914,025 | 495,790 | (566,331) | (1,498,219) | 2,551,803 | 7,963,648 | 1,351,320 | 1,500,000 |
| 2017 | 37,559,575 | 10,882,509 | 26,677,066 | 1,254,886 | 3,016,016 | 477,819 | (545,802) | (1,518,748) | 2,684,171 | 7,691,938 | 1,455,881 | 1,500,000 |
| 2019 | 39,600,095 | 13,102,466 | 26,497,629 | 1,312,536 | 3,121,576 | 461,517 | (543,002) | (1,537,370) | 2,831,079 | 7,429,598 | 1,593,419 | 1,500,000 |
| 2020 | 41,678,363 | 15,455,620 | 26,222,743 | 1,367,793 | 3,230,831 | 445,776 | (509,201) | (1,555,349) | 2,979,850 | 7,241,174 | 1,668,274 | 1,500,000 |
| 2021 | 43,860,556 | 17,949,963 | 25,910,593 | 1,424,773 | 3,343,910 | 434,471 | (496,286) | (1,568,156) | 3,138,712 | 7,105,937 | 1,773,949 | 1,500,000 |
| 2022 | 46,122,062 | 20,593,967 | 25,528,095 | 1,491,502 | 3,460,947 | 426,357 | (487,018) | (1,576,678) | 3,315,110 | 7,038,165 | 1,882,883 | 1,500,000 |
| 2023 | 48,473,004 | 23,396,611 | 25,076,393 | 1,550,057 | 3,582,080 | 422,290 | (482,372) | (1,580,646) | 3,491,409 | 7,059,258 | 1,970,317 | 1,500,000 |
| 2024 | 50,933,606 | 26,367,414 | 24,566,192 | 1,618,460 | 3,707,453 | 423,555 | (483,819) | (1,578,588) | 3,687,061 | 7,163,653 | 2,082,666 | 1,500,000 |
| 2025 | 53,494,474 | 29,516,465 | 23,978,009 | 1,688,240 | 3,837,214 | 429,819 | (490,974) | (1,570,891) | 3,893,408 | 7,349,155 | 2,207,906 | 1,500,000 |
| 2026 | 56,148,252 | 32,854,459 | 23,293,793 | 1,760,137 | 3,971,517 | 440,950 | (503,687) | (1,557,708) | 4,111,209 | 7,619,525 | 2,340,838 | 1,500,000 |
| 2027 | 58,899,115 | 36,392,733 | 22,506,382 | 1,825,855 | 4,110,519 | 457,171 | (522,217) | (1,538,779) | 4,332,549 | 7,948,357 | 2,503,717 | 1,500,000 |
| 2028 | 61,702,330 | 40,143,303 | 21,559,027 | 1,903,670 | 4,254,387 | 476,902 | (544,754) | (1,515,911) | 4,574,294 | 8,344,771 | 2,677,881 | 1,500,000 |
| 2029 | 64,581,583 | 44,118,907 | 20,462,676 | 1,988,636 | 4,403,290 | 500,686 | (571,923) | (1,488,481) | 4,832,208 | 8,854,575 | 2,822,405 | 1,500,000 |
| 2030 | 67,561,398 | 48,333,047 | 19,228,351 | 2,075,176 | 4,557,405 | 531,275 | (606,863) | (1,453,353) | 5,103,640 | 9,523,240 | 2,934,975 | 1,500,000 |
| 2031 | 70,686,029 | 52,800,036 | 17,885,993 | 2,163,792 | 4,716,914 | 571,394 | (652,692) | (1,407,414) | , , | 10,338,061 | 3,077,173 | 1,500,000 |
| 2032 | 73,892,423 | 57,535,044 | 16,357,379 | 2,256,339 | 4,882,007 | 620,283 | (708,537) | (1,351,538) | 5,698,554 | 11,299,122 | 3,237,493 | 1,500,000 |
| 2033 | 77,240,528 | 62,554,153 | 14,686,375 | 2,356,525 | 5,052,876 | 677,947 | (774,405) | (1,285,721) | 6,027,222 | 12,405,844 | 3,420,500 | 1,500,000 |
| 2034 | 80,736,485 | 67,874,408 | 12,862,077 | 2,462,144 | 5,229,726 | 744,351 | (850,256) | (1,210,007) | 6,375,958 | 13,699,366 | 3,582,436 | 1,500,000 |
| 2035 | 84,380,273 | 73,513,878 | 10,866,395 | 2,569,173 | 5,412,767 | 821,962 | (938,910) | (1,121,576) | 6,743,416 | 15,176,430 | 3,766,351 | 1,500,000 |
| 2036 | 88,143,610 | 79,491,717 | 8,651,893 | 2,690,538 | 5,602,214 | 910,586 | (1,040,143) | (1,020,656) | 7,142,539 | 16,912,313 | 3,906,656 | 1,500,000 |
| 2037 | 92,165,960 | 85,828,226 | 6,337,734 | 2,810,725 | 5,798,291 | 1,014,738 | (1,159,114) | (902,089) | 7,562,551 | 18,911,615 | 4,063,248 | 1,500,000 |
| 2038 | 96,332,050 | 92,544,926 | 3,787,124 | 2,943,467 | 0 | 1,134,698 | (1,296,140) | (765,561) | 2,016,464 | 15,186,581 | 4,241,498 | 1,500,000 |
| 2039 | 100,815,880 | 99,664,628 | 1,151,252 | 3,079,043 | 0 | 911,195 | (1,040,838) | (1,018,771) | 1,930,629 | 11,159,537 | 4,457,673 | 1,500,000 |
| 2040 | 105,387,132 | 107,211,512 | (1,824,380) | 3,226,802 | 0 | 669,573 | (764,838) | (1,292,707) | 1,838,830 | 10,166,423 | 4,656,324 | (1,824,380) |
| 2041 | 110,239,913 | 111,738,326 | (1,498,413) | 3,380,820 | 0 | 609,986 | (696,773) | (1,359,262) | 1,934,771 | 8,707,752 | 4,891,855 | (1,498,413) |
| 2042 | 115,302,204 | 116,877,277 | (1,575,073) | 3,547,479 | 0 | 522,464 | (596,801) | (1,457,673) | 2,015,469 | 7,226,149 | 5,072,145 | (1,575,073) |
| 2043 | 120,590,167 | 122,244,481 | (1,654,314) | 3,721,851 | 0 | 433,569 | (495,257) | (1,557,542) | 2,102,621 | 5,676,938 | 5,306,146 | (1,654,314) |
| 2044 | 126,139,426 | 127,850,937 | (1,711,511) | 3,907,718 | 0 | 340,617 | (389,079) | (1,649,749) | 2,209,507 | 4,042,023 | 5,555,933 | (1,711,511) |
| 2045 | 132,131,236 | 133,734,028 | (1,602,792) | 4,101,834 | 0 | 242,521 | (277,026) | (1,748,037) | 2,319,292 | 2,136,097 | 5,828,010 | (1,602,792) |
| 2046 | 138,386,752 | 140,083,680 | (1,696,928) | 4,305,084 | 0 | 128,167 | (146,401) | 200,401 | 4,487,251 | 2,263,102 | 6,057,174 | (1,696,928) |
| 2047 | 144,930,041 | 146,715,970 | (1,785,929) | 4,517,470 | 0 | 135,786 | (155,105) | 219,005 | 4,717,156 | 2,475,867 | 6,290,320 | (1,785,929) |



EXHIBIT C

Projected Cash Flows (Open Group) - Partial Funding Approach

Total Medical, Dental & Life Insurance - UAAL Fully Funded by 2033 (6.00% discount rate)

| Fiscal Year | I. Total Actuarial Accrued Liability ("AAL") as of June 30 | II. Plan Assets as of June 30 | III. Unfunded Accrued Actuarial Liability ("UAAL") [I II.] | IV. Normal Cost | V. Expected Amortization (increasing at 3.50%) | VI. Interest on Net OPEB Obligation (Asset) | VII. Adjustment to ARC | VIII. Amortization of Actuarial (Gain) / Loss | IX. Expected Annual OPEB Expense [IV. + V. + VI. + VII. + VIII.] | X. OPEB Obligation (Asset) as of June 30 | XI. Employer Share of Premiums / Claims | XII. Excess Employer Payments (beyond claims) |
|-------------|---|----------------------------------|---|--------------------|---|--|------------------------------|---|--|--|--|---|
| | | | | | , | (, | | ,, | • | 8,599,930 | | • |
| 2016 | 33,668,166 | 6,426,846 | 27,241,320 | 1,149,805 | 2,815,483 | 515,997 | (589,411) | (1,475,139) | 2,416,735 | 8,263,165 | 1,253,500 | 2,050,000 |
| 2017 | 35,578,344 | 8,788,210 | 26,790,134 | 1,206,538 | 2,914,025 | 495,790 | (566,331) | (1,498,219) | 2,551,803 | 7,963,648 | 1,351,320 | 2,050,000 |
| 2018 | 37,559,575 | 11,457,077 | 26,102,498 | 1,254,886 | 3,016,016 | 477,819 | (545,802) | (1,518,748) | 2,684,171 | 7,691,938 | 1,455,881 | 2,050,000 |
| 2019 | 39,600,095 | 14,286,076 | 25,314,019 | 1,312,536 | 3,121,576 | 461,517 | (527,180) | (1,537,370) | 2,831,079 | 7,429,598 | 1,593,419 | 2,050,000 |
| 2020 | 41,678,363 | 17,284,815 | 24,393,548 | 1,367,793 | 3,230,831 | 445,776 | (509,201) | (1,555,349) | 2,979,850 | 7,241,174 | 1,668,274 | 2,050,000 |
| 2021 | 43,860,556 | 20,463,479 | 23,397,077 | 1,424,773 | 3,343,910 | 434,471 | (496,286) | (1,568,156) | 3,138,712 | 7,105,937 | 1,773,949 | 2,050,000 |
| 2022 | 46,122,062 | 23,832,863 | 22,289,199 | 1,491,502 | 3,460,947 | 426,357 | (487,018) | (1,576,678) | 3,315,110 | 7,038,165 | 1,882,883 | 2,050,000 |
| 2023 | 48,473,004 | 27,404,410 | 21,068,594 | 1,550,057 | 3,582,080 | 422,290 | (482,372) | (1,580,646) | 3,491,409 | 7,059,258 | 1,970,317 | 2,050,000 |
| 2024 | 50,933,606 | 31,190,249 | 19,743,357 | 1,618,460 | 3,707,453 | 423,555 | (483,819) | (1,578,588) | 3,687,061 | 7,163,653 | 2,082,666 | 2,050,000 |
| 2025 | 53,494,474 | 35,203,239 | 18,291,235 | 1,688,240 | 3,837,214 | 429,819 | (490,974) | (1,570,891) | 3,893,408 | 7,349,155 | 2,207,906 | 2,050,000 |
| 2026 | 56,148,252 | 39,457,008 | 16,691,244 | 1,760,137 | 3,971,517 | 440,950 | (503,687) | (1,557,708) | 4,111,209 | 7,619,525 | 2,340,838 | 2,050,000 |
| 2027 | 58,899,115 | 43,966,003 | 14,933,112 | 1,825,855 | 4,110,519 | 457,171 | (522,217) | (1,538,779) | 4,332,549 | 7,948,357 | 2,503,717 | 2,050,000 |
| 2028 | 61,702,330 | 48,745,538 | 12,956,792 | 1,903,670 | 4,254,387 | 476,902 | (544,754) | (1,515,911) | 4,574,294 | 8,344,771 | 2,677,881 | 2,050,000 |
| 2029 | 64,581,583 | 53,811,845 | 10,769,738 | 1,988,636 | 4,403,290 | 500,686 | (571,923) | (1,488,481) | 4,832,208 | 8,854,575 | 2,822,405 | 2,050,000 |
| 2030 | 67,561,398 | 59,182,131 | 8,379,267 | 2,075,176 | 4,557,405 | 531,275 | (606,863) | (1,453,353) | 5,103,640 | 9,523,240 | 2,934,975 | 2,050,000 |
| 2031 | 70,686,029 | 64,874,634 | 5,811,395 | 2,163,792 | 4,716,914 | 571,394 | (652,692) | (1,407,414) | 5,391,994 | 10,338,061 | 3,077,173 | 2,050,000 |
| 2032 | 73,892,423 | 70,908,687 | 2,983,736 | 2,256,339 | 4,882,007 | 620,283 | (708,537) | (1,351,538) | 5,698,554 | 11,299,122 | 3,237,493 | 2,050,000 |
| 2033 | 77,240,528 | 77,304,783 | (64,255) | 2,356,525 | 5,052,876 | 677,947 | (774,405) | (1,285,721) | 6,027,222 | 12,405,844 | 3,420,500 | (64,255) |
| 2034 | 80,736,485 | 81,875,945 | (1,139,460) | 2,462,144 | 5,229,726 | 744,351 | (850,256) | (1,210,007) | 6,375,958 | 13,699,366 | 3,582,436 | (1,139,460) |
| 2035 | 84,380,273 | 85,598,141 | (1,217,868) | 2,569,173 | 5,412,767 | 821,962 | (938,910) | (1,121,576) | 6,743,416 | 15,176,430 | 3,766,351 | (1,217,868) |
| 2036 | 88,143,610 | 89,461,758 | (1,318,148) | 2,690,538 | 5,602,214 | 910,586 | (1,040,143) | (1,020,656) | 7,142,539 | 16,912,313 | 3,906,656 | (1,318,148) |
| 2037 | 92,165,960 | 93,452,433 | (1,286,473) | 2,810,725 | 5,798,291 | 1,014,738 | (1,159,114) | (902,089) | 7,562,551 | 18,911,615 | 4,063,248 | (1,286,473) |
| 2038 | 96,332,050 | 97,715,638 | (1,383,588) | 2,943,467 | 0 | 1,134,698 | (1,296,140) | (765,561) | 2,016,464 | 15,186,581 | 4,241,498 | (1,383,588) |
| 2039 | 100,815,880 | 102,133,182 | (1,317,302) | 3,079,043 | 0 | 911,195 | (1,040,838) | (1,018,771) | 1,930,629 | 11,159,537 | 4,457,673 | (1,317,302) |
| 2040 | 105,387,132 | 106,885,026 | (1,497,894) | 3,226,802 | 0 | 669,573 | (764,838) | (1,292,707) | 1,838,830 | 10,166,423 | 4,656,324 | (1,497,894) |
| 2041 | 110,239,913 | 111,733,322 | (1,493,409) | 3,380,820 | 0 | 609,986 | (696,773) | (1,359,262) | 1,934,771 | 8,707,752 | 4,891,855 | (1,493,409) |
| 2042 | 115,302,204 | 116,877,201 | (1,574,997) | 3,547,479 | 0 | 522,464 | (596,801) | (1,457,673) | 2,015,469 | 7,226,149 | 5,072,145 | (1,574,997) |
| 2043 | 120,590,167 | 122,244,480 | (1,654,313) | 3,721,851 | 0 | 433,569 | (495,257) | (1,557,542) | 2,102,621 | 5,676,938 | 5,306,146 | (1,654,313) |
| 2044 | 126,139,426 | 127,850,937 | (1,711,511) | 3,907,718 | 0 | 340,617 | (389,079) | (1,649,749) | 2,209,507 | 4,042,023 | 5,555,933 | (1,711,511) |
| 2045 | 132,131,236 | 133,734,028 | (1,602,792) | 4,101,834 | 0 | 242,521 | (277,026) | (1,748,037) | 2,319,292 | 2,136,097 | 5,828,010 | (1,602,792) |
| 2046 | 138,386,752 | 140,083,680 | (1,696,928) | 4,305,084 | 0 | 128,167 | (146,401) | 200,401 | 4,487,251 | 2,263,102 | 6,057,174 | (1,696,928) |
| 2047 | 144,930,041 | 146,715,970 | (1,785,929) | 4,517,470 | 0 | 135,786 | (155,105) | 219,005 | 4,717,156 | 2,475,867 | 6,290,320 | (1,785,929) |
| | | | | | | | | | | | | |



EXHIBIT C

Projected Cash Flows (Open Group) - Partial Funding Approach

Total Medical, Dental & Life Insurance - UAAL Fully Funded by 2033 (5.00% discount rate)

| Fiscal Year | I. Total Actuarial Accrued Liability ("AAL") as of June 30 | II. Plan Assets as of June 30 | III. Unfunded Accrued Actuarial Liability ("UAAL") [I. | IV. Normal Cost | V. Expected Amortization (increasing at 3.50%) | VI. Interest on Net OPEB Obligation (Asset) | VII. Adjustment to ARC | VIII. Amortization of Actuarial (Gain) / Loss | IX. Expected Annual OPEB Expense [IV. + V. + VI. + VII. + VIII.] | X. OPEB Obligation (Asset) as of June 30 | XI. Employer Share of Premiums / Claims | XII. Annual Funding / (Payments) |
|-------------|---|----------------------------------|--|--------------------|---|--|------------------------------|--|--|---|--|--|
| | | | | | | | | | | 8,599,930 | | |
| 2016 | 38,601,972 | 6,426,846 | | 1,491,142 | 2,567,370 | 429,997 | (532,798) | (1,027,784) | 2,927,927 | 8,774,357 | 1,253,500 | 1,500,000 |
| 2017 | 40,781,595 | 8,788,210 | | 1,562,827 | 2,657,228 | 438,718 | (543,604) | (1,016,978) | 3,098,191 | 7,621,228 | 1,351,320 | 2,900,000 |
| 2018 | 43,042,756 | 12,127,621 | , , | 1,624,351 | 2,750,231 | 381,061 | (472,164) | (1,088,418) | 3,195,061 | 6,460,408 | 1,455,881 | 2,900,000 |
| 2019 | 45,371,787 | 15,634,002 | | 1,697,845 | 2,846,489 | 323,020 | (400,247) | (1,160,335) | 3,306,772 | 5,273,761 | 1,593,419 | 2,900,000 |
| 2020 | 47,750,022 | 19,315,702 | | 1,768,878 | 2,946,116 | 263,688 | (326,729) | (1,233,372) | 3,418,581 | 4,124,068 | 1,668,274 | 2,900,000 |
| 2021 | 50,243,158 | 23,181,487 | 27,061,671 | 1,842,169 | 3,049,230 | 206,203 | (255,501) | (1,303,548) | 3,538,553 | 2,988,672 | 1,773,949 | 2,900,000 |
| 2022 | 52,826,948 | 27,240,561 | 25,586,387 | 1,927,863 | 3,155,952 | 149,434 | (185,159) | (1,372,918) | 3,675,172 | 1,880,961 | 1,882,883 | 2,900,000 |
| 2023 | 55,513,585 | 31,502,589 | 24,010,996 | 2,003,554 | 3,266,410 | 94,048 | (116,532) | (1,440,655) | 3,806,825 | 817,469 | 1,970,317 | 2,900,000 |
| 2024 | 58,321,268 | 35,977,718 | 22,343,550 | 2,091,870 | 3,380,734 | 40,874 | (50,645) | (1,505,730) | 3,957,103 | (208,094) | 2,082,666 | 2,900,000 |
| 2025 | 61,243,266 | 40,676,604 | 20,566,662 | 2,181,894 | 3,499,060 | (10,405) | 12,892 | (1,524,103) | 4,159,338 | (1,156,662) | 2,207,906 | 2,900,000 |
| 2026 | 64,272,122 | 45,610,434 | 18,661,688 | 2,274,831 | 3,621,527 | (57,833) | 71,659 | (1,522,863) | 4,387,321 | (2,010,179) | 2,340,838 | 2,900,000 |
| 2027 | 67,413,248 | 50,790,956 | 16,622,292 | 2,361,051 | 3,748,280 | (100,510) | 124,538 | (1,522,433) | 4,610,926 | (2,802,970) | 2,503,717 | 2,900,000 |
| 2028 | 70,619,151 | 56,230,504 | 14,388,647 | 2,462,540 | 3,879,469 | (140,149) | 173,654 | (1,522,680) | 4,852,834 | (3,528,017) | 2,677,881 | 2,900,000 |
| 2029 | 73,921,134 | 61,942,029 | 11,979,105 | 2,573,290 | 4,015,250 | (176,401) | 218,574 | (1,523,799) | 5,106,914 | (4,143,508) | 2,822,405 | 2,900,000 |
| 2030 | 77,342,467 | 67,939,130 | 9,403,337 | 2,686,439 | 4,155,784 | (207,174) | 256,706 | (1,525,849) | 5,365,906 | (4,612,577) | 2,934,975 | 2,900,000 |
| 2031 | 80,927,203 | 74,236,087 | 6,691,116 | 2,802,214 | 4,301,236 | (230,629) | 285,767 | (1,528,382) | 5,630,206 | (4,959,544) | 3,077,173 | 2,900,000 |
| 2032 | 84,606,506 | 80,847,891 | 3,758,615 | 2,923,159 | 4,451,779 | (247,977) | 307,262 | (1,531,572) | 5,902,651 | (5,194,386) | 3,237,493 | 2,900,000 |
| 2033 | 88,452,637 | 87,790,286 | 662,351 | 3,053,907 | 4,607,591 | (259,720) | 321,812 | (1,535,349) | 6,188,241 | (3,088,996) | 3,420,500 | 662,351 |
| 2034 | 92,476,965 | 92,842,151 | (365,186) | 3,191,679 | 4,768,857 | (154,450) | 191,375 | (1,535,437) | 6,462,024 | 155,778 | 3,582,436 | (365,186) |
| 2035 | 96,674,571 | 97,119,073 | (444,502) | 3,331,562 | 4,935,767 | 7,789 | (9,651) | (1,533,916) | 6,731,551 | 3,565,480 | 3,766,351 | (444,502) |
| 2036 | 101,014,296 | 101,530,525 | | 3,489,640 | 5,108,518 | 178,274 | (220,895) | (1,333,441) | 7,222,096 | 7,397,149 | 3,906,656 | (516,229) |
| 2037 | 105,647,469 | 106,090,822 | | 3,646,676 | 5,287,316 | 369,857 | (458,281) | (1,096,836) | 7,748,732 | 11,525,986 | 4,063,248 | (443,353) |
| 2038 | 110,448,935 | 110,952,010 | | 3,819,928 | 0 | 576,299 | (714,078) | (841,864) | 2,840,285 | 10,627,848 | 4,241,498 | (503,075) |
| 2039 | 115,608,183 | 115,996,536 | | 3,997,083 | 0 | 531,393 | (658,435) | (896,222) | 2,973,819 | 9,532,347 | 4,457,673 | (388,353) |
| 2040 | 120,884,940 | 121,408,010 | | 4,190,008 | 0 | 476,617 | (590,564) | (962,801) | 3,113,260 | 8,512,353 | 4,656,324 | (523,070) |
| 2041 | 126,485,359 | 126,955,341 | (469,982) | 4,391,249 | 0 | 425,617 | (527,372) | (1,024,731) | 3,264,763 | 7,355,243 | 4,891,855 | (469,982) |
| 2042 | 132,314,629 | 132,833,126 | | 4,609,010 | 0 | 367,763 | (455,685) | (1,091,550) | 3,429,538 | 6,231,133 | 5,072,145 | (518,497) |
| 2043 | 138,422,099 | 138,956,285 | | 4,836,781 | 0 | 311,557 | (386,042) | (1,148,917) | 3,613,379 | 5,072,552 | 5,306,146 | (534,186) |
| 2044 | 144,834,991 | 145,369,913 | (534,922) | 5,079,485 | 0 | 253,628 | (314,264) | (1,208,220) | 3,810,629 | 3,862,170 | 5,555,933 | (534,922) |
| 2045 | 151,752,602 | 152,103,487 | (350,885) | 5,333,157 | 0 | 193,109 | (239,277) | (1,270,936) | 4,016,053 | 2,401,098 | 5,828,010 | (350,885) |
| 2045 | 158,983,247 | 159,357,776 | | 5,598,959 | 0 | 120,055 | (148,757) | 212,096 | 5,782,353 | 2,500,806 | 6,057,174 | (374,529) |
| 2047 | 166,550,834 | 166,951,136 | | 5,876,911 | 0 | 125,040 | (154,934) | 227,844 | 6,074,861 | 2,685,649 | 6,290,320 | (400,302) |
| 2047 | 100,330,834 | 100,331,130 | (400,302) | 3,070,311 | U | 123,040 | (134,934) | 221,844 | 0,074,001 | 2,000,049 | 0,230,320 | (400,302) |



EXHIBIT D

Projected Cash Flows (Open Group) - Funded Approach

Total Medical, Dental & Life Insurance - UAAL Fully Funded by 2033 (7.00% discount rate)

| Fiscal Year | I. Total Actuarial Accrued Liability ("AAL") as of June 30 | II. Plan Assets as of June 30 | III. Unfunded Accrued Actuarial Liability ("UAAL") [I. | IV. Normal Cost | V. Expected Amortization (increasing at 3.50%) | VI. Interest on Net OPEB Obligation (Asset) | VII. Adjustment to ARC | VIII. Amortization of Actuarial (Gain) / Loss | IX. Expected Annual OPEB Expense [IV. + V. + VI. + VII. + VIII.] | X. OPEB Obligation (Asset) as of June 30 | XI. Employer Share of Premiums / Claims | XII. Annual Funding / (Payments) |
|-------------|---|----------------------------------|--|--------------------|---|--|------------------------------|--|--|---|--|--|
| | | | | | | | | | | 8,599,930 | | |
| 2016 | 29,653,996 | 6,426,846 | , , | 895,563 | 3,074,074 | 601,996 | (647,698) | (1,923,342) | 2,000,593 | 7,847,023 | 1,253,500 | 1,500,000 |
| 2017 | 31,346,783 | 8,788,210 | , , | 941,012 | 3,181,667 | 549,292 | (590,994) | (1,980,046) | 2,100,931 | 7,096,634 | 1,351,320 | 1,500,000 |
| 2018 | 33,102,028 | 10,903,385 | | 979,477 | 3,293,026 | 496,764 | (534,479) | (2,036,561) | 2,198,227 | 6,338,980 | 1,455,881 | 1,500,000 |
| 2019 | 34,909,417 | 13,166,622 | | 1,025,252 | 3,408,282 | 443,729 | (477,417) | (2,093,623) | 2,306,223 | 5,551,784 | 1,593,419 | 1,500,000 |
| 2020 | 36,745,137 | 15,588,286 | 21,156,851 | 1,068,763 | 3,527,572 | 388,625 | (418,129) | (2,152,911) | 2,413,920 | 4,797,430 | 1,668,274 | 1,500,000 |
| 2021 | 38,675,820 | 18,179,466 | 20,496,354 | 1,113,613 | 3,651,037 | 335,820 | (361,315) | (2,208,845) | 2,530,310 | 4,053,791 | 1,773,949 | 1,500,000 |
| 2022 | 40,676,567 | 20,952,029 | 19,724,538 | 1,166,206 | 3,778,824 | 283,765 | (305,310) | (2,263,894) | 2,659,591 | 3,330,499 | 1,882,883 | 1,500,000 |
| 2023 | 42,755,883 | 23,918,671 | 18,837,212 | 1,212,061 | 3,911,083 | 233,135 | (250,834) | (2,317,493) | 2,787,952 | 2,648,134 | 1,970,317 | 1,500,000 |
| 2024 | 44,935,619 | 27,092,978 | 17,842,641 | 1,265,688 | 4,047,970 | 185,370 | (199,443) | (2,368,086) | 2,931,499 | 1,996,967 | 2,082,666 | 1,500,000 |
| 2025 | 47,204,358 | 30,489,486 | 16,714,872 | 1,320,436 | 4,189,649 | 139,787 | (150,400) | (2,416,413) | 3,083,059 | 1,372,120 | 2,207,906 | 1,500,000 |
| 2026 | 49,554,792 | 34,123,750 | 15,431,042 | 1,376,737 | 4,336,287 | 96,048 | (103,341) | (2,462,841) | 3,242,890 | 774,172 | 2,340,838 | 1,500,000 |
| 2027 | 51,990,076 | 38,012,413 | 13,977,663 | 1,427,412 | 4,488,057 | 54,192 | (58,306) | (2,507,330) | 3,404,025 | 174,480 | 2,503,717 | 1,500,000 |
| 2028 | 54,467,714 | 42,173,282 | 12,294,432 | 1,487,788 | 4,645,139 | 12,213 | (13,140) | (2,522,099) | 3,609,901 | (393,500) | 2,677,881 | 1,500,000 |
| 2029 | 57,005,325 | 46,625,412 | 10,379,913 | 1,553,748 | 4,807,719 | (27,545) | 29,636 | (2,521,823) | 3,841,735 | (874,170) | 2,822,405 | 1,500,000 |
| 2030 | 59,628,481 | 51,389,191 | 8,239,290 | 1,620,709 | 4,975,989 | (61,191) | 65,838 | (2,522,547) | 4,078,798 | (1,230,347) | 2,934,975 | 1,500,000 |
| 2031 | 62,381,539 | 56,486,434 | 5,895,105 | 1,689,329 | 5,150,149 | (86,124) | 92,663 | (2,523,755) | 4,322,262 | (1,485,258) | 3,077,173 | 1,500,000 |
| 2032 | 65,206,205 | 61,940,484 | 3,265,721 | 1,760,978 | 5,330,404 | (103,968) | 111,861 | (2,525,665) | 4,573,610 | (1,649,141) | 3,237,493 | 1,500,000 |
| 2033 | 68,152,410 | 67,776,318 | 376,092 | 1,838,653 | 5,516,968 | (115,440) | 124,204 | (2,528,209) | 4,836,176 | (609,557) | 3,420,500 | 376,092 |
| 2034 | 71,221,978 | 72,896,752 | (1,674,774) | 1,920,590 | 5,710,062 | (42,669) | 45,909 | (2,529,018) | 5,104,874 | 2,587,655 | 3,582,436 | (1,674,774) |
| 2035 | 74,418,872 | 76,324,751 | (1,905,879) | 2,003,457 | 5,909,914 | 181,136 | (194,888) | (2,370,631) | 5,528,988 | 6,256,171 | 3,766,351 | (1,905,879) |
| 2036 | 77,717,060 | 79,761,605 | | 2,097,753 | 6,116,761 | 437,931 | (471,180) | (2,095,406) | 6,085,859 | 10,479,919 | 3,906,656 | (2,044,545) |
| 2037 | 81,246,645 | 83,300,372 | | 2,190,829 | 6,330,848 | 733,594 | (789,289) | (1,778,471) | 6,687,511 | 15,157,909 | 4,063,248 | (2,053,727) |
| 2038 | 84,900,124 | 87,077,671 | | 2,293,748 | 0 | 1,061,053 | (1,141,609) | (1,427,405) | | 13,879,745 | 4,241,498 | (2,177,547) |
| 2039 | 88,839,441 | 90,995,561 | | 2,398,744 | 0 | 971,582 | (1,045,344) | (1,521,758) | | 12,381,416 | 4,457,673 | (2,156,120) |
| 2040 | 92,841,728 | 95,209,130 | | 2,513,281 | 0 | 866,699 | (932,498) | (1,632,678) | | 10,907,298 | 4,656,324 | (2,367,402) |
| 2041 | 97,091,759 | 99,506,367 | (2,414,608) | 2,632,596 | 0 | 763,511 | (821,477) | (1,741,802) | 832,828 | 9,262,879 | 4,891,855 | (2,414,608) |
| 2042 | 101,535,624 | 104,057,205 | | 2,761,706 | 0 | 648,402 | (697,628) | (1,863,752) | 848,728 | 7,561,043 | 5,072,145 | (2,521,581) |
| 2043 | 106,163,060 | 108,819,628 | | 2,896,842 | 0 | 529,273 | (569,455) | (1,990,034) | | 5,778,091 | 5,306,146 | (2,656,568) |
| 2044 | 111,016,317 | 113,780,434 | | 3,040,941 | 0 | 404,466 | (435,174) | (2,122,437) | | 3,874,071 | 5,555,933 | (2,764,117) |
| 2045 | 116,262,894 | 118,980,947 | | 3,191,327 | 0 | 271,185 | (291,774) | (2,257,078) | | 1,677,774 | 5,828,010 | (2,718,053) |
| 2046 | 121,733,433 | 124,591,560 | | 3,348,675 | 0 | 117,444 | (126,360) | 164,466 | 3,504,225 | 1,982,952 | 6,057,174 | (2,858,127) |
| 2047 | 127,451,975 | 130,454,842 | | 3,512,990 | 0 | 138,807 | (149,344) | 197,437 | 3,699,890 | 2,395,389 | 6,290,320 | (3,002,867) |
| 2047 | 121,731,313 | 130,434,642 | (3,002,007) | 3,312,330 | U | 130,007 | (145,544) | 157,437 | 3,033,030 | 2,333,303 | 0,230,320 | (3,002,007) |



EXHIBIT D

Projected Cash Flows (Open Group) - Funded Approach

Total Medical, Dental & Life Insurance - Partial Funding

| Fiscal Year | Number of Retirees, Spouses & Surviving Spouses | Total Actuarial Accrued Liability ("AAL") | Present Value at 3.50% of Total Actuarial Accrued Liability ("AAL") | Employer Share of Premiums / Claims including "implicit cost" | Present Value at 3.50% of Employer Share of Premiums / Claims including "implicit cost" |
|--------------|---|---|--|--|---|
| 2016 | 324 | 33,668,166 | 33,668,166 | 1,253,500 | 1,253,500 |
| 2017 | 340 | 35,578,344 | 34,375,212 | 1,351,320 | 1,305,623 |
| 2018 | 349 | 37,559,575 | 35,062,265 | 1,455,881 | 1,359,080 |
| 2019 | 360 | 39,600,095 | 35,717,017 | 1,593,419 | 1,437,173 |
| 2020 | 370 | 41,678,363 | 36,320,285 | 1,668,274 | 1,453,804 |
| 2021 | 379 | 43,860,556 | 36,929,411 | 1,773,949 | 1,493,617 |
| 2022 | 389 | 46,122,062 | 37,520,327 | 1,882,883 | 1,531,727 |
| 2023 | 396 | 48,473,004 | 38,099,343 | 1,970,317 | 1,548,651 |
| 2024 | 404 | 50,933,606 | 38,679,569 | 2,082,666 | 1,581,601 |
| 2025 | 408 | 53,494,474 | 39,250,552 | 2,207,906 | 1,620,009 |
| 2026 | 413 | 56,148,252 | 39,804,552 | 2,340,838 | 1,659,464 |
| 2027 | 418 | 58,899,115 | 40,342,696 | 2,503,717 | 1,714,910 |
| 2028 | 425 | 61,702,330 | 40,833,571 | 2,677,881 | 1,772,177 |
| 2029 | 432 | 64,581,583 | 41,293,732 | 2,822,405 | 1,804,657 |
| 2030 | 437 | 67,561,398 | 41,738,201 | 2,934,975 | 1,813,174 |
| 2031 | 440 | 70,686,029 | 42,191,828 | 3,077,173 | 1,836,736 |
| 2032 | 444 | 73,892,423 | 42,614,197 | 3,237,493 | 1,867,081 |
| 2033 | 447 | 77,240,528 | 43,038,714 | 3,420,500 | 1,905,916 |
| 2034 | 449 | 80,736,485 | 43,465,386 | 3,582,436 | 1,928,644 |
| 2035 | 451 | 84,380,273 | 43,890,879 | 3,766,351 | 1,959,089 |
| 2036 | 453 | 88,143,610 | 44,297,971 | 3,906,656 | 1,963,352 |
| 2037 | 453 | 92,165,960 | 44,753,108 | 4,063,248 | 1,972,995 |
| 2038 | 454 | 96,332,050 | 45,194,242 | 4,241,498 | 1,989,901 |
| 2039 | 454 | 100,815,880 | 45,698,390 | 4,457,673 | 2,020,599 |
| 2040 | 455 | 105,387,132 | 46,155,046 | 4,656,324 | 2,039,270 |
| 2041 | 456 | 110,239,913 | 46,647,687 | 4,891,855 | 2,069,974 |
| 2042 | 457 | 115,302,204 | 47,139,885 | 5,072,145 | 2,073,684 |
| 2043 | 458 | 120,590,167 | 47,634,592 | 5,306,146 | 2,095,993 |
| 2044 | 460 | 126,139,426 | 48,141,659 | 5,555,933 | 2,120,446 |
| 2045 | 462 | 132,131,236 | 48,723,149 | 5,828,010 | 2,149,068 |
| 2046 2047 | 463 463 | 138,386,752 | 49,304,212 | 6,057,174 | 2,158,040 |
| 2047 | 465 | 144,930,041 151,746,624 | 49,889,319 | 6,290,320 6,631,237 | 2,165,319 2,205,481 |
| 2048 | 465 | 159,007,922 | 50,469,365 51,096,037 | 6,960,605 | 2,236,740 |
| 2049 | 467 | 166,772,195 | 51,778,773 | 7,283,414 | 2,261,326 |
| 2050 | 467 | 174,607,717 | 52,378,275 | 7,283,414 7,674,807 | 2,302,265 |
| 2051 | 470 | 182,976,680 | 53,032,628 | 8,105,196 | 2,349,151 |
| 2052 | 470 471 | 191,881,598 | 53,732,913 | 8,421,788 | 2,358,367 |
| 2053 | 471 | 201,192,887 | 54,435,138 | 8,759,512 | 2,369,991 |
| 2055 | 472 | 211,388,144 | 55,259,504 | 9,199,448 | 2,404,851 |





EXHIBIT E

GLOSSARY

AAL – Actuarial Accrued Liability. That portion, as determined by a particular Actuarial Cost Method, of the Actuarial Present Value of pension plan benefits and expenses which is not provided for by future Normal Costs.

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 be 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.

NOA – Net OPEB Asset. The amount recognized by an employer for contributions to an OPEB plan greater than OPEB expenses.

NOO – Net OPEB Obligation. The cumulative difference since the effective date of GASB Statement number 45 between annual OPEB cost and the employer's contributions to the plan, including the OPEB liability (asset) at transition, if any, and excluding (a) short-term differences and (b) unpaid contributions that have been converted to OPEB-related debt.

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.