

GASB Statement No. 75
Report for Fiscal Year 2018

Town of Andover

Lawrence B. Stone



stoneconsulting,inc

5 West Mill Street, Suite 4
Medfield, Massachusetts 02052
T: 508.359.9600 • F: 508.359.0190
Lstone@stoneconsult.com

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January 31, 2019

Donna Walsh
Finance Director
Town of Andover
36 Bartlet Street
Andover, MA 01810

Dear Ms. Walsh:

For the purpose of satisfying the requirements of the Government Accounting Standards Board (GASB) Statement No. 75, Stone Consulting, Inc. has prepared a set of illustrative tables and other Required Supplementary Information (RSI) based on the July 1, 2017 actuarial valuation of the Town of Andover Other Post-employment Benefits (OPEB) plan performed by Stone Consulting, Inc. The valuation and this report were prepared using generally accepted actuarial principles and practices and meet the parameters set by the Governmental Accounting Standards Board (GASB).

For GASB 75 the results are as of July 1, 2017, a measurement date of June 30, 2018, and a reporting date of June 30, 2018 (Fiscal 2018). To the best of our knowledge, this report is complete and accurate, and the assumptions used represent our best estimate of anticipated experience of the system.

We are pleased to present these exhibits. If the Town of Andover has any questions on the content of this report, we would be glad to respond. Please note that this report is meant to be used in its entirety. Use of excerpts of this report may result in a misleading or inaccurate understanding of the results.

Stone Consulting, Inc. is completely independent of the Town of Andover or the Town of Andover OPEB Trust, including any of its officers and key personnel. Neither we or anyone else closely associated with us has any relationship with the Town of Andover or the Town of Andover OPEB Trust which would impair our independence, other than this or related assignments.

The undersigned are consultants for Stone Consulting, Inc. and members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Respectfully submitted,
STONE CONSULTING, INC.



Lawrence B. Stone
Member, American Academy of Actuaries



Kevin K. Gabriel, FSA
Member, American Academy of Actuaries

Changes in the Net OPEB Liability [GASB 75, Paragraph 55]

	Total OPEB Liability at 5.44% (a)	Plan Fiduciary Net Position (b)	Net OPEB Liability (a) - (b)
Balances at beginning of Measurement Period (07/01/2017)	\$ 136,417,441	\$ 7,668,276	\$ 128,749,165
<u>Changes for the Year:</u>			
Service Cost	4,186,467		4,186,467
Interest	7,514,930		7,514,930
Change in benefit terms	0		0
Differences between expected and actual experience	10,865,917		10,865,917
Change in assumptions	1,599,726		1,599,726
Contributions - employer		6,572,364	(6,572,364)
Contributions - employee		0	0
Net investment income		636,085	(636,085)
Benefit payments, including refunds of employee contributions	(4,923,643)	(4,923,643)	0
Administrative expense		0	0
Other changes		0	0
Net Changes	<u>19,243,396</u>	<u>2,284,806</u>	<u>16,958,591</u>
Balances at end of Measurement Period (06/30/2018)	\$ 155,660,837	\$ 9,953,081	\$ 145,707,756

NOTE: Amounts shown in this report may not total due to rounding

Update procedures were used to roll the Total OPEB Liability from the valuation date (07/01/2017) to the measurement date (06/30/2018). [GASB Statement No. 75, Paragraph 28]

Projection of the Net OPEB Liability

TOTAL OPEB LIABILITY (TOL)

The Total OPEB Liability at the beginning of the measurement period (07/01/2017) is equal to the Actuarial Accrued Liability (AAL) as calculated by Segal Consulting.

The TOL is projected to the end of the measurement period (06/30/2018) by adding the changes resulting from experience, assumption changes, and changes to plan provisions. Interest is given to the TOL, Service Cost, and paid benefits, and added to the total, less the projected benefit payments for the year. Changes due to expected and actual gains on plan assets will be recognized over a five-year period [GASB Statement No. 75, Paragraph 43b], and liabilities arising from changes in plan structure or assumptions will be spread over the average of the expected remaining service lives of all employees that are provided with OPEB through the OPEB plan (active employees and inactive employees) [GASB Statement No. 75, Paragraph 43a]. Changes in Plan provisions are recognized immediately.

PLAN FIDUCIARY NET POSITION (FNP)

GASB Statement No. 75 requires that the Fair Value of Assets be used for the Fiduciary Net Position. We have used the Market Value of Assets, adjusted for payables and receivables. Net investment income is the portion of the change in assets during the measurement period that is not attributed to employee/employer contributions, benefits payments, administrative expense, or other changes.

The projected Net OPEB Liability (NOL) for the end of the year is the portion of the TOL not covered by the FNP.

OPEB Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to OPEB [GASB 75, Paragraph 56 h.]

	Deferred Outflows Of Resources	Deferred Inflows Of Resources
Differences between expected and actual experience	\$ 8,911,615	\$ 0
Changes of assumptions	1,312,005	0
Net difference between projected and actual earnings on plan investments	0	(139,268)
Total	\$ 10,223,621	\$ (139,268)

Year Ending June 30, *	Recognition
2019	\$ 2,207,205
2019	2,207,205
2020	2,207,205
2021	2,207,205
2022	1,255,532
Thereafter	0

*The years are based on measurement date of June 30, 2018. For GASB 75, the reporting date is the same as the measurement date, so the year ending June 30, 2019 is Fiscal 2019.

Development of Exhibits

DISCOUNT RATE

Total OPEB Liability as of the measurement date (June 30, 2018) is calculated using a discount rate assumption of 5.36%. To calculate this rate, Stone Consulting has conducted a cash flow study of the Trust assets and liabilities. Using a rate consistent with the Town of Andover's investment strategy (6.00%), we determine the length of time for which the assets would support OPEB benefit payments for current and projected new employees. For the Town of Andover, the depletion point comes after approximately 41 years. The present value of OPEB benefits is then calculated using a rate consistent with the Town of Andover's investment strategy (6.00%) before the depletion point and a rate based on 20-year Municipal General Obligation bonds as shown in the Bond Buyer 20 Bond Index (3.87% as of June 30, 2018) after the depletion point. Finally, a single rate producing an equivalent present value of benefits is calculated. This is the 5.36% rate we have used for the Town of Andover. One of the objectives of the provisions introduced by GASB 74 is to examine how benefit payments and plan contributions and investment earnings interact on a cash flow basis. GASB 74 and 75 require that these amounts be calculated with Fair Value of Assets and using the Entry Age Normal cost method.

Projected contributions for each year are the sum of cash payments and the pay-as-you-go funding of the retirees. Consistent with the requirements of GASB Statement No. 74 and 75, we have first assigned the contribution to the cost of projected new entrants prior to allocating the remainder to cover existing active and inactive employees.

In the future, if there are enough assets to cover the cost of new entrants for the entire period of our projection, we will use the long-term rate of return for that period (currently 6.00%). We will then "blend" the long-term rate with the General Obligation Municipal bond rate (currently 3.87%) using our cash flow analysis to ascertain for which period we will use the long-term rate of return and which period we will use the bond rate.

The long-term rate of return which was used to develop the discount rate of 5.44% includes the effect of inflation (not subtracted out as in the real rates of return). It is based on a combination of expected rates of return on the mix of current and expected investments over a long-term period. These expectations are based on current market conditions, historical experience and future expectations. It assumes a rebalancing of assets on an ongoing basis as well as a constant monitoring of asset allocation and manager performance.

Discount Sensitivity

The following presents Town of Andover’s Net OPEB Liability calculated at the valuation discount rate of 5.36%, as well as at discount rates one percent higher (6.36%) and one percent lower (4.36%).

Measurement Date	1% Decrease (4.36%)	Current Discount Rate (5.36%)	1% Increase (6.36%)
06/30/2018	\$ 169,542,117	\$ 145,707,756	\$ 126,439,324

Trend Sensitivity

For postretirement medical plans in particular, the calculated actuarial values are highly sensitive to the assumed rate of health care cost trend. This is due to the compounding effect of the annual trend rates assumed for medical costs, as opposed to pension valuations where benefit levels typically remain fixed.

The following table illustrates the effect on our valuation results of a 1% increase or decrease in the assumed rates of health care cost trend in each year.

Measurement Date	1% Decrease	Base Trend *	1% Increase
06/30/2018	\$ 122,672,703	\$ 145,707,756	\$ 175,036,517

* Base trend rates are found in Actuarial Assumptions and Methods, page 16.

Components of Town of Andover’s OPEB Expense

Components of Town of Andover’s OPEB Expense for the Fiscal Year ended June 30, 2018 [GASB 75, Paragraph 43] are shown below.

NOTE*	Description	Fiscal 2018
A	Service Cost	\$ 4,186,467
A, B	Interest	7,514,930
C	Differences between Expected and Actual Experience	1,954,302
D	Changes of Assumptions	287,721
D	Changes to Benefit Provisions	0
A	Employee Contributions	0
E	Projected Earnings on Plan Investments	(461,999)
F	Differences between Projected and Actual Earnings on Plan Investments	(34,817)
A	Administrative Expense	0
A	Other Changes in Fiduciary Net Position	0
	Total OPEB Expense	<u>\$ 13,446,602</u>

* Notes shown on page 6. Amounts are based on the following dates:

- Valuation date: July 1, 2017
- Measurement date: June 30, 2018
- Reporting date: June 30, 2018

CHANGES IN METHODS, ASSUMPTIONS, AND PLAN PROVISIONS

There were no changes in plan provisions in the 07/01/2017 valuation used for Fiscal 2018. The discount rate was changed from 5.44% to 5.36%.

NOTES

- A. See the RSI schedule of changes to the Net OPEB Liability, on page 1.
- B. Events that impact the Total OPEB Liability are assumed to happen evenly throughout the period. In addition, the amount of interest is calculated using an interest rate equal to the discount rate that was used to determine the service cost. The amount is determined as follows:

Description	Amount for Period (a)	Portion of Period (b)	Interest Rate (c)	Interest on the Total OPEB Liability (a) x (b) x (c)
Beginning Total OPEB Liability	\$ 136,417,441	100%	5.44%	\$ 7,421,109
Service cost	4,186,467	100%	5.44%	227,744
Benefit payments	\$ (4,923,643)	50%	5.44%	(133,923)
Interest				\$ 7,514,930

- C. Differences between expected and actual experience recognized in the current period in accordance with paragraph 43a of Statement 75. For the detailed calculation of this amount, see the schedule on page 7.
- D. Assumption and plan provision changes recognized in OPEB Expense in the current period in accordance with paragraph 43a of Statement 75. For detailed calculations of these amounts, see the schedule on page 7.
- E. Changes in the amounts invested are assumed to occur evenly throughout the period. In addition, the amount of projected earnings on plan investments is calculated using the assumed rate of return on plan investments as of the beginning of the period. The amount is determined as follows:

Description	Amount for Period (a)	Portion of Period (b)	Projected Rate of Return (c)	Projected Earnings (a) x (b) x (c)
Beginning plan Fiduciary Net Position	\$ 7,668,276	100%	5.44%	\$ 417,154
Employer contributions	6,572,364	50%	5.44%	178,768
Employee contributions	0	50%	5.44%	0
Benefit payments	(4,923,643)	50%	5.44%	(133,923)
Administrative expense	\$ 0	50%	5.44%	0
Total projected earnings				\$ 461,999

- F. Differences between projected and actual earnings recognized in the current period in accordance with paragraph 43b of Statement 75. For detailed calculation of this amount, see the schedule on page 7.

Increase / (Decrease) in OPEB Expense Arising from the Recognition of Gains and Losses – GASB 75

Increase / (Decrease) in OPEB Expense Arising from the Recognition of the Effects of Differences between Expected and Actual Experience

Year	Differences between actual and expected experience	Recognition period (years)	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
2018	\$ 10,865,917	5.56		\$ 1,954,302	\$ 1,954,302	\$ 1,954,302	\$ 1,954,302	\$ 1,954,302	\$ 1,094,409	\$ -	\$ -	\$ -
Net increase (decrease) in OPEB expense			\$ -	\$ 1,954,302	\$ 1,954,302	\$ 1,954,302	\$ 1,954,302	\$ 1,954,302	\$ 1,094,409	\$ -	\$ -	\$ -

Increase / (Decrease) in OPEB Expense Arising from the Recognition of the Effects of Changes of Assumptions

Year	Change of assumptions	Recognition period (years)	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
2018	\$ 1,599,726	5.56		\$ 287,721	\$ 287,721	\$ 287,721	\$ 287,721	\$ 287,721	\$ 161,123	\$ -	\$ -	\$ -
Net increase (decrease) in OPEB expense			\$ -	\$ 287,721	\$ 287,721	\$ 287,721	\$ 287,721	\$ 287,721	\$ 161,123	\$ -	\$ -	\$ -

Increase/ (Decrease) in OPEB Expense Arising from the Recognition of Differences between Expected and Actual Earnings on OPEB Plan Investments

Year	Differences between projected and actual earnings on OPEB plan investments	Recognition period (years)	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
2018	\$ (174,085)	5		\$ (34,817)	\$ (34,817)	\$ (34,817)	\$ (34,817)	\$ (34,817)	\$ -	\$ -	\$ -	\$ -
Net increase (decrease) in OPEB expense			\$ -	\$ (34,817)	\$ (34,817)	\$ (34,817)	\$ (34,817)	\$ (34,817)	\$ -	\$ -	\$ -	\$ -

Deferred Outflows and Deferred Inflows of Resources Arising from Gains and Losses

Deferred Outflows and Deferred Inflows of Resources Arising from Differences between Expected and Actual Experience

Year	Experience Losses (a)	Experience Gains (b)	Amounts Recognized in OPEB Expense through June 30, 2018 (c)	BALANCES AT JUNE 30, 2018	
				Deferred Outflows of Resources (a) - (c)	Deferred Inflows of Resources (b) - (c)
2018	\$ 10,865,917	\$ -	\$ 1,954,302	\$ 8,911,615	\$ -
TOTAL				\$ 8,911,615	\$ -

Deferred Outflows and Deferred Inflows of Resources Arising from Changes of Assumptions

Year	Increases in the Total OPEB Liability (a)	Decreases in the Total OPEB Liability (b)	Amounts Recognized in OPEB Expense through June 30, 2018 (c)	BALANCES AT JUNE 30, 2018	
				Deferred Outflows of Resources (a) - (c)	Deferred Inflows of Resources (b) - (c)
2018	\$ 1,599,726	\$ -	\$ 287,721	\$ 1,312,005	\$ -
TOTAL				\$ 1,312,005	\$ -

Deferred Outflows and Deferred Inflows of Resources
 Arising from Differences between Expected and Actual Earnings on OPEB Plan Investments

Year	Investment Earnings Less than Projected (a)	Investment Earnings More than Projected (b)	Amounts Recognized in OPEB Expense through June 30, 2018 (c)	BALANCES AT JUNE 30, 2018	
				Deferred Outflows of Resources (a) - (c)	Deferred Inflows of Resources (b) - (c)
2018	\$ -	\$ (174,085)	\$ (34,817)	\$ -	\$ (139,268)
TOTAL				\$ -	\$ (139,268)
			NET TOTAL		\$ (139,268)

Results by Employer

Employer	Proportion	Contributions made FY 2018 *
General Fund	93.06%	\$ 6,116,242
Water	5.77%	\$ 379,225
Sewer	1.17%	\$ 76,897
TOTAL	100.00%	\$ 6,572,364

Employer	Proportionate Share of NOL	Proportionate share of NPL Discount Sensitivity (in 1,000's)	
		1% Increase (6.36%)	1% Decrease (4.36%)
General Fund	\$ 135,595,638	\$ 117,664	\$ 157,775
Water	\$ 8,407,338	\$ 7,296	\$ 9,783
Sewer	\$ 1,704,780	\$ 1,479	\$ 1,984
TOTAL	\$ 145,707,756	\$ 126,439	\$ 169,542

Employer	Proportionate Share of Pension Expense	Proportionate Share of Deferred Outflows of Resources	Proportionate Share of Deferred Inflows of Resources
General Fund	\$ 12,513,408	\$ 9,514,102	\$ (129,603)
Water	\$ 775,869	\$ 589,903	\$ (8,036)
Sewer	\$ 157,325	\$ 119,616	\$ (1,629)
TOTAL	\$ 13,446,602	\$ 10,223,621	\$ (139,268)

* Cash contributions made to OPEB trust plus a share of the implicit subsidy. The implicit subsidy is allocated since the General Fund and the Water and Sewer entities have made premium payments for active members.

Actuarial Methods and Assumptions

Actuarial methods and assumptions were selected by the Town of Andover, other than those required by statute or by GASB statements, with guidance from Stone Consulting, Inc.

ACTUARIAL METHODS

Actuarial Cost Method

Costs are attributed between past and future service using the Entry Age Normal cost method. For attribution purposes, benefits are assumed to accrue over all employee service until decrement.

Asset Valuation Method

Market value of assets with payables and receivables.

ACTUARIAL ASSUMPTIONS

Valuation Date

July 1, 2017

Interest Rate / Discount Rate

5.36% per year net of investment expenses as of 06/30/2018. In the calculation of the discount rate, the 20-year Municipal General Obligation bonds as shown in the Bond Buyer 20 Bond Index (3.87%) was used.

5.44% per year net of investment expenses as of 07/01/2017.

Salary Scale

- Groups 1, 2, and 4: 4.25%
- Teachers: 4.00%

Overall payroll increase rate, including new entrants: 3.00% per year and 2.75% CPI-U.

Mortality

- **Actives:** The RP-2014 Mortality Tables adjusted to 2006, sex-distinct, for Employees projected using generational mortality and scale MP-2016.
- **Retirees:** The RP-2014 Mortality Tables adjusted to 2006, sex-distinct, for Healthy Annuitants projected using generational mortality and scale MP-2016.
- **Disabled:** The RP-2014 Mortality Tables adjusted to 2006, sex-distinct, for Healthy Annuitants projected using generational mortality and scale MP-2016. Set forward 2 years.

No additional mortality projection is assumed other than as described above.

Actuarial Methods and Assumptions (Continued)

Eligibility for Vested Post-Retirement Medical Benefits upon Withdrawal

10 years of Service; assumed that individuals who withdraw prior to age 40 will elect a return of pension contributions and therefore be ineligible for retiree medical coverage.

Withdrawal Prior to Retirement, Non-Teachers

Based on years of service. Same for both pre- and post-April 1, 2012 (Tier 1 and Tier 2) hires.

Years of Service	Groups 1,2	Group 4
0	15.00%	1.50%
1	12.00%	1.50%
2	10.00%	1.50%
3	9.00%	1.50%
4	8.00%	1.50%
5	7.60%	1.50%
6	7.50%	1.50%
7	6.70%	1.50%
8	6.30%	1.50%
9	5.90%	1.50%
10	5.40%	1.50%
11	5.00%	0.00%
12	4.60%	0.00%
13	4.10%	0.00%
14	3.70%	0.00%
15	3.30%	0.00%
16	2.00%	0.00%
17	2.00%	0.00%
18	2.00%	0.00%
19	2.00%	0.00%
20	2.00%	0.00%
21	1.00%	0.00%
22	1.00%	0.00%
23	1.00%	0.00%
24	1.00%	0.00%
25	1.00%	0.00%
26	1.00%	0.00%
27	1.00%	0.00%
28	1.00%	0.00%
29	1.00%	0.00%
30+	0.00%	0.00%

Actuarial Methods and Assumptions (Continued)

Withdrawal Prior to Retirement, Teachers

Same for both pre and post-April 1, 2012 hires.

		Service			
		Age	0	5	10
Male Teachers	25		12.00%	4.50%	1.00%
	35		11.00	5.00	1.50
	45		9.50	5.00	2.00
	55		7.50	4.50	2.50
Female Teachers	25		10.00%	9.00%	5.00%
	35		12.00	8.40	4.10
	45		8.90	4.70	2.40
	55		8.00	3.20	2.00

Disability Prior to Retirement

The rates shown at the following sample ages illustrate the assumption regarding the incidence of disability. Disability is assumed to be 10% ordinary and 90% accidental for Group 4, and 55% ordinary and 45% accidental for all others.

Rate of Disability			
Age	Groups 1 and 2	Group 4	Teachers
20	0.01%	0.10%	0.004%
25	0.02%	0.20%	0.005%
30	0.03%	0.30%	0.006%
35	0.06%	0.30%	0.006%
40	0.10%	0.30%	0.010%
45	0.15%	1.00%	0.030%
50	0.19%	1.25%	0.050%
55	0.24%	1.20%	0.080%
60	0.28%	0.85%	0.100%

Medicare Eligibility

- **Employees:** 100% if hired March 31, 1986 or after; 85% if hired pre-March 31, 1986.
- **Spouses:** 100%

Actuarial Methods and Assumptions (Continued)

Rates of Retirement, Non-Teachers

Based on gender, group, and hire date.

Age	Hired Pre-April 2, 2012			Hired Post-April 1, 2012		
	Groups 1 and 2 Male	Groups 1 and 2 Female	Group 4	Groups 1 and 2 Male	Groups 1 and 2 Female	Group 4
50	1.00%	1.50%	2.00%	-	-	-
51	1.00%	1.50%	2.00%	-	-	-
52	1.00%	2.00%	2.00%	-	-	-
53	1.00%	2.50%	5.00%	-	-	-
54	2.00%	2.50%	7.50%	-	-	-
55	2.00%	5.50%	15.00%	-	-	25.00%
56	2.50%	6.50%	10.00%	-	-	15.00%
57	2.50%	6.50%	10.00%	-	-	20.00%
58	5.00%	6.50%	10.00%	-	-	10.00%
59	6.50%	6.50%	15.00%	-	-	15.00%
60	12.00%	5.00%	20.00%	30.00%	30.00%	20.00%
61	20.00%	13.00%	20.00%	20.00%	10.00%	20.00%
62	30.00%	15.00%	25.00%	15.00%	12.00%	25.00%
63	25.00%	12.50%	25.00%	25.00%	10.00%	25.00%
64	22.00%	18.00%	30.00%	20.00%	15.00%	30.00%
65	40.00%	15.00%	100.00%	25.00%	13.00%	100.00%
66	25.00%	20.00%	NA	20.00%	18.00%	NA
67	25.00%	20.00%	NA	50.00%	40.00%	NA
68	30.00%	25.00%	NA	30.00%	25.00%	NA
69	30.00%	20.00%	NA	30.00%	25.00%	NA
70	100.00%	100.00%	NA	100.00%	100.00%	NA

Actuarial Methods and Assumptions (Continued)

Rates of Retirement, Teachers

Based on gender, years of service, and hire date.

Age	Hired Pre-April 2, 2102						Hired Post-April 1, 2012					
	<20 years service		20-29 years service		>29 years service		<20 years service		20-29 years service		>29 years service	
	M	F	M	F	M	F	M	F	M	F	M	F
50	N/A	N/A	1%	1.5%	2%	2%	N/A	N/A	N/A	N/A	N/A	N/A
51	N/A	N/A	1	1.5	2	2	N/A	N/A	N/A	N/A	N/A	N/A
52	N/A	N/A	1	1.5	2	2	N/A	N/A	N/A	N/A	N/A	N/A
53	N/A	N/A	1	1.5	2	2	N/A	N/A	N/A	N/A	N/A	N/A
54	N/A	N/A	1	1.5	2	2	N/A	N/A	N/A	N/A	N/A	N/A
55	3%	2%	3	3	6	6	3%	0%	0%	0%	0%	0%
56	8	2	5	3	20	15	8	0	0	0	0	0
57	15	8	8	7	35	30	15	0	0	0	0	0
58	15	10	10	7	50	35	15	0	0	0	0	0
59	20	15	20	11	50	35	20	0	0	0	0	0
60	15	20	20	16	50	35	25	25	35	23	45	45
61	30	20	25	20	50	35	35	30	35	30	45	45
62	20	25	30	30	40	40	30	25	30	25	45	45
63	30	24	30	30	40	30	35	25	30	25	45	45
64	40	20	30	30	40	35	40	30	35	30	45	45
65	40	30	40	30	50	35	40	30	35	30	45	45
66	40	30	30	30	50	35	40	30	40	30	45	45
67	40	30	30	30	50	30	50	35	45	35	55	45
68	40	30	30	30	50	30	50	35	45	35	55	45
69	40	30	30	30	50	30	55	35	45	35	55	45
70	100	100	100	100	100	100	100	100	100	100	100	100

Actuarial Methods and Assumptions (Continued)

Plan Enrollment Rates

These are the rates which retirees select medical plans, given that they enroll in a medical plan. The selection patterns follow the table below.

Participant Behavior at Key Ages

Status	Age	Pre-65 Retirement	65+ Retirement
Active	Under 65	Commercial Managed Care: 100% Commercial Indemnity: 0%	Medicare Managed Care: 0% Medicare Indemnity: 99% Commercial Managed Care: <1%
Active	65+	NA	Medicare Managed Care: 0% Medicare Indemnity: 99% Commercial Managed Care: <1%
Retired	Under 65	Current Plan	Medicare Managed Care: 0% Medicare Indemnity: 99% Commercial Managed Care: <1% Or Actual Plan if already in Medicare
Retired	65+	NA	Current Plan

Sample Claim Costs

Age	Commercial Managed Care Individual	Commercial Managed Care Blended ⁽¹⁾	Commercial Indemnity Individual	Commercial Indemnity Blended ⁽¹⁾	Medicare Managed Care	Medicare Indemnity
55	\$8,191.76	\$14,674.99	NA	NA	NA	\$3,343.38
60	\$10,074.55	\$18,060.61	NA	NA	NA	\$3,343.38
65	\$12,632.43	\$16,760.15	NA	NA	NA	\$3,343.38
70	\$15,253.57	\$20,237.78	NA	NA	NA	\$3,698.31
75	\$18,243.95	\$24,205.44	NA	NA	NA	\$3,994.73
80	\$21,716.70	\$28,812.94	NA	NA	NA	\$4,208.71
85	\$21,716.70	\$28,812.94	NA	NA	NA	\$4,319.01

⁽¹⁾ Blended rates below 65 are 42.5% Family and 57.5% Individual. Blended rates 65 and higher are 17.5% Family and 82.5% Individual. Individual rates are used for all participants 81 and higher.

Actuarial Methods and Assumptions (Continued)

Trend Rates by Plan

Year	Commercial Managed Care	Commercial Indemnity	Medicare Managed Care	Medicare Indemnity
2017	-1.13%	9.50%	7.50%	4.02%
2018	8.00%	9.00%	7.00%	8.00%
2019	7.50%	8.50%	6.50%	7.50%
2020	7.00%	8.00%	6.00%	7.00%
2021	6.50%	7.50%	5.50%	6.50%
2022	6.00%	7.00%	5.00%	6.00%
2023	5.50%	6.50%	5.00%	6.00%
2024	5.00%	6.00%	5.00%	6.00%
2025	5.00%	6.00%	5.00%	6.00%
2026	5.00%	6.00%	5.00%	6.00%
2027	5.00%	6.00%	5.00%	5.75%
2028	5.00%	6.00%	5.00%	5.75%
2029	5.00%	5.75%	5.00%	5.75%
2030	5.00%	5.75%	5.00%	5.50%
2031	5.00%	5.75%	5.00%	5.50%
2032	5.00%	5.75%	5.00%	5.50%
2033	5.00%	5.75%	5.00%	5.25%
2034	5.00%	5.50%	5.00%	5.25%
2035	5.00%	5.50%	5.00%	5.00%
2036	5.00%	5.50%	5.00%	5.00%
2037	5.00%	5.50%	5.00%	5.00%
2038	5.00%	5.50%	5.00%	5.00%
2039	5.00%	5.25%	5.00%	5.00%
2040	5.00%	5.25%	5.00%	5.00%
2041	5.00%	5.25%	5.00%	5.00%
2042	5.00%	5.25%	5.00%	5.00%
2043	5.00%	5.25%	5.00%	5.00%
2044	5.00%	5.00%	5.00%	5.00%

Trend rates for the Town of Andover have been adjusted in year 1 to reflect the 7/1/2018 change in employee contribution to commercial plans from 40% to 45%.

Expenses

Administrative expenses are included in the per capita medical cost assumption.

Actuarial Methods and Assumptions (Continued)

Participation Rates

Current retirees and spouses are assumed to continue the same coverage they have as of the valuation date. No future election of coverage is assumed for those retirees and spouses who currently have not elected coverage.

Medical All Retirees: 80% of the active Town of Andover employees eligible for post-employment medical benefits are assumed to elect Medical Coverage immediately upon retirement.

Life All Retirees: 50% of active Town of Andover employees eligible for post-employment medical benefits are assumed to elect Life Insurance coverage immediately upon retirement.

For all Retirees: For the Town of Andover plans 55% of spouses are assumed to participate.

Participants with no or unknown current coverage (e.g. active employees who do not currently participate in Town of Andover's medical plans) are assumed to elect retiree coverage at the same rates as currently covered active employees. Medicare-eligible retirees currently under age 65 are assumed to elect a Medicare plan option at age 65.

Section 9 ½ of Chapter 32B

No current or future payments or receipts are assumed due to past service or future service with other Chapter 32 entities.

PPACA

This valuation includes an estimate of the impact from the Patient Protection and Affordable Care Act (PPACA) as it is written as of the valuation date. This includes the so-called "Cadillac Tax" on high-cost health plans. The Cadillac Tax on plans whose richness exceeds set levels will begin in 2022 and the valuation reflects such implementation beginning in 2022. Prior to this time, the law may be amended or changes may be made in the benefit plan such that the law will not be applicable.

Principal Plan Provisions Recognized in Valuation

ELIGIBILITY FOR BENEFITS

Current retirees, beneficiaries and spouses of Town of Andover are eligible for medical benefits, as are current employees or spouses who retire with a benefit from the Town of Andover. Survivors of Town of Andover employees and retirees are also eligible for medical benefits.

MEDICAL BENEFITS

Various medical plans offered by Town of Andover to its own employees.

LIFE INSURANCE

Town of Andover retirees are eligible for a \$2,000 life insurance benefit offered by Town of Andover. Retirees pay 50% of the \$1.16 cost.

RETIREE CONTRIBUTIONS

Based on data provided by Town of Andover.

Glossary

- **Actuarial Accrued Liability:** The portion, as determined by a particular Actuarial Cost Method, of the present value of benefits which is not provided for by future Normal Costs.
- **Actuarial Assumptions:** Assumptions as to the occurrence of future events affecting Other Post-employment Benefits such as: mortality rates, disability rates, withdrawal rates, and retirement rates, the discount assumption, and the trend rates.
- **Actuarial Cost Method:** A procedure for determining the Actuarial Present Value of Total Projected benefits and for developing an actuarially equivalent allocation of such value to time periods, usually in the form of a Normal and an Actuarial Accrued Liability.
- **Amortization Payment:** The portion of the OPEB contribution designed to pay interest and to amortize the Unfunded Actuarial Accrued Liability.
- **Actuarially Determined Contribution (ADC):** The employer's periodic contributions to a defined benefit OPEB plan, calculated in accordance with the Actuarial Standards of Practice.
- **Commercial Plans:** Plans designed to cover the medical expenses of those not otherwise covered by Medicare.

■ **Town of Andover**
GASB Statement No. 75

- **GASB:** The Governmental Accounting Standards Board is the organization that establishes financial reporting standards for state and local governments.
- **Investment return Assumptions (Discount Rate):** The rate used to adjust a series of future benefit payments to reflect the time value of money.
- **Healthcare Cost Trend Rate:** The rate of change in per capita health claims costs over time as a result of factors such as medical inflation, utilization of healthcare services, the intensity of the delivery of services, technological developments, and cost-shifting.
- **Medicare Plans:** Medical plans sold to those over 65 who are also covered by Medicare. These plans are supplemental to the Medicare plan, which is considered primary.
- **Normal Cost:** The portion of the Actuarial Present value of plan benefits that is allocated to a valuation year by the Actuarial Cost Method.
- **OPEB:** Other Post-Employment Benefits, other than pensions. This does not include plans such as severance plans or sick-time buyouts.
- **Pay-As-You-Go:** The amount of benefits (claims) paid out to plan participants during the year.
- **Per Capita Claims Cost:** The current average annual cost of providing postretirement health care benefits per individual.
- **Unfunded Actuarial Accrued Liability:** The portion of the Actuarial Accrued Liability that is not covered by plan assets. For a plan that is completely unfunded, this amount is equivalent to the Actuarial Accrued Liability.
- **Valuation Date:** The point from which all future plan experience is projected and as of which all present values are calculated.