

# Town of Andover

**Actuarial Valuation and Review of Other  
Postemployment Benefits (OPEB) as of  
June 30, 2015 in accordance with  
GASB Statements No. 43 and No. 45**





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*March 15, 2016*

*Ms. Donna Walsh  
Finance and Budget Director  
Town of Andover  
36 Bartlet Street  
Andover, MA 01810*

*Dear Ms. Walsh:*

*We are pleased to submit this report on our actuarial valuation of postemployment welfare benefits as of June 30, 2015 under Governmental Accounting Standards Board (GASB) Statements Number 43 and 45. It establishes the liabilities of the postemployment welfare benefit plan in accordance with GASB Statements Number 43 and 45 for the fiscal year beginning July 1, 2015 and summarizes the actuarial data.*

*The measurements shown in this actuarial valuation may not be applicable for other purposes. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: retiree group benefits program experience differing from that anticipated by the assumptions; changes in assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and changes in retiree group benefits program provisions or applicable law. Retiree group benefits models necessarily rely on the use of approximations and estimates, and are sensitive to changes in these approximations and estimates. Small variations in these approximations and estimates may lead to significant changes in actuarial measurements.*

*This report is based on information received from the Town of Andover. The actuarial projections were based on the assumptions and methods described in Exhibit II and on the plan of benefits as summarized in Exhibit III.*

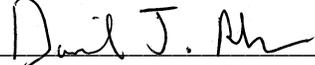
*We look forward to discussing this with you at your convenience.*

*Sincerely,*

*Segal Consulting, a Member of The Segal Group, Inc.*

By:   
Kathleen A. Riley, FSA, MAAA, EA  
Senior Vice President and Actuary

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Daniel J. Rhodes, FSA, MAAA  
Vice President and Consulting Actuary

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**IMPORTANT INFORMATION ABOUT ACTUARIAL VALUATIONS**

An actuarial valuation is an estimate of future uncertain obligations of a postretirement health plan. As such, it will never forecast the precise future stream of benefit payments. It is an estimated forecast – the actual cost of the plan will be determined by the benefits and expenses paid, not by the actuarial valuation.

In order to prepare a valuation, Segal Consulting (“Segal”) relies on a number of input items. These include:

- **Plan of benefits** Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. Even where they appear precise, outside factors may change how they operate. For example, a plan may provide health benefits to post-65 retirees that coordinate with Medicare. If so, changes in the Medicare law or administration may change the plan’s costs without any change in the terms of the plan itself. It is important for the Town of Andover to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan summary included in our report to confirm that Segal has correctly interpreted the plan of benefits.
- **Participant data** An actuarial valuation for a plan is based on data provided to the actuary by the plan. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is not necessary to have perfect data for an actuarial valuation: the valuation is an estimated forecast, not a prediction. The uncertainties in other factors are such that even perfect data does not produce a “perfect” result. Notwithstanding the above, it is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
- **Assets** Part of the cost of a plan will be paid from existing assets – the balance will need to come from future contributions and investment income. The valuation is based on the asset values as of the valuation date, provided by the Town of Andover. Some plans include assets, such as private equity holdings, real estate, or hedge funds, that are not subject to valuation by reference to transactions in the marketplace. A snapshot as of a single date may not be an appropriate value for determining a single year’s contribution requirement, especially in volatile markets.
- **Actuarial assumptions** In preparing an actuarial valuation, Segal starts by developing a forecast of the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. To determine the future costs of benefits, Segal collects claims, premium, and enrollment data in order to establish a baseline cost for the valuation measurement, and then develops short- and long-term health care cost rates to project increases in costs in future years. This forecast also requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of each participant for each year, as well as forecasts of the plan’s benefits for each of those events. The forecasted benefits are then discounted to a present value, typically based on an estimate of the rate of return that will be achieved the plan’s assets, or if there are no assets, a rate of return on the assets of the employer. All of these factors are uncertain and unknowable. Thus, there will be a range of reasonable assumptions, and the results may vary materially based on which

## SECTION 1: Executive Summary for the Town of Andover June 30, 2015 Measurement Under GASB 43 and 45

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assumptions the actuary selects within that range. That is, there is no right answer (except with hindsight). It is important for any user of an actuarial valuation to understand and accept this constraint. The actuarial model may use approximations and estimates that will have an immaterial impact on our results and will have no impact on the actual cost of the plan. In addition, the actuarial assumptions may change over time, and while this can have a significant impact on the reported results, it does not mean that the previous assumptions or results were unreasonable or wrong.

Given the above, the user of Segal's actuarial valuation (or other actuarial calculations) needs to keep the following in mind:

- The actuarial valuation is prepared for use by the Town of Andover. It includes information for compliance with accounting standards. Segal is not responsible for the use or misuse of its report, particularly by any other party.
- An actuarial valuation is a measurement at a specific date — it is not a prediction of a plan's future financial condition. Accordingly, Segal did not perform an analysis of the potential range of financial measurements, except where otherwise noted.
- Sections of this report include actuarial results that are not rounded, but that does not imply precision.
- Critical events for a plan include, but are not limited to, decisions about changes in benefits and contributions. The basis for such decisions needs to consider many factors such as the risk of changes in plan enrollment, emerging claims experience and health care cost trend, not just the current valuation results.
- Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. The Town of Andover should look to their other advisors for expertise in these areas.
- While Segal maintains extensive quality assurance procedures, an actuarial valuation involves complex computer models and numerous inputs. In the event that an inaccuracy is discovered after presentation of Segal's valuation, Segal may revise that valuation or make an appropriate adjustment in the next valuation.
- Segal's report shall be deemed to be final and accepted by the Town of Andover upon delivery and review. The Town of Andover should notify Segal immediately of any questions or concerns about the final content.

As Segal Consulting has no discretionary authority with respect to the management or assets of the Plan, it is not a fiduciary in its capacity as actuaries and consultants with respect to the Plan.

**SECTION 1: Executive Summary for the Town of Andover June 30, 2015 Measurement Under GASB 43 and 45**

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**PURPOSE**

This report presents the results of our actuarial valuation of the Town of Andover (the “Employer”) postemployment welfare benefit plan as of June 30, 2015. The results are in accordance with the Governmental Accounting Standards, which prescribe an accrual methodology for accumulating the value of other postemployment benefits (OPEB) over participants’ active working lifetimes. The accounting standard supplements cash accounting, under which the expense for postemployment benefits is equal to benefit and administrative costs paid on behalf of retirees and their dependents (*i.e.*, a pay-as-you-go basis).

**HIGHLIGHTS OF THE VALUATION**

During the fiscal year ending June 30, 2016, we project the Town of Andover will pay benefits (net of retiree contributions) on behalf of retired employees of about \$5,233,000. This amount is less than the annual “cost” (the “Annual Required Contribution,” or ARC) of approximately \$14,427,000.

The GASB statements provide the method for selecting the investment return assumption (discount rate). If the benefits are fully funded, the discount rate should be based on the estimated long-term investment yield on the investments expected to be used to finance the payment of benefits. If financing is pay-as-you-go, the discount rate should be based on the expected yield on the assets of the employer. If the benefits are partially funded, a blended discount rate can be used that reflects the proportionate amounts of plan and employer assets expected to be used.

Based on the Town of Andover’s funding policy to contribute \$790,000 in fiscal year 2016, \$920,500 in fiscal 2017 and increasing at 2.50% per year thereafter, we have used a partially funded discount rate of 4.25%. The blending was based on a funded discount rate of 6.0% and a pay-as-you-go discount rate of 3.75%. Previously, a 5.75% partially funded discount rate was used. The blending was based on a funded discount rate of 7.75%, a pay-as-you-go discount rate of 4.50% and a funding policy to contribute \$1,400,000 in fiscal 2015, increasing by \$100,000 per year thereafter. The funded discount rate was lowered from 7.75% to 6.0% based on the asset allocation of the OPEB trust and revised expected returns for each major asset class. The pay-as-you-go discount rate was selected by the Town.

As of June 30, 2015, the Town of Andover has \$4,688,136 in assets in a qualified OPEB Trust. The chart below is a reconciliation of the Trust Fund from June 30, 2013 to June 30, 2015.

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<b>Reconciliation of OPEB Trust Fund</b>	
	<b>Total</b>
<b>Balance as of June 30, 2013</b>	\$1,101,668
Fiscal year 2014 OPEB contributions	1,402,440
Net investment income	<u>204,870</u>
<b>Balance as of June 30, 2014</b>	\$2,708,978
Fiscal year 2015 OPEB contributions	1,917,355
Net investment income	<u>61,803</u>
<b>Balance as of June 30, 2015</b>	\$4,688,136

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To determine the amortization payment on the unfunded actuarial accrued liability (UAAL), an amortization period and amortization method must be selected. We have used a 30-year open amortization of the UAAL, with payments

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increasing 3.75% per year. The GASB statements allow for either an open or closed amortization period. In open amortization, the period is reset to the initial value every year and the UAAL is reamortized, while under a closed amortization, the remaining period decreases and the UAAL is eventually “paid off.”

Page 10 shows a 30-year closed funding schedule based on the 6.0% funded discount rate. Page 11 shows a projection of the ARC based on the 4.25% partially funded discount rate and the Town’s funding policy described on the prior page.

GASB guidelines prohibit the offset of OPEB obligations by the future value of Medicare Part D subsidies. Therefore, these calculations do not include an estimate for retiree prescription drug plan federal subsidies that the Employer may be eligible to receive for plan years beginning in 2006.

Employer decisions regarding plan design, cost sharing between the Employer and its retirees, actuarial cost method, amortization techniques, and integration with Medicare are just some of the decisions that affect the magnitude of OPEB obligations. We are available to assist you with any investigation of such options you may wish to undertake.

This valuation does not include the potential impact of any future changes due to the Patient Protection and Affordable Care Act (PPACA) and the Health Care and Education Reconciliation Act (HCERA) of 2010 other than the excise tax on high cost health plans beginning in 2020 (reflected in this valuation) and those previously adopted as of the valuation date.

## SECTION 1: Executive Summary for the Town of Andover June 30, 2015 Measurement Under GASB 43 and 45

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### KEY VALUATION RESULTS

- The **unfunded actuarial accrued liability (UAAL)** as of June 30, 2015 is \$184,030,000. Going forward, net unfunded plan obligations will be expected to change due to normal plan operations, which consist of continuing accruals for active members, plus interest on the unfunded actuarial accrued liability, less contributions. Future valuations will analyze the difference between actual and expected unfunded actuarial accrued liabilities.
- As of June 30, 2015 the ratio of assets to the AAL (the funded ratio) is 2.48%.

This funded percentage is not necessarily appropriate for assessing the sufficiency of OPEB assets to cover the estimated cost of settling the benefit obligations or the need for or the amount of future contributions.

- The **Annual Required Contribution (ARC)** for fiscal year 2016 is \$14,427,000. The ARC is expected to remain relatively level as a percentage of payroll, as long as the ARC is fully funded each year. If the ARC is not fully funded, it may be expected to increase as a percentage of payroll over time.

The unfunded liability of \$184,030,000 as of June 30, 2015 represent an increase of \$39,216,000 from \$144,814,000 as shown in the June 30, 2013 valuation.

The unfunded liability had been expected to increase \$14,815,000 due to normal plan operations, which consist of continuing accruals for active members, plus interest on the unfunded actuarial accrued liability, less contributions. The greater than expected increase was the net effect of the following:

- An **actuarial experience gain** decreased obligations by \$17,889,000. This was the net result of gains and losses due to demographic changes, the movement of retirees out of the Group Insurance Commission back on to the Town plans and contributions greater than expected.
- **Valuation assumption and plan changes** increased obligations by \$42,290,000. This was the net result of an *increase* in obligations due to 1) decreasing the discount rate from a partially funded discount rate of 5.75% to a partially funded discount rate of 4.25%, 2) revising the future enrollment elections for current retirees under the age of 65 and future retirees who were hired before 1986, 3) revising the future trend on medical and prescription drug costs and 4) changes in the demographic assumptions as described on page 30, partially offset by a *decrease* in obligations due to 5) revising the valuation year per capita health costs to reflect the Town becoming self-funded as of July 1, 2015, 6) reducing the Part B premium penalty cost trend from 6.0% to 5.0% and 7) recalculating the impact of the excise tax on high cost health plans beginning in 2020. The complete set of assumptions is shown in Exhibit II and the summary of plan provisions is shown in Exhibit III. Note that the Town of Andover is currently considering additional plan changes effective July 1, 2016. These changes have not been reflected in this valuation.

**SECTION 1: Executive Summary for the Town of Andover June 30, 2015 Measurement Under GASB 43 and 45**

**ACCOUNTING REQUIREMENTS**

The Governmental Accounting Standards Board (GASB) issued Statement Number 43 -- *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans*, and Statement Number 45 – *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*. Under these statements, all state and local governmental entities that provide other post employment benefits (OPEB) are required to report the cost of these benefits on their financial statements.

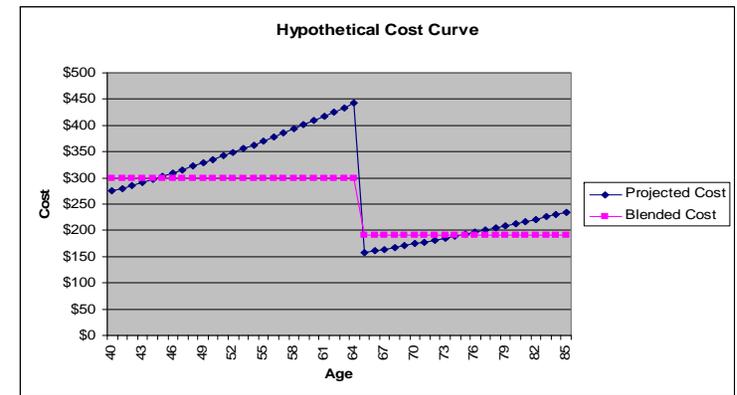
The statements cover postemployment benefits of health, prescription drug, dental, vision and life insurance coverage for retirees; long-term care coverage, life insurance and death benefits that are *not* offered as part of a pension plan; and long-term disability insurance for employees. These benefits, referred to as OPEB, are typically financed on a pay-as-you-go basis. The new standard introduces an accrual-basis accounting requirement; thereby recognizing the employer cost of postemployment benefits over an employee’s career. The standards also introduce a consistent accounting requirement for both pension and non-pension benefits.

The total cost of providing postemployment benefits is projected, taking into account assumptions about demographics, turnover, mortality, disability, retirement, health care trends, and other actuarial assumptions. This amount is then discounted to determine the actuarial present value of the total projected benefits (APB). The actuarial accrued liability (AAL) is the portion of the present value of the total projected benefits allocated to years of employment prior to the measurement date. The unfunded actuarial accrued liability (UAAL) is the difference between the AAL and actuarial value of assets in the Plan.

Once the UAAL is determined, the Annual Required Contribution (ARC) is determined as the normal cost (the APB allocated to the current year of service) and the amortization of the UAAL. This ARC is compared to actual contributions made and any difference is reported as the net OPEB obligation (NOO). In addition, required supplementary information (RSI) must be reported, including historical information about the UAAL and the progress in funding the Plan.

The benefits valued in this report are limited to those described in Exhibit III of Section 4.

The following graph illustrates why a significant accounting obligation may exist even though the retiree contributes most or all of the blended premium cost of the plan. The average cost for retirees is likely to exceed the average cost for the whole group, leading to an implicit subsidy for these retirees. The accounting standard requires the employer to identify and account for this implicit subsidy as well as any explicit subsidies the employer may provide.



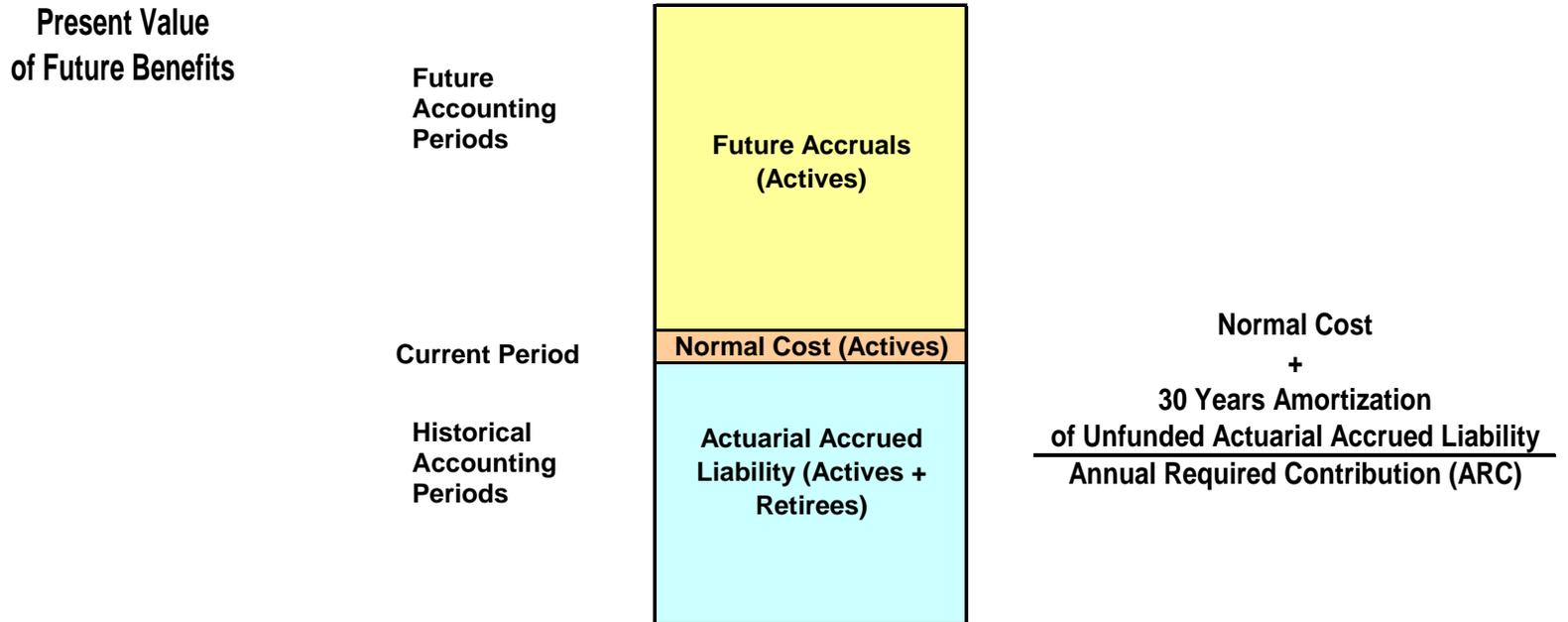
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This graph shows how the actuarial present value of the total projected benefits (APB) is broken down and allocated to various accounting periods.

The exact breakdown depends on the actuarial cost method and amortization methods selected by the employer.

### GASB 43/45 Measurement



$$\text{Net OPEB Obligation} = \text{ARC}_1 + \text{ARC}_2 + \text{ARC}_3 + \dots - \text{Contribution}_1 - \text{Contribution}_2 - \text{Contribution}_3 - \dots$$

**SECTION 1: Executive Summary for the Town of Andover June 30, 2015 Measurement Under GASB 43 and 45**

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Actuarial computations under GASB statements are for purposes of fulfilling certain welfare plan accounting requirements. The calculations shown in this report have been made on a basis consistent with our understanding of GASB. Determinations for purposes other than meeting the financial accounting requirements of GASB may differ significantly from the results reported here.

Calculations are based on the benefits provided under the terms of the substantive plan in effect at the time of the valuation and on the pattern of sharing costs between the employer and plan members. The projection of benefits does not incorporate the potential effect of legal or contractual funding limitations on the pattern of cost sharing between the employer and plan members in the future.

Actuarial calculations reflect a long-term perspective, and the methods and assumptions use techniques designed to reduce short term volatility in accrued liabilities and the actuarial value of assets, if any.

The calculation of an accounting obligation does not, in and of itself, imply that there is any legal liability to provide the benefits valued, nor is there any implication that the Employer is required to implement a funding policy to satisfy the projected expense.

Actuarial valuations involve estimates of the value of reported amounts and assumptions about the probability of events far into the future, and the actuarially determined amounts are subject to continual revision as actual results are compared to past expectations and new estimates are made about the future.

**SECTION 2: Valuation Results for the Town of Andover June 30, 2015 Measurement Under GASB 43 and 45**

**SUMMARY OF VALUATION RESULTS  
ALL DEPARTMENTS**

*The key results for the current and prior years are shown on a partially funded and a funded basis.*

	June 30, 2015		June 30, 2013	
	Partially Funded (4.25% interest rate)	Funded (6.0% interest rate)	Partially Funded (5.75% interest rate)	Funded (7.75% interest rate)
<b>Actuarial Accrued Liability (AAL) by Participant Category</b>				
1. Current retirees, beneficiaries and dependents	\$89,900,835	\$73,240,746	\$73,479,539	\$60,683,271
2. Current active members	<u>98,817,151</u>	<u>69,004,251</u>	<u>72,435,799</u>	<u>51,751,816</u>
3. Total AAL: (1) + (2)	\$188,717,986	\$142,244,997	\$145,915,338	\$112,435,087
4. Actuarial value of assets	<u>4,688,136</u>	<u>4,688,136</u>	<u>1,101,668</u>	<u>1,101,668</u>
5. Unfunded actuarial accrued liability (UAAL): (3) – (4)	\$184,029,850	\$137,556,861	\$144,813,670	\$111,333,419
<b>Annual Required Contribution for Fiscal Year Ending June 30, 2016 and June 30, 2014</b>				
6. Normal cost as of July 1, 2015 and July 1, 2013	\$7,558,240	\$4,990,787	\$5,417,572	\$3,658,803
7. Adjustment for timing	<u>158,941</u>	<u>147,542</u>	<u>153,578</u>	<u>139,132</u>
8. Normal cost adjusted for timing: (6) + (7)	\$7,717,181	\$5,138,329	\$5,571,150	\$3,797,935
9. 30-year amortization (increasing 3.75% per year) of the UAAL	6,571,529	6,151,851	6,280,752	6,204,368
10. Adjustment for timing	<u>138,192</u>	<u>181,867</u>	<u>178,047</u>	<u>235,933</u>
11. Amortization payment adjusted for timing: (9) + (10)	\$6,709,721	\$6,333,718	\$6,458,799	\$6,440,301
12. Total Annual Required Contribution (ARC): (8) + (11)	14,426,902	11,472,047	12,029,949	10,238,236
13. Projected benefit payments	5,232,547	5,232,547	5,608,335	5,608,335

*Note: Assumes payment in the middle of the fiscal year.*

**SECTION 2: Valuation Results for the Town of Andover June 30, 2015 Measurement Under GASB 43 and 45**

**FUNDING SCHEDULE**

**30 Years Closed (6.0% discount rate)**

Fiscal Year Ended June 30	(1) Projected Benefit Payments	(2) Normal Cost with Interest	(3) Amortization of UAAL	(4) Total Funding Requirement (2) + (3)	(5) Additional Funding (4) - (1)	At Fiscal Year End		
						(6) Assets	(7) AAL	(8) UAAL (7) - (6)
2016	\$5,232,547	\$5,138,329	\$6,333,719	\$11,472,048	\$6,239,501	\$11,393,385	\$150,682,693	\$139,289,308
2017	5,611,003	5,395,245	6,571,233	11,966,478	6,355,475	18,620,350	159,501,518	140,881,168
2018	6,207,908	5,665,007	6,817,654	12,482,661	6,274,753	26,197,825	168,512,658	142,314,833
2019	6,746,016	5,948,257	7,073,316	13,021,573	6,275,557	34,230,776	177,802,074	143,571,298
2020	7,342,617	6,245,670	7,338,565	13,584,235	6,241,618	42,710,762	187,340,822	144,630,060
2021	7,928,268	6,557,954	7,613,761	14,171,715	6,243,447	51,701,430	197,170,447	145,469,017
2022	8,573,640	6,885,852	7,899,277	14,785,129	6,211,489	61,198,635	207,262,990	146,064,355
2023	9,269,842	7,230,145	8,195,500	15,425,645	6,155,803	71,208,340	217,598,773	146,390,433
2024	9,883,105	7,591,652	8,502,831	16,094,483	6,211,378	81,875,845	228,295,504	146,419,659
2025	10,640,372	7,971,235	8,821,687	16,792,922	6,152,550	93,122,834	239,245,190	146,122,356
2026	11,345,923	8,369,797	9,152,500	17,522,297	6,176,374	105,069,170	250,535,792	145,466,622
2027	11,913,219	8,788,287	9,495,719	18,284,006	6,370,787	117,932,447	262,350,625	144,418,178
2028	12,508,880	9,227,701	9,851,808	19,079,509	6,570,629	131,773,270	274,713,482	142,940,212
2029	13,134,324	9,689,086	10,221,251	19,910,337	6,776,013	146,655,999	287,649,201	140,993,202
2030	13,791,040	10,173,540	10,604,548	20,778,088	6,987,048	162,648,965	301,183,709	138,534,744
2031	14,480,592	10,682,217	11,002,219	21,684,436	7,203,844	179,824,714	315,344,065	135,519,351
2032	15,204,621	11,216,328	11,414,802	22,631,130	7,426,509	198,260,256	330,158,510	131,898,254
2033	15,964,852	11,777,144	11,842,857	23,620,001	7,655,149	218,037,330	345,656,511	127,619,181
2034	16,763,095	12,366,001	12,286,964	24,652,965	7,889,870	239,242,688	361,868,816	122,626,128
2035	17,601,250	12,984,301	12,747,725	25,732,026	8,130,776	261,968,396	378,827,505	116,859,109
2036	18,481,312	13,633,516	13,225,765	26,859,281	8,377,969	286,312,147	396,566,044	110,253,897
2037	19,405,378	14,315,192	13,721,731	28,036,923	8,631,545	312,377,595	415,119,339	102,741,744
2038	20,375,647	15,030,952	14,236,296	29,267,248	8,891,601	340,274,714	434,523,799	94,249,085
2039	21,394,429	15,782,500	14,770,157	30,552,657	9,158,228	370,120,170	454,817,392	84,697,222
2040	22,464,151	16,571,625	15,324,038	31,895,663	9,431,512	402,037,716	476,039,709	74,001,993
2041	23,587,358	17,400,206	15,898,689	33,298,895	9,711,537	436,158,618	498,232,029	62,073,411
2042	24,766,726	18,270,216	16,494,890	34,765,106	9,998,380	472,622,097	521,437,384	48,815,287
2043	26,005,062	19,183,727	17,113,448	36,297,175	10,292,113	511,575,802	545,700,633	34,124,831
2044	27,305,315	20,142,913	17,755,202	37,898,115	10,592,800	553,176,305	571,068,527	17,892,222
2045	28,670,581	21,150,059	18,421,022	39,571,081	10,900,500	597,589,635	597,589,635	--

*Notes: Assumes payment in the middle of the fiscal year.*

*Normal cost is projected to increase 5.0% per year and does not reflect the future impact of pension reform for new hires.*

*Amortization payments calculated to increase 3.75% per year.*

*Assets are assumed to return 6.0% per year.*

*Until the liabilities are fully funded, the employer pays projected benefit payments and additional funding amount. Thereafter, projected benefit payments are made from the Trust and employer pays normal cost.*

**SECTION 2: Valuation Results for the Town of Andover June 30, 2015 Measurement Under GASB 43 and 45**

**PROJECTION OF ARC AND PROJECTION OF ASSETS AND LIABILITIES**

**30 Years Open (4.25% discount rate)**

Fiscal Year Ended June 30	(1) Projected Benefit Payments	(2) Normal Cost with Interest	(3) Amortization of UAAL	(4) ARC (2) + (3)	(5) Funding Contribution	At Fiscal Year End		
						(6) Assets	(7) AAL	(8) UAAL (7) – (6)
2016	\$5,232,547	\$7,717,181	\$6,709,721	\$14,426,902	\$790,000	\$5,782,780	\$199,275,383	\$193,492,603
2017	5,611,003	8,103,040	7,054,733	15,157,773	920,500	7,077,460	210,289,029	203,211,569
2018	6,207,908	8,508,192	7,409,086	15,917,278	943,513	8,473,513	221,574,969	213,101,456
2019	6,746,016	8,933,602	7,769,671	16,703,273	967,100	9,977,614	233,225,494	223,247,880
2020	7,342,617	9,380,282	8,139,609	17,519,891	991,278	11,596,854	245,218,092	233,621,238
2021	7,928,268	9,849,296	8,517,822	18,367,118	1,016,060	13,338,763	257,601,286	244,262,523
2022	8,573,640	10,341,761	8,905,802	19,247,563	1,041,461	15,211,339	270,354,643	255,143,304
2023	9,269,842	10,858,849	9,302,515	20,161,364	1,067,498	17,223,076	283,467,137	266,244,061
2024	9,883,105	11,401,791	9,707,249	21,109,040	1,094,185	19,382,993	297,065,113	277,682,120
2025	10,640,372	11,971,881	10,124,280	22,096,161	1,121,540	21,700,669	311,049,889	289,349,220
2026	11,345,923	12,570,475	10,549,662	23,120,137	1,149,578	24,186,273	325,519,812	301,333,539
2027	11,913,219	13,198,999	10,986,610	24,185,609	1,178,318	26,850,602	340,667,223	313,816,621
2028	12,508,880	13,858,949	11,441,742	25,300,691	1,207,776	29,705,119	356,524,039	326,818,920
2029	13,134,324	14,551,896	11,915,806	26,467,702	1,237,970	32,761,994	373,123,693	340,361,699
2030	13,791,040	15,279,491	12,409,575	27,689,066	1,268,919	36,034,146	390,501,201	354,467,055
2031	14,480,592	16,043,466	12,923,856	28,967,322	1,300,642	39,535,288	408,693,242	369,157,954
2032	15,204,621	16,845,639	13,459,485	30,305,124	1,333,158	43,279,976	427,738,232	384,458,256
2033	15,964,852	17,687,921	14,017,334	31,705,255	1,366,487	47,283,659	447,676,410	400,392,751
2034	16,763,095	18,572,317	14,598,305	33,170,622	1,400,650	51,562,736	468,549,925	416,987,189
2035	17,601,250	19,500,933	15,203,337	34,704,270	1,435,666	56,134,609	490,402,928	434,268,319
2036	18,481,312	20,475,980	15,833,407	36,309,387	1,471,557	61,017,747	513,281,666	452,263,919
2037	19,405,378	21,499,779	16,489,526	37,989,305	1,508,346	66,231,750	537,234,581	471,002,831
2038	20,375,647	22,574,768	17,172,746	39,747,514	1,546,055	71,797,416	562,312,417	490,515,001
2039	21,394,429	23,703,506	17,884,159	41,587,665	1,584,706	77,736,816	588,568,329	510,831,513
2040	22,464,151	24,888,681	18,624,898	43,513,579	1,624,324	84,073,369	616,057,998	531,984,629
2041	23,587,358	26,133,115	19,396,140	45,529,255	1,664,932	90,831,924	644,839,754	554,007,830
2042	24,766,726	27,439,771	20,199,105	47,638,876	1,706,556	98,038,846	674,974,700	576,935,854
2043	26,005,062	28,811,760	21,035,060	49,846,820	1,749,219	105,722,108	706,526,845	600,804,737
2044	27,305,315	30,252,348	21,905,318	52,157,666	1,792,950	113,911,389	739,563,242	625,651,853
2045	28,670,581	31,764,965	22,811,243	54,576,208	1,837,774	122,638,176	774,154,135	651,515,959

*Notes: Assumes payment in the middle of the fiscal year.*

*Normal cost is projected to increase 5.0% per year and does not reflect the future impact of pension reform for new hires.*

*Amortization payments calculated to increase 3.75% per year.*

*Assets are assumed to return 6.0% per year.*

*Until the liabilities are fully funded, the employer pays projected benefits and the funding contribution is made to the Trust.*

**SECTION 2: Valuation Results for the Town of Andover June 30, 2015 Measurement Under GASB 43 and 45**

**DEPARTMENT RESULTS**

**Actuarial Accrued Liability (AAL) and Annual Required Contribution – Partially Funded (4.25% discount rate)**

	<b>Town</b>	<b>School</b>	<b>Sewer</b>	<b>Water</b>	<b>Total</b>
<b>Actuarial Accrued Liability (AAL) by Participant Category</b>					
1. Current retirees, beneficiaries and dependents	\$28,751,597	\$58,784,673	\$942,528	\$1,422,037	\$89,900,835
2. Current active members	<u>38,458,308</u>	<u>56,798,786</u>	<u>363,068</u>	<u>3,196,989</u>	<u>98,817,151</u>
3. Total AAL as of June 30, 2015: (1) + (2)	\$67,209,905	\$115,583,459	\$1,305,596	\$4,619,026	\$188,717,986
4. Actuarial value of assets as of June 30, 2015	<u>1,489,621</u>	<u>2,561,758</u>	<u>176,152</u>	<u>460,605</u>	<u>4,688,136</u>
5. Unfunded actuarial accrued liability (UAAL) as of June 30, 2015: (3) – (4)	\$65,720,284	\$113,021,701	\$1,129,444	\$4,158,421	\$184,029,850
<b>Annual Required Contribution for Fiscal Year Ending June 30, 2016</b>					
6. Normal cost as of July 1, 2015	\$2,616,550	\$4,763,232	\$18,494	\$159,965	\$7,558,240
7. Adjustment for timing	<u>55,023</u>	<u>100,165</u>	<u>389</u>	<u>3,364</u>	<u>158,941</u>
8. Normal cost adjusted for timing: (6) + (7)	\$2,671,573	\$4,863,397	\$18,883	\$163,329	\$7,717,181
9. 30-year amortization (increasing 3.75% per year) of the UAAL as of June 30, 2015	\$2,346,808	\$4,035,897	\$40,331	\$148,493	\$6,571,529
10. Adjustment for timing	<u>49,351</u>	<u>84,870</u>	<u>848</u>	<u>3,123</u>	<u>138,192</u>
11. Amortization payment adjusted for timing: (9) + (10)	\$2,396,159	\$4,120,767	\$41,179	\$151,616	\$6,709,721
12. Total Annual Required Contribution (ARC): (8) + (11)	5,067,732	8,984,164	60,062	314,945	14,426,902
13. Projected benefit payments	1,699,926	3,412,270	36,671	83,680	5,232,547

*Notes: Assumes payment in the middle of the fiscal year.*

*Assets as of June 30, 2015 for Town and School are allocated in proportion to liabilities.*

**SECTION 2: Valuation Results for the Town of Andover June 30, 2015 Measurement Under GASB 43 and 45**

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March 15, 2016

**ACTUARIAL CERTIFICATION**

This is to certify that Segal Consulting, a Member of The Segal Group, Inc. has conducted an actuarial valuation of certain benefit obligations of the Town of Andover other postemployment benefit programs as of June 30, 2015, 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.

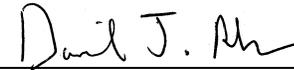
The actuarial valuation is based on the plan of benefits verified by the Town and on participant and premium data and financial information provided by the Town or from vendors employed by the Town. Segal Consulting does not audit the data provided. The accuracy and comprehensiveness of the data is the responsibility of those supplying the data. Segal, however, does review the data for reasonableness and consistency.

The actuarial computations made are for purposes of fulfilling plan accounting requirements. Determinations for purposes other than meeting financial accounting requirements may be significantly different from the results reported here. Accordingly, additional determinations may be needed for other purposes, such as judging benefit security at termination or adequacy of funding an ongoing plan.

To the best of our knowledge, this report is complete and accurate and in our opinion presents 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 collectively 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 benefit programs.



Kathleen A. Riley, FSA, MAAA, EA  
Senior Vice President and Actuary



Daniel J. Rhodes, FSA, MAAA  
Vice President and Consulting Actuary

**SECTION 3: Valuation Details for the Town of Andover June 30, 2015 Measurement Under GASB 43 and 45**

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**CHART 1**  
**Required Supplementary Information – Schedule of Employer Contributions**

<b>Fiscal Year Ended June 30,</b>	<b>Annual OPEB Costs</b>	<b>Actual Contributions</b>	<b>Percentage Contributed</b>
2009	\$18,051,000	\$5,363,000	29.7%
2010	18,878,000	5,548,000	29.4%
2011	15,704,000	5,879,000	37.4%
2012	16,888,000	6,075,000	36.0%
2013	12,025,362	5,492,903	45.7%
2014	12,716,039	7,010,775	55.1%
2015	13,369,006	8,084,343	60.5%
2016	14,814,541	6,022,547	40.7%

*Note: 2016 actual contributions include additional funding of \$790,000. If a different amount is contributed, this chart will need to be revised.*

**SECTION 3: Valuation Details for the Town of Andover June 30, 2015 Measurement Under GASB 43 and 45**

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This schedule of funding progress presents multi-year trend information about whether the actuarial value of plan assets is increasing or decreasing over time relative to the actuarial accrued liability for benefits.

**CHART 2**  
**Required Supplementary Information – Schedule of Funding Progress**

<b>Actuarial Valuation Date</b>	<b>Actuarial Value of Assets (a)</b>	<b>Actuarial Accrued Liability (AAL) (b)</b>	<b>Unfunded AAL (UAAL) (b) - (a)</b>	<b>Funded Ratio (a) / (b)</b>	<b>Covered Payroll (c)</b>	<b>UAAL as a Percentage of Covered Payroll [(b) - (a) / (c)]</b>
06/30/2009	\$0	\$245,108,000	\$245,108,000	0.00%	\$80,768,000	303.5%
06/30/2011	704,000	215,258,000	214,554,000	0.33%	87,023,000	246.6%
06/30/2013	1,101,668	145,915,338	144,813,670	0.76%	87,599,000	105.3%
06/30/2015	4,688,136	188,717,986	184,029,850	2.48%	N/A	N/A

\* Enter covered payroll for fiscal 2015.

**SECTION 3: Valuation Details for the Town of Andover June 30, 2015 Measurement Under GASB 43 and 45**

**CHART 3  
Required Supplementary Information – Net OPEB Obligation/(Asset) (NOO/NOA)**

<b>Fiscal Year Ended June 30,</b>	<b>Annual Required Contribution (a)</b>	<b>Interest on Existing NOO (b)</b>	<b>ARC Adjustment (c)</b>	<b>Annual OPEB Cost (a) + (b) + (c) (d)</b>	<b>Actual Contribution Amount (e)</b>	<b>Net Increase in NOO (d) - (e) (f)</b>	<b>NOO as of Following Date (g)</b>
2009	\$18,051,000	\$0	\$0	\$18,051,000	\$5,363,000	\$12,688,000	\$12,688,000
2010	19,029,000	444,000	(595,000)	18,878,000	5,548,000	13,330,000	26,018,000
2011	15,439,000	1,171,000	(906,000)	15,704,000	5,879,000	9,825,000	35,843,000
2012	16,523,000	1,613,000	(1,248,000)	16,888,000	6,075,000	10,813,000	46,656,000
2013	11,423,535	2,682,720	(2,080,893)	12,025,362	5,492,903	6,532,459	53,188,459
2014	12,029,949	3,058,336	(2,372,246)	12,716,039	7,010,775	5,705,264	58,893,723
2015	12,609,322	3,386,389	(2,626,705)	13,369,006	8,084,343	5,284,663	64,178,386
2016	14,426,902	2,727,581	(2,339,942)	14,814,541	6,022,547	8,791,994	72,970,380

*Note: 2016 actual contributions include additional funding of \$790,000. If a different amount is contributed, this chart will need to be revised.*

**SECTION 3: Valuation Details for the Town of Andover June 30, 2015 Measurement Under GASB 43 and 45**

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**CHART 4  
Summary of Required Supplementary Information**

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<b>Valuation date</b>	June 30, 2015
<b>Actuarial cost method</b>	Projected Unit Credit
<b>Amortization method</b>	Payments increasing at 3.75%
<b>Remaining amortization period</b>	30 years open
<b>Asset valuation method</b>	Market value
<b>Actuarial assumptions:</b>	
Asset rate of return	6.0%
Discount rate	4.25% partially funded
Inflation rate	3.75%
Non-Medicare cost trend rate	8.0% decreasing by 0.5% for 6 years to an ultimate level of 5.0% per year
Medicare cost trend rate	9.0% decreasing by 0.5% for 8 years to an ultimate level of 5.0% per year
Part B premium trend rate	5.0%
<b>Plan membership:</b>	
Current retirees, beneficiaries, and dependents*	1,000
Current active participants	<u>952</u>
Total	1,952

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\* Includes 20 retirees with life insurance only.

**SECTION 4: Supporting Information for the Town of Andover June 30, 2015 Measurement Under GASB 43 and 45**

*This exhibit summarizes the participant data used for the current and prior valuations.*

**EXHIBIT I  
Summary of Participant Data**

	July 1, 2015	July 1, 2013
<b>Active employees covered for medical benefits</b>		
Number of employees		
Male	347	343
Female	<u>605</u>	<u>601</u>
Total	952	944
Average age	47.7	48.2
Average service	12.0	12.1
<b>Retired employees, spouses and beneficiaries covered for medical benefits</b>		
Number of individuals	980	910
Average age	71.1	71.2
<b>Retired employees with life insurance coverage*</b>		
Number of individuals	369	472
Average age	73.0	72.5

*\* 20 and 31 retirees have life insurance only as of July 1, 2015 and July 1, 2013, respectively.*

**SECTION 4: Supporting Information for the Town of Andover June 30, 2015 Measurement Under GASB 43 and 45**

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**EXHIBIT II  
Actuarial Assumptions and Actuarial Cost Method**

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<b>Data:</b>	Detailed census data, premium rates, and summary plan descriptions for postemployment welfare benefits were provided by the Town of Andover.
<b>Actuarial Cost Method:</b>	Projected Unit Credit – For active employees, benefits are allocated from date of hire to assumed retirement age.
<b>Per Capita Cost Development:</b>	<p>Per capita costs were based on the working rates effective July 1, 2015 for the self-funded non-Medicare plans, the working rates effective January 1, 2015 and January 1, 2016 for the self-funded Medex plan, and the premium rates effective January 1, 2015 and January 1, 2016 for the insured Managed Blue for Seniors plan. Premiums were combined by taking a weighted average based on the number of participants in each plan, and were then trended to the midpoint of the valuation year at assumed trend rates. Actuarial factors were applied to the premium to estimate individual retiree and spouse costs by age and by gender.</p> <p>Note that the working rates for self-funded plans were provided by the Town. Documentation of the rate development process was not available. We have not verified the reasonableness of the working rates with regards to the actual costs of the self-funded plans.</p>
<b>Measurement Date:</b>	<p>June 30, 2015</p> <p>The results of the June 30, 2015 actuarial valuation were used to determine the Annual Required Contribution for the fiscal years ending June 30, 2016 and 2017. Assets and liabilities were rolled forward from June 30, 2015 to June 30, 2016 using standard actuarial techniques.</p>
<b>Expected Return on Assets:</b>	<p>6.0%</p> <p>The long-term expected rate of return on OPEB investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce a long-</p>

**SECTION 4: Supporting Information for the Town of Andover June 30, 2015 Measurement Under GASB 43 and 45**

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term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation.

**Discount Rate:**

4.25% partially funded (blending based on a funded discount rate of 6.0% and a pay-as-you-go discount rate of 3.75%) (previously, 5.75% partially funded with blending based on a funded discount rate of 7.75% and a pay-as-you-go discount rate of 4.50%)  
Funded discount rate is equal to expected return on assets. Pay-as-you-go discount rate provided by the Town of Andover.

**Asset Valuation Method:**

Market value

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**Mortality Rates:**

<i>Pre-Retirement (Non-Teachers)</i>	RP-2000 Employee Mortality Table projected generationally with Scale BB2D from 2009 (previously, RP-2000 Employee Mortality Table projected 20 years with Scale AA)
<i>Healthy (Non-Teachers)</i>	RP-2000 Healthy Annuitant Mortality Table projected generationally with Scale BB2D from 2009 (previously, RP-2000 Healthy Annuitant Mortality Table projected 15 years with Scale AA)
<i>Disabled (Non-Teachers)</i>	RP-2000 Healthy Annuitant Mortality Table projected generationally with Scale BB2D from 2009 (previously, RP-2000 Healthy Annuitant Mortality Table set forward 2 years)
<i>Pre-Retirement (Teachers)</i>	RP-2014 Employee Mortality Table projected generationally with Scale BB2D from 2014 (previously, RP-2000 Combined Healthy White Collar Table projected 20 years with Scale AA)
<i>Healthy (Teachers)</i>	RP-2014 Healthy Annuitant projected generationally with Scale BB2D from 2014 (previously, RP-2000 Healthy Annuitant with Large Benefit Amount Adjustment Mortality Table projected 15 years with Scale AA)

**SECTION 4: Supporting Information for the Town of Andover June 30, 2015 Measurement Under GASB 43 and 45**

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*Disabled (Teachers)*

RP-2014 Healthy Annuitant Mortality Table set forward 4 years projected generationally with Scale BB2D from 2014 (previously, RP-2000 Healthy Annuitant with Large Benefit Amount Adjustment Mortality Table projected 15 years with Scale AA)

The underlying tables with generational projection to the ages of participants as of the measurement date reasonably reflect the mortality experience of the plan as of the measurement date. The mortality tables were then adjusted to future years using the generational projection to reflect future mortality improvement between the measurement date and those years.

**Termination Rates before Retirement:**

**Groups 1 and 2 (excluding Teachers) - Rate per year (%)**

Age	Mortality				
	Current		Previously		Disability
	Male	Female	Male	Female	
20	0.03	0.02	0.02	0.01	0.01
25	0.04	0.02	0.03	0.02	0.02
30	0.04	0.03	0.04	0.02	0.03
35	0.08	0.05	0.07	0.04	0.05
40	0.11	0.07	0.09	0.05	0.10
45	0.15	0.11	0.12	0.08	0.15
50	0.21	0.17	0.15	0.12	0.19
55	0.30	0.25	0.21	0.22	0.24
60	0.49	0.39	0.35	0.36	0.28

*Notes: 55% of the rates shown represent accidental disability and death.  
Current mortality rates shown for base table.*

**SECTION 4: Supporting Information for the Town of Andover June 30, 2015 Measurement Under GASB 43 and 45**

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**Group 4 - Rate per year (%)**

**Mortality**

<b>Age</b>	<b>Current</b>		<b>Previously</b>		<b>Disability</b>
	<b>Male</b>	<b>Female</b>	<b>Male</b>	<b>Female</b>	
20	0.03	0.02	0.02	0.01	0.10
25	0.04	0.02	0.03	0.02	0.20
30	0.04	0.03	0.04	0.02	0.30
35	0.08	0.05	0.07	0.04	0.30
40	0.11	0.07	0.09	0.05	0.30
45	0.15	0.11	0.12	0.08	1.00
50	0.21	0.17	0.15	0.12	1.25
55	0.30	0.25	0.21	0.22	1.20
60	0.49	0.39	0.35	0.36	0.85

*Notes: 90% of the rates shown represent accidental disability and death.  
Current mortality rates shown for base table.*

**SECTION 4: Supporting Information for the Town of Andover June 30, 2015 Measurement Under GASB 43 and 45**

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**Teachers - Rate per year (%)**

**Mortality**

<b>Age</b>	<b>Current</b>		<b>Previously</b>		<b>Disability</b>
	<b>Male</b>	<b>Female</b>	<b>Male</b>	<b>Female</b>	
20	0.04	0.02	0.02	0.01	0.00
25	0.05	0.02	0.03	0.02	0.01
30	0.05	0.02	0.03	0.02	0.01
35	0.05	0.03	0.05	0.04	0.01
40	0.06	0.04	0.08	0.05	0.01
45	0.10	0.07	0.10	0.07	0.03
50	0.17	0.11	0.14	0.11	0.05
55	0.28	0.17	0.23	0.22	0.07
60	0.47	0.24	0.40	0.42	0.07

*Notes: 35% of the rates shown represent accidental disability.  
 55% of the death rates shown represent accidental death.  
 Current mortality rates shown for base table.*

**SECTION 4: Supporting Information for the Town of Andover June 30, 2015 Measurement Under GASB 43 and 45**

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**Withdrawal Rates:**

Years of Service	Rate per year (%)	
	Groups 1 and 2	Group 4
0	15.0	1.5
1	12.0	0.0
2	10.0	
3	9.0	
4	8.0	
5	7.6	
6	7.5	
7	6.7	
8	6.3	
9	5.9	
10	5.4	
11	5.0	
12	4.6	
13	4.1	
14	3.7	
15	3.3	
16 – 20	2.0	
21 – 29	1.0	
30+	0.0	

Age	Teachers - Rate per year (%)					
	0 Years of Service		5 Years of Service		10+ Years of Service	
	Male	Female	Male	Female	Male	Female
20	13.0	10.0	5.5	7.0	1.5	5.0
30	15.0	15.0	5.4	8.8	1.5	4.5
40	13.3	10.5	5.2	5.0	1.7	2.2
50	16.2	9.8	7.0	5.0	2.3	2.0

**SECTION 4: Supporting Information for the Town of Andover June 30, 2015 Measurement Under GASB 43 and 45**

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<b>Retirement Rates:</b>	<b>Age</b>	<b>Groups 1 and 2 (excluding Teachers)</b>		<b>Group 4</b>
		<b>Male</b>	<b>Female</b>	
	45 - 49	--	--	1.0%
	50	1.0	1.5	2.0
	51	1.0	1.5	2.0
	52	1.0	2.0	2.0
	53	1.0	2.5	5.0
	54	2.0	2.5	7.5
	55	2.0	5.5	15.0
	56	2.5	6.5	10.0
	57	2.5	6.5	10.0
	58	5.0	6.5	10.0
	59	6.5	6.5	15.0
	60	12.0	5.0	20.0
	61	20.0	13.0	20.0
	62	30.0	15.0	25.0
	63	25.0	12.5	25.0
	64	22.0	18.0	30.0
	65	40.0	15.0	100.0
	66	25.0	20.0	100.0
	67	25.0	20.0	100.0
	68	30.0	25.0	100.0
	69	30.0	20.0	100.0
	70	100.0	100.0	100.0

**SECTION 4: Supporting Information for the Town of Andover June 30, 2015 Measurement Under GASB 43 and 45**

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<b>Teachers - Rate per year (%)</b>						
<b>Years of Service</b>						
<b>Age</b>	<b>Less than 20</b>		<b>20 – 29</b>		<b>30 or more</b>	
	<b>Male</b>	<b>Female</b>	<b>Male</b>	<b>Female</b>	<b>Male</b>	<b>Female</b>
50 - 52	--	--	1.0	1.0	2.0	1.5
53	--	--	1.5	1.0	2.0	1.5
54	--	--	2.5	1.0	2.0	2.0
55	5.0	3.0	3.0	3.0	6.0	5.0
56	5.0	3.0	6.0	5.0	20.0	15.0
57	5.0	4.0	10.0	8.0	40.0	35.0
58	5.0	8.0	15.0	10.0	50.0	35.0
59	10.0	8.0	20.0	15.0	50.0	35.0
60	10.0	10.0	25.0	20.0	40.0	35.0
61	20.0	12.0	30.0	25.0	40.0	35.0
62	20.0	12.0	35.0	30.0	35.0	35.0
63	25.0	15.0	40.0	30.0	35.0	35.0
64	25.0	20.0	40.0	30.0	35.0	35.0
65	25.0	25.0	40.0	40.0	35.0	35.0
66	30.0	25.0	30.0	30.0	40.0	35.0
67	30.0	30.0	30.0	30.0	40.0	30.0
68	30.0	30.0	30.0	30.0	40.0	30.0
69	30.0	30.0	30.0	30.0	40.0	30.0
70	100.0	100.0	100.0	100.0	100.0	100.0

**Dependents:**

Demographic data was available for spouses of current retirees. For future retirees, husbands were assumed to be three years older than their wives. For future retirees who elect to continue their health coverage at retirement, 80% of males and 60% of females were assumed to have an eligible spouse who also opts for health coverage at that time.

**SECTION 4: Supporting Information for the Town of Andover June 30, 2015 Measurement Under GASB 43 and 45**

**Per Capita Health Costs:**

Fiscal year 2015 – 2016 medical and prescription drug claims costs are shown in the table below for retirees and for spouses at selected ages. These costs are net of deductibles and other benefit plan cost sharing provisions. In addition, for fiscal year 2015 – 2016 only, an additional expense of \$500 per participant was added to the costs below for non-Medicare participants to account for Town reimbursements of the deductible through an HRA.

Age	Non-Medicare Plans				Medicare Plans			
	Retiree		Spouse		Retiree		Spouse	
	Male	Female	Male	Female	Male	Female	Male	Female
45	\$7,108	\$8,917	\$4,409	\$6,656	N/A	N/A	N/A	N/A
50	8,437	9,610	5,893	7,716	N/A	N/A	N/A	N/A
55	10,020	10,345	7,886	8,931	N/A	N/A	N/A	N/A
60	11,899	11,150	10,557	10,359	N/A	N/A	N/A	N/A
65	14,132	12,012	14,132	12,012	\$3,543	\$3,012	\$3,543	\$3,012
70	16,379	12,945	16,379	12,945	4,106	3,245	4,106	3,245
75	17,651	13,934	17,651	13,934	4,425	3,493	4,425	3,493
80	19,008	15,022	19,008	15,022	4,765	3,766	4,765	3,766

**Weighted Average Annual Retiree Contribution Amount:**

<i>Non-Medicare Plans:</i>	\$2,216
<i>Medicare Supplement Plans:</i>	\$983

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**Health Care Cost Trend Rates:**

Health care trend measures the anticipated overall rate at which health plan costs are expected to increase in future years. The rates shown below are “net” and are applied to the net per capita costs shown above. The trend shown for a particular plan year is the rate that is applied to that year’s cost to yield the next year’s projected cost.

<b>Year Ending June 30</b>	<b>Non-Medicare Plans</b>	<b>Medicare Plans</b>	<b>Part B</b>
2016	8.0%	9.0%	5.0%
2017	7.5%	8.5%	5.0%
2018	7.0%	8.0%	5.0%
2019	6.5%	7.5%	5.0%
2020	6.0%	7.0%	5.0%
2021	5.5%	6.5%	5.0%
2022	5.0%	6.0%	5.0%
2023	5.0%	5.5%	5.0%
2024 & later	5.0%	5.0%	5.0%

The trend rate assumptions were developed using Segal’s internal guidelines, which are established each year using data sources such as the 2015 and 2016 Segal Health Trend Surveys, internal client results, trends from other published surveys prepared by the S&P Dow Jones Indices, consulting firms and brokers, and CPI statistics published by the Bureau of Labor Statistics.

**Retiree Contribution Increase Rate:**

Non-Medicare and Medicare retiree contributions for medical and prescription drug coverage are expected to increase with the respective medical trends shown above.

**Participation and Coverage Election:**

110% of active employees with coverage are assumed to elect retiree coverage. This assumption includes an allowance for current and future inactive vested participants who may elect retiree coverage at retirement.

100% of retirees over age 65 are assumed to remain with their current medical plan for life.

**SECTION 4: Supporting Information for the Town of Andover June 30, 2015 Measurement Under GASB 43 and 45**

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For future retirees hired before 1986 and current retirees under age 65, 90% are assumed to be eligible for Medicare and are assumed to enroll in a Medicare Supplement plan upon reaching age 65 and 10% are assumed to be ineligible for Medicare and to remain enrolled in a non-Medicare plan. (Previously, 100% Medicare for MIIA plans and 85% Medicare and 15% non-Medicare for GIC plans.)

For future retirees hired after 1986, 100% are assumed to be eligible for Medicare and are assumed to enroll in a Medicare Supplement Plan upon reaching age 65.

- Plan Design:** Development of plan liabilities was based on the substantive plan of benefits in effect as described in Exhibit III.
- Administrative Expenses:** Administrative expenses are assumed to be included in the working rates or fully insured premium rates. An additional HRA administration expense of \$40 per participant per year was added to the 2015 – 2016 costs for non-Medicare participants.
- Missing Participant Data:** A missing census item for a given participant was assumed to equal the average value of that item over all other participants of the same status for whom the item is known.
- Health Care Reform Assumption:** This valuation does not include the potential impact of any future changes due to the Patient Protection and Affordable Care Act (PPACA) and the Health Care and Education Reconciliation Act (HCERA) of 2010 other than the excise tax on high cost health plans beginning in 2020 (reflected with this valuation) and those previously adopted as of the valuation date. The addition of the excise tax in this valuation increased the actuarial accrued liability by 0.7% and normal cost by 1.3%.
- Demographic Assumptions:** The demographic assumptions used in this valuation are the same as used in the Andover Contributory Retirement System Actuarial Valuation and Review as of January 1, 2014, dated December 5, 2014 completed by Segal Consulting with the exception of the mortality assumption, which was revised to include a margin for mortality improvement, and the Massachusetts Teachers' Retirement System Actuarial Valuation Report as of January 1, 2015 dated September 18, 2015. A review of the demographic assumptions is beyond the scope of this assignment; however, we have no reason to doubt the reasonableness of the assumptions.

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**Assumption Changes  
since Prior Valuation:**

The per capita health costs were updated to reflect the movement of retired teachers out of the Group Insurance Commission and into the Massachusetts Interlocal Insurance Association. The costs were further updated to reflect the Town becoming self-funded as of July 1, 2015.

The discount rate was decreased from a partially funded discount rate of 5.75% to a partially funded discount rate of 4.25% to reflect the employer's revised funding policy, a lower expected return on assets due to the asset allocation of the OPEB trust and lower expected returns for major asset classes, and a revised pay-as-you-go discount rate provided by the Town.

The medical/prescription drug and Part B trend assumptions were revised to reflect current experience and future expectations.

The mortality assumptions were updated to reflect mortality improvement.

The impact of the excise tax on high cost health plans beginning in 2020 was recalculated with this valuation.

The enrollment election was revised for current and future retirees who were hired before 1986 based on a review of recent experience.

**SECTION 4: Supporting Information for the Town of Andover June 30, 2015 Measurement Under GASB 43 and 45**

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**EXHIBIT III  
Summary of Plan**

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This exhibit summarizes the major benefit provisions as included in the valuation. To the best of our knowledge, the summary represents the substantive plans as of the measurement date. It is not intended to be, nor should it be interpreted as, a complete statement of all benefit provisions.

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<b>Eligibility:</b>	Retired and receiving a pension from the Town of Andover Contributory Retirement System or the Massachusetts Teachers' Retirement System.
<i>Members hired before April 2, 2012</i>	<b>Group 1 and Group 2 (including Teachers):</b> <ul style="list-style-type: none"><li>&gt; Retirees with at least 10 years of creditable service are eligible at age 55;</li><li>&gt; Retirees with at least 20 years of creditable service are eligible at any age.</li></ul> <b>Group 4</b> <ul style="list-style-type: none"><li>&gt; Retirees are eligible at age 55;</li><li>&gt; Retirees with at least 20 years of creditable service are eligible at any age.</li></ul>
<i>Members hired on or after April 2, 2012</i>	<b>Group 1 (including Teachers):</b> <ul style="list-style-type: none"><li>&gt; Retirees with at least 10 years of creditable service are eligible at age 60.</li></ul> <b>Group 2</b> <ul style="list-style-type: none"><li>&gt; Retirees with at least 10 years of creditable service are eligible at age 55.</li></ul> <b>Group 4</b> <ul style="list-style-type: none"><li>&gt; Retirees are eligible at age 55;</li><li>&gt; Retirees with at least 10 years of creditable service are eligible at age 50.</li></ul> <b>Disability:</b> Accidental (job-related) Disability has no age or service requirement. Ordinary (non-job related) Disability has no age requirement but requires 10 years of creditable service.

**SECTION 4: Supporting Information for the Town of Andover June 30, 2015 Measurement Under GASB 43 and 45**

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**Pre-Retirement Death:** Surviving spouses of members who die in active service on Accidental (job-related) Death are eligible at any age. Surviving spouses of members who die in active service on Ordinary (non-job related) Death are eligible after two years of service.

**Post-Retirement Death:** Surviving spouse is eligible.

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**Benefit Types:**

Medical and prescription drug benefits are provided to all eligible retirees through a variety of Blue Cross Blue Shield of Massachusetts self-funded and insured plans offered by the Town of Andover. The Town of Andover pays 50% of the retiree life insurance premium and reimburses the Medicare Part B penalty for 74 retirees and spouses. (Dental coverage is offered but is 100% retiree paid and therefore has no impact on this valuation.)

**Duration of Coverage:**

Lifetime.

**Dependent Benefits:**

Medical and Prescription Drugs.

**Retiree Life:**

\$5,000

**Dependent Coverage:**

Benefits are payable to a spouse for their lifetime, regardless of when the retirees dies.

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**Retiree Contributions:**

Working rates, premium rates and retiree contributions as of July 1, 2015 or January 1, 2016 are summarized below:

	Subscribers				Monthly Premium (eff. 7/1/2015)	Town cost	Retiree cost	Retiree Cost %
	Active	Retiree	Total	65 and over*				
<b><u>Non-Medicare Actives and Retirees</u></b>								
Network Blue New England								
Individual	312	71	383	22	\$618.53	\$501.63	\$116.90	18.9%
Family	624	63	687	7	\$1,667.44	\$1,282.26	\$385.18	23.1%
Blue Care Elect								
Individual	9	27	36	18	\$777.07	\$505.10	\$271.97	35.0%
Family	7	11	18	4	\$2,082.56	\$1,353.66	\$728.90	35.0%
<b><u>Non-Medicare Total</u></b>	952	172	1124	51				
	Subscribers				Monthly Premium (eff. 1/1/2016)	Town cost	Retiree cost	Retiree Cost %
	Active	Retiree	Total					
<b><u>Medicare Supplement Plans</u></b>								
Medex 2	N/A	268	268		\$323.29	\$210.14	\$113.15	35.0%
Managed Blue For Seniors	N/A	194	194		\$316.86	\$273.45	\$43.41	13.7%
<b><u>Medicare Total</u></b>		462	462					
<b><u>Retiree Total**</u></b>		634						

\* 51 of 513 over-65 retirees are in a non-Medicare plan.

\*\* In addition, there are 346 spouses of retirees covered under an individual or family policy.

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**Benefit Descriptions:**

<b>BCBS Network Blue New England \$1,000 Deductible</b>		
<b>Medical</b>		
<i>Annual deductible</i>		\$1,000 individual/\$2,000 family
<i>Coinsurance</i>		100%
<i>Physicians Office Visit Copay</i>		\$20 PCP/\$35 specialist
<i>Emergency Room Copay</i>		\$150
<i>Maximum Out-Of-Pocket Expense</i>		\$2,500 individual/\$5,000 family (including deductible)
<i>Lifetime Maximum</i>		None
<b>Prescription Drugs</b>		
<i>Retail Copay</i>		\$15 Tier 1/\$30 Tier 2/\$50 Tier 3
<i>Mail Copay</i>		\$15 Tier 1/\$30 Tier 2/\$50 Tier 3
<i>Maximum Out-Of-Pocket Expense</i>		\$1,000 individual/\$2,000 family
<b>BCBS Blue Care Elect Preferred PPO</b>	<b>In-Network</b>	<b>Out-Of-Network</b>
<b>Medical</b>		
<i>Annual deductible</i>		\$1,000 individual/\$2,000 family
<i>Coinsurance</i>	100%	80%
<i>Physicians Office Visit Copay</i>	\$15	Coinsurance & deductible
<i>Emergency Room Copay</i>	\$150	\$150
<i>Maximum Out-Of-Pocket Expense</i>		\$2,000 individual/\$5,000 family (including deductible)
<i>Lifetime Maximum</i>	None	None

**SECTION 4: Supporting Information for the Town of Andover June 30, 2015 Measurement Under GASB 43 and 45**

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<b>Prescription Drugs</b>	
<i>Retail Copay</i>	\$15 Tier 1/\$30 Tier 2/\$50 Tier 3
<i>Mail Copay</i>	\$15 Tier 1/\$30 Tier 2/\$50 Tier 3
<i>Maximum Out-Of-Pocket Expense</i>	\$1,000 individual/\$2,000 family

**Health Reimbursement Account (HRA)**

**Reimbursement Amount:** First 50% of deductible expenses (\$500 individual/\$1,000 family).

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**Plan Changes**

**Since the Prior Valuation:**

Retired teachers (who were formerly covered by the Group Insurance Commission Retired Municipal Teachers program) were moved back into plans offered by the Massachusetts Interlocal Insurance Association (MIIA) HealthTrust effective September 1, 2014.

Effective July 1, 2015, the Town left MIIA and began offering its own health plans. The Town began self-funding its non-Medicare plans and its Medex Supplement Plan at this time.

Effective July 1, 2015, The Town offers a Health Reimbursement Account where the first 50% of deductible expenses are reimbursed.

Note that the Town of Andover is currently considering additional plan changes effective July 1, 2016. These changes have not been reflected in this valuation.

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