

GASB Statements No. 74 and 75  
Report for Fiscal Year 2020

Town of Andover

Lawrence B. Stone



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December 18, 2020

Ms. 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) Statements No. 74 and No. 75, Stone Consulting, Inc. has prepared a set of illustrative tables and other Required Supplementary Information (RSI) based on the July 1, 2019 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).

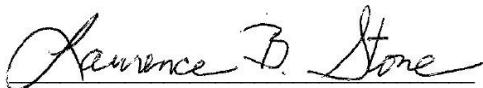
For GASB 74, the results are as of a valuation date of July 1, 2019, and an OPEB plan fiscal year-end of June 30, 2020. For GASB 75, the results are as of a valuation date of July 1, 2019, a measurement date of June 30, 2020, and a reporting date of June 30, 2020. To the best of our knowledge, this report is complete and accurate, and the assumptions used represent our best estimate of anticipated experience of the system unless required by statute or by the GASB standard.

We are pleased to present these exhibits. If the Town of Andover or the Town of Andover OPEB Trust 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 their 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

**SECTION I – ACTUARIAL RESULTS**

**Summary of Results**

The most recent actuarial OPEB valuation performed by Stone Consulting for the Town of Andover was on July 1, 2019. Participant census data as of July 1, 2019 was supplied by the Town of Andover and liabilities were first determined as of that date. Update procedures were used to roll the Total OPEB Liability from the valuation date to June 30, 2020, the OPEB plan’s fiscal year-end (GASB 74) and the measurement date (GASB 75).

The key results as of June 30, 2020 were:

Total OPEB Liability	\$ 132,109,355
Plan Fiduciary Net Position	<u>14,978,253</u>
Net OPEB Liability	\$ 117,131,103

- “Total OPEB Liability” is the total liability for all benefits as of the reporting date and is based on a projection of future liabilities based on Town of Andover’s actuarial assumptions.
- “Plan Fiduciary Net Position” is the amount of assets available and in the OPEB trust as of the end of the 2020 Fiscal Year, 06/30/2020.
- “Net OPEB Liability” is the difference between the above two figures and is the amount of the future liability not funded as of the reporting date.

These amounts are calculated by using what is referred to as the “Entry Age Normal” actuarial cost method, which is the method required by GASB. Note, also, that these figures are intended for financial reporting and are not intended to be used to determine funding of the OPEB plan.

**Normal Cost**

Normal Cost for Plan Year 2020	\$ 3,457,542
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“Normal” or “Service” Cost is the cost of benefits accruing in each year. This figure is based on an interest rate of 6.00% and the Entry Age Normal Cost Method. Because the Normal Cost used for Plan Year 2020 is a beginning-of-year number, it is calculated using the discount rate, assumptions, and participant data used in the prior GASB 74/75 report. Changes due to assumptions and experience are then calculated at the end of the measurement period.

### Discount Rate at June 30, 2020

Results at June 30, 2020 use a discount rate of 6.00%. The 6.00% is based on an assessment of the Town of Andover OPEB Trust's investment strategy and should be thought of as the expected net long-term rate of return on Trust's invested assets. The rate is determined based on a projection of future cash flows and assumes that the Town of Andover makes additional cash contributions of 0.4% of revenue, increasing at 2.5% per year, plus savings from OPEB reforms and the Actuarially Required Contributions for water and sewer. Should the future contribution amount schedule change or the target asset allocation change, the valuation discount rate would likely change.

### Funding

Valuations performed for GASB74/75 purposes are not intended to be funding valuations. Rather, they are intended for use by accountants in developing financial statements. The rules set forth by GASB are designed to ensure that all entities report on a comparable basis. Development of a funding schedule requires additional assumptions and a separate actuarial valuation. Should an entity such as the Town of Andover wish to develop a plan to fund its liability on an actuarial basis in total or in part, it is free to choose:

- The actuarial cost method used in determining the liability (EAN for Water and Sewer)
- The length and amortization of the funding schedule, including establishment of various bases (29-year closed from 7/1/2019, increasing at 3% per year for Water and Sewer)
- Actuarial assumptions, such as the discount rate (This rate would not need to tie into a cash flow analysis such as in Statements 74 and 75. It would be done at a discount rate close to the expected net long-term rate of return of 6.00%.)

In general, the funding amount is an amount to cover the Normal Cost for the year plus an amount to amortize the unfunded liability over a period of time using a particular pattern (level, increasing, etc.). Use of a different cost method, discount rate, or other assumptions would give a different number for the Normal Cost, the unfunded OPEB Liability, and amortization amount.

The Town of Andover has chosen to contribute, on an annual basis, 0.4% of revenue increasing at 2.5% per year plus savings from OPEB reforms and the Actuarially Required Contributions (ARC) for the Water and Sewer Enterprise Funds. This plan became effective as of 7/1/16.

The Town of Andover has asked Stone Consulting to prepare a funding schedule which shows the ARC for Water and Sewer. This will be published separately

**GASB Statement No. 74 – Net OPEB Liability**

The components of the Net OPEB Liability for the Town of Andover OPEB Trust as of an OPEB plan Fiscal Year-end of June 30, 2020 were as follows:

	FY 2020	FY 2019
<b>Total OPEB Liability</b>		
Service Cost	\$ 3,457,542	\$ 4,451,354
Interest	8,487,889	8,448,402
Changes in Benefit Terms	0	(10,540,194)
Differences between expected and actual experience	(6,118,570)	0
Changes of assumptions	(9,465,966)	(12,768,804)
Benefit payments	(4,517,623)	(4,985,511)
<b>Net change in Total OPEB liability</b>	<b>\$ (8,156,729)</b>	<b>\$ (15,394,753)</b>
<b>Total OPEB Liability – beginning (6.00%)</b>	<b>140,266,084</b>	<b>155,660,837</b>
<b>Total OPEB Liability – ending (6.00%) (a)</b>	<b>\$ 132,109,355</b>	<b>\$ 140,266,084</b>
<b>Plan Fiduciary Net Position</b>		
Contributions – employer*	\$ 6,500,190	\$ 6,804,459
Net Investment Income	503,402	720,255
Benefit payments	(4,517,623)	(4,985,511)
Administrative expenses	0	0
<b>Net change in Plan Fiduciary Net Position</b>	<b>\$ 2,485,968</b>	<b>\$ 2,539,203</b>
<b>Plan Fiduciary Net Position – beginning</b>	<b>12,492,284</b>	<b>9,953,081</b>
<b>Plan Fiduciary Net Position – ending (b)</b>	<b>\$ 14,978,253</b>	<b>\$ 12,492,284</b>
<b>Net OPEB Liability – ending (a) – (b)</b>	<b>\$ 117,131,103</b>	<b>\$ 127,773,800</b>
<b>Plan Fiduciary Net Position as a percentage of Total OPEB Liability</b>	<b>11.3%</b>	<b>8.9%</b>

\*Employer contribution of \$4,517,623 of Pay-As-You-Go and a \$1,982,567 cash contribution for FY2020.

Update procedures were used to roll the Total OPEB Liability from the valuation date (07/01/2019) to the OPEB plan's Fiscal Year-end (06/30/2020). [GASB Statement No. 74, Paragraph 35(c)]

Note: Charts in this report may not total due to rounding.

**Changes from Prior Report**

- 1) The assumption change of \$(9,465,966) is broken into:
  - a. A decrease of \$2,563,269 due to a change in mortality assumption from projection scale MP-2016 to scale MP-2019
  - b. A change in the morbidity assumption to calculate age-graded claim rates based on Health Care Costs – From Birth to Death, published by the Society of Actuaries in June, 2013, which decreased liabilities by \$4,587,455.
  - c. Elimination of the so-called “Cadillac Tax” which was part of the Patient Protection and Affordable Coverage Act (PPACA). This tax was eliminated from the legislation. This reduced liabilities by \$2,315,242.
  
- 2) The experience gain of \$(6,118,570) is due to:
  - a. Changes in claims and trends decreased liabilities by 3%.
  - b. Changes in population, including a shift from Commercial plans post-65 to Medicare plans decreased liabilities by 2%.

**Distribution of the Member Population**

Town of Andover OPEB Trust – Membership as of June 30, 2020

	2020	2019
Retired, Disabled, Survivors and Beneficiaries receiving benefits	759	759
Inactive plan members entitled to but not yet receiving benefit payments *	28	140
Active plan members	1,382	1,357
<b>Total</b>	<b>2,169</b>	<b>2,256</b>

These numbers are based on the data supplied by the Town of Andover as of June 30, 2020. Note that these membership numbers count a retiree and a spouse as only one member, even if they have separate policies.

\* The number of inactive plan members was not available from the MTRS as of June 30, 2020. The inactive count shown here represents inactives for the Town of Andover only. MTRS inactive data is unavailable, but we believe it is immaterial.



## Development of Exhibits

### DISCOUNT RATE

Total OPEB Liability as of the plan's fiscal year-end (June 30, 2020) is calculated using a discount rate assumption of 6.00%. To calculate this rate, Stone Consulting has conducted a cash flow study of the Trust assets and liabilities. Using a rate consistent with the Trust'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 OPEB Trust, there is no depletion point. The present value of OPEB benefits is then calculated using a rate consistent with the Trust'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 (2.21% as of June, 2020) after the depletion point. Finally, a single rate producing an equivalent present value of benefits is calculated. This is the 6.00% rate we have used for the Town of Andover (GASB 75) and the Town of Andover OPEB Trust (GASB 74). One of the objectives of the provisions introduced by GASB 74 and 75 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 the 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. The Town of Andover has chosen to contribute, on an annual basis, 0.4% of revenue increasing at 2.5% per year plus savings from OPEB reforms and the Actuarially Required Contributions (ARC) for the Water and Sewer Enterprise Funds. This plan became effective as of 7/1/16. 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 actives and inactive employees.

As of June 30, 2020, the Town of Andover's Fiduciary Net Position was projected to be available to make all future benefit payments of current active and inactive employees per the methodology contained in GASB 75. Thus, the long-term expected rate of return on investments was applied for all benefit periods when calculating the Net OPEB Liability.

The long-term rate of return which was used to develop the discount rate of 6.00% 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.

GASB Statement No. 74, Paragraph 34(b)(3) requires that an annual money-weighted rate of return be developed using the market value of assets at the beginning of the Plan Year, along with monthly cash flows. This has been done for the 2020 Fiscal year, and is shown below:

Fiscal Year	2020
Money-Weighted Rate of Return	3.65%

For detailed calculations of this amount, see the schedule on page 10.



### Discount Sensitivity

The following presents Town of Andover OPEB Trust's Net OPEB Liability calculated at the valuation discount rate of 6.00%, as well as at discount rates one percent higher (7.00%) and one percent lower (5.00%).

OPEB Plan Fiscal Year-End	1% Decrease (5.00%)	Current Discount Rate (6.00%)	1% Increase (7.00%)
06/30/2020	\$ 136,215,834	\$ 117,131,103	\$ 101,588,821

### Sensitivity of Current Valuation to Funding Level

To give the Town of Andover and the OPEB Trust some idea of the sensitivity of the discount rate employed in the GASB valuation to the assumed funding level, Stone Consulting has performed depletion analysis under various funding scenarios. If the Town of Andover were to cease making contributions to the OPEB trust, the discount rate employed would be lowered by 350 basis points from 6.00% to 2.50%. Alternately, if contributions were to be made according to the funding schedule for 48 years then cease, the trust would maintain the discount rate of 6.00%. Lower returns than 6.00% per annum will increase the number of years the Town of Andover needs to contribute in order to use the long-term rate of return for GASB 74 and 75. We have not calculated liabilities at the 2.50% rate; however, as required by GASB 74 and shown on page 6 of this report, a 5.00% discount rate increases the Net OPEB Liability from \$117,131,103 to \$136,215,834.

These sensitivity calculations assume the same assumptions and methods as used in the original valuation with only a change in the amount the Town of Andover plans to contribute. They also assume no change in the Town of Andover investment strategy. A change in such strategy would also impact the discount rate determined.

### 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.

OPEB Plan Fiscal Year-End	1% Decrease	Base Trend *	1% Increase
06/30/2020	\$ 98,627,160	\$ 117,131,103	\$ 140,447,776

\* Base trend rates are found in Actuarial Assumptions and Methods, page 28.

### Long-Term Expected Real Rate of Return

The long-term expected real rate of return reflects the expected rate of return on plan assets adjusted for the expected rate of inflation. Note that the discount rate includes the effect of inflation. The long-term real rate of return removes the effect of inflation on the return amounts. It is a long-term assumption and is meant to reflect a best estimate of future experience, based on the expected asset allocation. The allocation percentages are based on information provided by the Town of Andover and the Plan's asset consultant, ICMA-RC. The real rates of return below are based on long-term real return estimates provided by ICMA-RC and ICMA-RC's inflation assumption of 1.80%.

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return (Geometric)
U.S. Large-Cap Equity	43.88%	4.52%
U.S. Mid-Cap Equity	2.11%	6.39%
U.S. Small-Cap Equity	0.84%	4.72%
International Equity	10.18%	4.52%
Emerging Markets Equity	3.03%	7.66%
Multi-Strategy	7.00%	2.79%
U.S. Short-Duration Government/Credit Bonds	4.65%	0.10%
U.S. Aggregate Bonds	19.80%	0.20%
U.S. Treasury Inflation-Protected Securities	3.25%	-0.20%
U.S. High Yield Bonds	4.78%	1.96%
U.S. Long-Duration Treasuries	0.48%	0.00%

**Schedule of Changes in OPEB Trust's Net OPEB Liability and Related Ratios – GASB 74**

(Amounts in Thousands)

Fiscal Year *	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
<b>TOTAL OPEB LIABILITY</b>										
Service cost	3,458	4,451	4,186	5,605						
Interest	8,488	8,448	7,515	9,299						
Change of benefit terms	0	(10,540)	0	(42,080)						
Differences between expected and actual experience	(6,119)	0	10,866	-						
Change of assumptions	(9,466)	(12,769)	1,600	(6,595)						
Benefit payments	(4,518)	(4,986)	(4,924)	(4,648)						
<b>Net change in Total OPEB Liability</b>	<b>(8,157)</b>	<b>(15,395)</b>	<b>19,243</b>	<b>(38,418)</b>						
<b>Total OPEB Liability - beginning</b>	<b>140,266</b>	<b>155,661</b>	<b>136,417</b>	<b>174,836</b>						
<b>Total OPEB Liability – ending</b>	<b>132,109</b>	<b>140,266</b>	<b>155,661</b>	<b>136,417</b>						
<b>PLAN FIDUCIARY NET POSITION</b>										
Contributions – employer	6,500	6,804	6,572	6,150						
Contributions – employee	0	0	0	0						
Net Investment Income	503	720	636	731						
Benefit payments	(4,518)	(4,986)	(4,924)	(4,648)						
Administrative expense	0	0	0	0						
Other	0	0	0	0						
<b>Net change in Plan Fiduciary Net Position</b>	<b>2,486</b>	<b>2,539</b>	<b>2,285</b>	<b>2,233</b>						
<b>Plan Fiduciary Net Position - beginning</b>	<b>12,492</b>	<b>9,953</b>	<b>7,668</b>	<b>5,435</b>						
<b>Plan Fiduciary Net Position - end</b>	<b>14,978</b>	<b>12,492</b>	<b>9,953</b>	<b>7,668</b>						
<b>Town of Andover Net OPEB Liability – ending</b>	<b>117,131</b>	<b>127,774</b>	<b>145,708</b>	<b>128,749</b>						
<b>Plan Fiduciary Net Position as a percentage of the Total OPEB Liability</b>	<b>11.3%</b>	<b>8.9%</b>	<b>6.4%</b>	<b>5.6%</b>						
Money-Weighted Rate of Return	3.65%	6.48%	7.21%	NA						

**Schedule of Plan Contributions - GASB 74**

Plan Year-End of June 30,	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Actuarially Determined Contribution	\$9,610	\$10,148	\$9,968	\$9,438						
Contributions in relation to the Actuarially Determined Contribution	(6,500)	(6,804)	(6,572)	(6,150)						
Contribution deficiency / (excess)	\$3,110	\$3,344	\$3,396	\$3,283						

The Town of Andover's plan to fund OPEB is to contribute, on an annual basis, 0.4% of revenue increasing at 2.5% per year plus savings from OPEB reforms and the Actuarially Determined Contributions for water and sewer. This plan became effective as of 7/1/16.

**GASB Statement No. 74, Paragraph 34 b. (3) - Money-Weighted Rate of Return**

NET EXTERNAL CASH FLOW					
	Beginning of month	Middle of Month	End of Month	Periods Invested**	Cash Flow with Return
Starting Value* (7/1/2019)	\$12,492,284.15			12	\$ 12,947,781.30
<u>Cash Flows:</u>					
July				11	0.00
August				10	0.00
September				9	0.00
October				8	0.00
November	1,982,566.93			7	2,030,471.32
December				6	0.00
January				5	0.00
February				4	0.00
March				3	0.00
April				2	0.00
May				1	0.00
June				0	<u>0.00</u>
Ending Value* (6/30/2020)	\$14,978,252.62			Sum:	\$ 14,978,252.62

\* Value shown does not include any payables or receivables, except those related to investments.

\*\* Middle of period cash flows are given an additional half period of interest, and beginning of period cash flows are given an additional full period.

Return Rate:                      3.65%
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**Changes in the Net OPEB Liability [GASB 75, Paragraph 55]**

	Total OPEB Liability (a)	Plan Fiduciary Net Position (b)	Net OPEB Liability (a) - (b)
<b>Balances at beginning of Measurement Period (07/01/2019)</b>	\$ 140,266,084	\$ 12,492,284	\$ 127,773,800
<b>Changes for the Year:</b>			
Service Cost	3,457,542		3,457,542
Interest	8,487,889		8,487,889
Change in benefit terms	0		0
Differences between expected and actual experience	(6,118,570)		(6,118,570)
Change in assumptions	(9,465,966)		(9,465,966)
Contributions - employer		6,500,190	(6,500,190)
Contributions - employee		0	0
Net investment income		503,402	(503,402)
Benefit payments, including refunds of employee contributions	(4,517,623)	(4,517,623)	0
Administrative expense		0	0
Other changes		0	0
Net Changes	<u>(8,156,729)</u>	<u>2,485,968</u>	<u>(10,642,697)</u>
<b>Balances at end of Measurement Period (06/30/2020)</b>	\$ 132,109,355	\$ 14,978,253	\$ 117,131,103

**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 (07/01/2019) to the measurement date (06/30/2020). [GASB Statement No. 75, Paragraph 28]

Plan Fiduciary Net Position as a percentage of Total OPEB Liability	11.3%
Covered Employee Payroll *	\$106,084,030
Net OPEB Liability as a percentage of payroll	110.4%

\* Fiscal Year 2020 gross wages paid to all employees eligible for and accruing OPEB benefits. This amount includes base pay, overtime, vacation, step & merit increases and all other types of pay that would appear on a Form W-2.

### Projection of the Net OPEB Liability

#### TOTAL OPEB LIABILITY (TOL)

The Total OPEB Liability at the beginning of the measurement period (07/01/2019) is equal to the Actuarial Accrued Liability (AAL) rolled from 07/01/2017. Any differences between the projected amount and the actual value that are not the result of changes in assumptions or plan provisions are recognized as "Differences between expected and actual experience." GASB Statement No. 75, Paragraph 42 requires that the AAL be calculated under the Entry Age Normal Cost Method. The components of the AAL (calculated as of 07/01/2019 at a discount rate of 6.00%) are as follows:

Actives	\$ 62,805,814
Retirees, Disabled, Beneficiaries, and Vested Terminated	<u>62,738,013</u>
Total	\$ 125,543,827

The TOL is projected to the end of the measurement period (06/30/2020) 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.



### Components of Town of Andover's OPEB Expense

Components of Town of Andover's OPEB Expense for the Fiscal Year ended June 30, 2020 [GASB 75, Paragraph 43] are shown below.

NOTE*	Description	Fiscal 2020	Fiscal 2019
A	Service Cost	\$ 3,457,542	\$ 4,451,354
A, B	Interest	8,487,889	8,448,402
C	Differences between Expected and Actual Experience	749,859	1,954,302
D	Changes of Assumptions	(3,872,206)	(2,008,827)
D	Changes to Benefit Provisions	0	(10,540,194)
E	Projected Earnings on Plan Investments	(824,615)	(582,233)
F	Differences between Projected and Actual Earnings on Plan Investments	1,821	(62,421)
A	Administrative Expense	0	0
A	Other Changes in Fiduciary Net Position	0	0
	<b>Total OPEB Expense</b>	<b>\$ 8,000,290</b>	<b>\$ 1,660,382</b>

\* Notes shown on page 14. Amounts are based on the following dates:

- Valuation date: July 1, 2019
- Measurement date: June 30, 2020
- Reporting date: June 30, 2020

### CHANGES IN METHODS, ASSUMPTIONS, AND PLAN PROVISIONS

- Mortality was changed from projection scale MP-2016 to scale MP-2019
- The morbidity assumption was changed to calculate age-graded claim rates based on Health Care Costs – From Birth to Death, published by the Society of Actuaries in June, 2013
- Assumptions regarding the so-called "Cadillac Tax," which was part of the Patient Protection and Affordable Coverage Act (PPACA), were eliminated due to changes in legislation.
- There were no changes in plan provisions in the 7/1/19 actuarial valuation used for 6/30/20.

NOTES

- A. See the RSI schedule of changes to the Net OPEB Liability, on page 11.
- 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	\$ 140,266,084	100%	6.00%	\$ 8,415,965
Service cost	3,457,542	100%	6.00%	207,453
Benefit payments	\$ (4,517,623)	50%	6.00%	(135,529)
Interest				\$ 8,487,889

- 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 16.
- 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 16.
- 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	\$ 12,492,284	100%	6.00%	\$ 749,537
Employer contributions	6,500,190	54%	6.00%	210,606
Employee contributions	0	50%	6.00%	0
Benefit payments	(4,517,623)	50%	6.00%	(135,529)
Administrative expense	0	50%	6.00%	0
Total projected earnings				\$ 824,615
Actual earnings				503,402
Difference between projected and actual earnings				\$ 321,213

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 16.

**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	\$ 5,003,012	\$ (4,914,127)
Changes of assumptions	736,564	(15,778,296)
Net difference between projected and actual earnings on plan investments	<u>104,523</u>	<u>0</u>
<b>Total</b>	<b>\$ 5,844,100</b>	<b>\$ (20,692,424)</b>

Year Ending June 30, *	Recognition
2021	\$ (3,120,526)
2022	(3,120,526)
2023	(4,072,199)
2024	(4,289,646)
2025	(245,426)
Thereafter	0

\*The years are based on measurement date of June 30, 2020. For GASB 75, the reporting date is the same as the measurement date, so the Fiscal Year ending June 30, 2022 is based on a measurement date of June 30, 2021.

**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**

Fiscal Year	Differences between actual and expected experience	Recognition period (years)	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
2018	\$ 10,865,917	5.56	\$ 1,954,302	\$ 1,954,302	\$ 1,954,302	\$ 1,954,302	\$ 1,954,302	\$ 1,094,409	\$ -	\$ -	\$ -	\$ -
2019	\$ -	5.56		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2020	\$ (6,118,570)	5.08			\$(1,204,443)	\$(1,204,443)	\$(1,204,443)	\$(1,204,443)	\$(1,204,443)	\$ (96,355)	\$ -	\$ -
Net increase (decrease) in OPEB expense			\$ 1,954,302	\$ 1,954,302	\$ 749,859	\$ 749,859	\$ 749,859	\$ (110,034)	\$(1,204,443)	\$ (96,355)	\$ -	\$ -

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

Fiscal Year	Change of assumptions	Recognition period (years)	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
2018	\$ 1,599,726	5.56	\$ 287,721	\$ 287,721	\$ 287,721	\$ 287,721	\$ 287,721	\$ 161,123	\$ -	\$ -	\$ -	\$ -
2019	\$ (12,768,804)	5.56		\$(2,296,548)	\$(2,296,548)	\$(2,296,548)	\$(2,296,548)	\$(2,296,548)	\$(1,286,067)	\$ -	\$ -	\$ -
2020	\$ (9,465,966)	5.08			\$(1,863,379)	\$(1,863,379)	\$(1,863,379)	\$(1,863,379)	\$(1,863,379)	\$ (149,070)	\$ -	\$ -
Net increase (decrease) in OPEB expense			\$ 287,721	\$(2,008,827)	\$(3,872,206)	\$(3,872,206)	\$(3,872,206)	\$(3,998,803)	\$(3,149,446)	\$ (149,070)	\$ -	\$ -

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

Fiscal Year	Differences between projected and actual earnings on OPEB plan investments	Recognition period (years)	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
2018	\$ (174,085)	5	\$ (34,817)	\$ (34,817)	\$ (34,817)	\$ (34,817)	\$ (34,817)	\$ -	\$ -	\$ -	\$ -	\$ -
2019	\$ (138,022)	5		\$ (27,604)	\$ (27,604)	\$ (27,604)	\$ (27,604)	\$ (27,604)	\$ -	\$ -	\$ -	\$ -
2020	\$ 321,213	5			\$ 64,243	\$ 64,243	\$ 64,243	\$ 64,243	\$ 64,243	\$ -	\$ -	\$ -
Net increase (decrease) in OPEB expense			\$ (34,817)	\$ (62,421)	\$ 1,821	\$ 1,821	\$ 1,821	\$ 36,638	\$ 64,243	\$ -	\$ -	\$ -

## 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

Fiscal Year	Experience Losses (a)	Experience Gains (b)	Amounts Recognized in OPEB Expense through June 30, 2020 (c)	BALANCES AT JUNE 30, 2020	
				Deferred Outflows of Resources (a) - (c)	Deferred Inflows of Resources (b) - (c)
2018	\$ 10,865,917	\$ -	\$ 5,862,905	\$ 5,003,012	\$ -
2019	\$ -	\$ -	\$ -	\$ -	\$ -
2020	\$ -	\$ (6,118,570)	\$ (1,204,443)	\$ -	\$ (4,914,127)
<b>TOTAL</b>				\$ 5,003,012	\$ (4,914,127)

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

Fiscal Year	Increases in the Total OPEB Liability (a)	Decreases in the Total OPEB Liability (b)	Amounts Recognized in OPEB Expense through June 30, 2020 (c)	BALANCES AT JUNE 30, 2020	
				Deferred Outflows of Resources (a) - (c)	Deferred Inflows of Resources (b) - (c)
2018	\$ 1,599,726	\$ -	\$ 863,162	\$ 736,564	\$ -
2019	\$ -	\$ (12,768,804)	\$ (4,593,095)	\$ -	\$ (8,175,709)
2020	\$ -	\$ (9,465,966)	\$ (1,863,379)	\$ -	\$ (7,602,587)
<b>TOTAL</b>				\$ 736,564	\$ (15,778,296)

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

Fiscal Year	Investment Earnings Less than Projected (a)	Investment Earnings More than Projected (b)	Amounts Recognized in OPEB Expense through June 30, 2020 (c)	BALANCES AT JUNE 30, 2020	
				Deferred Outflows of Resources (a) - (c)	Deferred Inflows of Resources (b) - (c)
2018	\$ -	\$ (174,085)	\$ (104,451)	\$ -	\$ (69,634)
2019	\$ -	\$ (138,022)	\$ (55,209)	\$ -	\$ (82,813)
2020	\$ 321,213	\$ -	\$ 64,243	\$ 256,970	\$ -
<b>TOTAL</b>				\$ 256,970	\$ (152,447)
<b>NET TOTAL</b>				\$ 104,523	

**Results by Employer**

Employer	Proportion	Contributions made FY 2020 <sup>1</sup>	Proportionate Share of OPEB Expense <sup>2</sup>
Town of Andover	93.66%	\$ 6,088,078	\$ 7,638,473
Water	5.30%	\$ 344,510	\$ 309,777
Sewer	1.04%	\$ 67,602	\$ 52,041
<b>TOTAL</b>	100.00%	\$ 6,500,190	\$ 8,000,290

Employer	Proportionate Share of NOL	Proportionate share of NPL Discount Sensitivity (in 1,000's)	
		1% Increase (7%)	1% Decrease (5%)
Town of Andover	\$ 109,704,991	\$ 95,148	\$ 127,580
Water	\$ 6,207,948	\$ 5,384	\$ 7,219
Sewer	\$ 1,218,163	\$ 1,057	\$ 1,417
<b>TOTAL</b>	\$ 117,131,103	\$ 101,589	\$ 136,216

Employer	Change in NOL due to Change in Proportionality	Proportionate Share of Deferred Outflows of Resources <sup>3</sup>	Proportionate Share of Deferred Inflows of Resources <sup>3</sup>
Town of Andover	\$ 738,637	\$ 6,066,820	\$ (19,380,524)
Water	\$ (580,332)	\$ 309,737	\$ (1,562,791)
Sewer	\$ (158,305)	\$ 60,779	\$ (342,344)
<b>TOTAL</b>	\$ -	\$ 6,437,336	\$ (21,285,660)

<sup>1</sup> Cash contributions made to OPEB trust plus a share of the implicit subsidy. The implicit subsidy is allocated since the Enterprise Funds have made premium payments for active members.

<sup>2</sup> Includes amortization of current and prior changes in proportionality.

<sup>3</sup> Deferred Outflows and Inflows by Employer include deferred recognition of the changes in proportionality. Because of this, the total Deferred Outflows and total Deferred Inflows will not match those shown on page 16. They are only equal in total.

## SECTION II - ACTUARIAL VALUATION DETAILS

### Population Data

#### A. DISTRIBUTION BY AGE: RETIREES, BENEFICIARIES, AND SURVIVORS (Includes retirees with life only)

Age	Total
0-19	0
20-24	0
25-29	0
30-34	1
35-39	2
40-44	2
45-49	6
50-54	11
55-59	19
60-64	93
65-69	245
70-74	291
75-79	183
80-84	121
85-89	75
90-94	30
95-99	4
100+	0
TOTAL	1,083

Includes retirees who are eligible for medical or with life coverage in addition to terminated vesteds, beneficiaries, and survivors with medical coverage.



B. ACTIVE PARTICIPANTS

# OF PARTICIPANTS\*

Current Plan	Mandatory Medicare Eligible	Pre-Mandatory Medicare Eligible	Total
No Medical/ Unknown	383	1	384
Indemnity	0	0	0
Managed Care	872	20	892
<b>TOTAL</b>	<b>1,255</b>	<b>21</b>	<b>1,276</b>

\* "Pre-Mandatory Medicare eligible" means hired March 31, 1986 or before. "Mandatory Medicare eligible" means hired after March 31, 1986. Employees hired March 31, 1986 or before do not contribute to Medicare.

C. PLAN DEFINITION TABLE<sup>(1)</sup>

Name of Plan	Type of Plan	Ind Rate	Retirees Enrolled	Fam Rate	Retirees Enrolled	EE Cont %
Blue Care Elect PPO	Commercial Managed Care	\$889.44	20	\$2,383.64	0	50.00%
Network Blue NE	Commercial Managed Care	\$731.68	78	\$1,972.44	30	50.00%
Medex (1/1/19)	Medicare Indemnity	\$342.07	912	NA	NA	35.00%
Life Insurance	Life Insurance	\$2.32	371	NA	NA	50.00%

<sup>(1)</sup> Rates at 07/01/2019. Only plans with retiree enrollment shown.

Note: Effective 7/1/19 all post-65 retirees not eligible for Medicare were moved to Medicare with a Medex Supplement Plan.

C. DISTRIBUTION BY AGE AND SERVICE: ACTIVE PARTICIPANTS

Age Group	0-4	5-9	10-15	15-19	20-24	25-29	30-34	35-39	40+	Total
0-19	0	0	0	0	0	0	0	0	0	0
20-24	16	0	0	0	0	0	0	0	0	16
25-29	62	4	0	0	0	0	0	0	0	66
30-34	53	49	9	0	0	0	0	0	0	111
35-39	49	36	39	4	0	0	0	0	0	128
40-44	46	19	45	33	8	0	0	0	0	151
45-49	61	26	23	39	38	7	0	0	0	194
50-54	40	36	43	29	27	22	10	0	0	207
55-59	21	38	48	42	23	11	28	3	0	214
60-64	12	14	28	35	25	4	8	6	0	132
65-69	1	7	6	9	5	5	1	0	3	37
70-74	1	1	3	3	2	2	0	0	0	12
75-79	1	1	1	1	0	0	1	0	0	5
80-84	0	0	0	0	1	1	0	0	1	3
85-89	0	0	0	0	0	0	0	0	0	0
90-94	0	0	0	0	0	0	0	0	0	0
95-99	0	0	0	0	0	0	0	0	0	0
100+	0	0	0	0	0	0	0	0	0	0
TOTAL	363	231	245	195	129	52	48	9	4	1,276

### SECTION III – APPENDICES

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, 2019

##### Interest Rate / Discount Rate

- 6.00% per year net of investment expenses as of 06/30/2020. In the calculation of the discount rate, the 20-year Municipal General Obligation bonds as shown in the Bond Buyer 20 Bond Index (2.21%) was used. 6.00% per year was also used in the prior GASB74/75 report as of 07/01/2019.

##### Salary Scale

- Groups 1, 2, and 4: 4.25%
- Teachers: 4.00%
- Overall payroll increase rate, including new entrants of 3.00% per year.

##### Inflation

- CPI-U of 2.75% per year.

##### Mortality

- **Actives:** The RP-2014 Mortality Tables adjusted to 2006, sex-distinct, for Employees projected using generational mortality and scale MP-2019.
- **Retirees:** The RP-2014 Mortality Tables adjusted to 2006, sex-distinct, for Healthy Annuitants projected using generational mortality and scale MP-2019.
- **Disabled:** The RP-2014 Mortality Tables adjusted to 2006, sex-distinct, for Healthy Annuitants projected using generational mortality and scale MP-2019. Set forward 2 years.

Prior valuation mortality was projected using scale MP-2016.

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

**Actuarial 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 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		13.00%	5.50%	1.50%
	35		13.30	5.30	1.50
	45		14.00	7.00	2.20
	55		24.60	6.50	2.50
Female Teachers	25		10.00%	7.00%	5.00%
	35		11.00	7.00	3.00
	45		9.80	4.00	2.10
	55		13.80	6.00	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 55% ordinary and 45% accidental for Groups 1 and 2, 10% ordinary and 90% accidental for Group 4, and 55% ordinary and 45% accidental for Teachers.

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 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%	-	-	10.00%
56	2.50%	6.50%	10.00%	-	-	7.00%
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%	25.00%	30.00%	20.00%
61	20.00%	13.00%	20.00%	20.00%	13.00%	20.00%
62	30.00%	15.00%	25.00%	30.00%	15.00%	25.00%
63	25.00%	12.50%	25.00%	25.00%	12.50%	25.00%
64	22.00%	18.00%	30.00%	22.00%	18.00%	30.00%
65	40.00%	15.00%	100.00%	40.00%	15.00%	100.00%
66	25.00%	20.00%	NA	25.00%	20.00%	NA
67	25.00%	20.00%	NA	25.00%	20.00%	NA
68	30.00%	25.00%	NA	30.00%	25.00%	NA
69	30.00%	20.00%	NA	30.00%	20.00%	NA
70	100.00%	100.00%	NA	100.00%	100.00%	NA

**Actuarial 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%	2%	1.5%	N/A	N/A	N/A	N/A	N/A	N/A
51	N/A	N/A	1	1	2	1.5	N/A	N/A	N/A	N/A	N/A	N/A
52	N/A	N/A	1	1	2	1.5	N/A	N/A	N/A	N/A	N/A	N/A
53	N/A	N/A	1.5	1	2	1.5	N/A	N/A	N/A	N/A	N/A	N/A
54	N/A	N/A	2.5	1	2	2	N/A	N/A	N/A	N/A	N/A	N/A
55	5%	3%	3	3	6	5	N/A	N/A	N/A	N/A	N/A	N/A
56	5	3	6	3	20	15	N/A	N/A	N/A	N/A	N/A	N/A
57	5	4	10	8	40	35	N/A	N/A	N/A	N/A	N/A	N/A
58	5	8	15	10	50	35	N/A	N/A	N/A	N/A	N/A	N/A
59	10	8	20	15	50	35	N/A	N/A	N/A	N/A	N/A	N/A
60	10	10	25	20	40	35	10%	10%	25%	20%	40%	35%
61	20	12	30	25	40	35	20	12	30	25	40	35
62	20	12	35	30	35	35	20	12	35	30	35	35
63	25	15	40	30	35	35	25	15	40	30	35	35
64	25	20	40	30	35	35	25	20	40	30	35	35
65	25	25	40	40	35	35	25	25	40	40	35	35
66	30	25	30	30	40	35	30	25	30	30	40	35
67	30	30	30	30	40	30	30	30	30	30	40	30
68	30	30	30	30	40	30	30	30	30	30	40	30
69	30	30	30	30	40	30	30	30	30	30	40	30
70	100	100	100	100	100	100	100	100	100	100	100	100



**Actuarial 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-graded claim rates are derived using valuation demographics and aging curves from Health Care Costs – From Birth to Death, published by the Society of Actuaries in June, 2013.

Age	Commercial Managed Care Individual	Commercial Managed Care Blended <sup>(1)</sup>	Commercial Indemnity Individual	Commercial Indemnity Blended <sup>(1)</sup>	Medicare Managed Care	Medicare Indemnity
55	\$9,393.64	\$14,372.30	NA	NA	NA	\$3,537.90
60	\$11,536.93	\$17,663.40	NA	NA	NA	\$3,537.90
65	\$14,463.50	\$20,872.38	NA	NA	NA	\$3,537.90
70	\$17,463.55	\$25,201.80	NA	NA	NA	\$3,912.54
75	\$20,878.46	\$30,130.19	NA	NA	NA	\$4,225.75
80	\$24,854.11	\$35,867.50	NA	NA	NA	\$4,451.81
85	\$24,854.11	\$35,867.50	NA	NA	NA	\$4,567.13

<sup>(1)</sup> Blended rates below 65 are 30% Family and 70% Individual. Blended rates 65 and higher are 25% Family and 75% Individual. Individual rates are used for all participants 81 and higher.

**Actuarial Assumptions (Continued)**

Trend Rates by Plan

Year	Commercial Managed Care	Commercial Indemnity	Medicare Indemnity	Medicare Managed Care
2019	4.70%	9.50%	4.15%	7.50%
2020	8.00%	9.00%	8.00%	7.00%
2021	7.50%	8.50%	7.50%	6.50%
2022	7.00%	8.00%	7.00%	6.00%
2023	6.50%	7.50%	6.50%	5.50%
2024	6.00%	7.00%	6.00%	5.00%
2025	5.50%	6.50%	6.00%	5.00%
2026	5.00%	6.00%	6.00%	5.00%
2027	5.00%	6.00%	6.00%	5.00%
2028	5.00%	6.00%	6.00%	5.00%
2029	5.00%	6.00%	5.75%	5.00%
2030	5.00%	6.00%	5.75%	5.00%
2031	5.00%	5.75%	5.75%	5.00%
2032	5.00%	5.75%	5.50%	5.00%
2033	5.00%	5.75%	5.50%	5.00%
2034	5.00%	5.75%	5.50%	5.00%
2035	5.00%	5.75%	5.25%	5.00%
2036	5.00%	5.50%	5.25%	5.00%
2037	5.00%	5.50%	5.00%	5.00%
2038	5.00%	5.50%	5.00%	5.00%
2039	5.00%	5.50%	5.00%	5.00%
2040	5.00%	5.50%	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%	5.25%	5.00%	5.00%
2045	5.00%	5.25%	5.00%	5.00%
2046	5.00%	5.00%	5.00%	5.00%

Expenses

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

## Actuarial 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%/Indemnity and 70%/Managed Care of the active Town of Andover employees eligible for post-employment medical benefits are assumed to elect Medical Coverage immediately upon retirement. 30% of pre-65 retirees and 25% of post-65 retirees are assumed to elect family plans.

Life All Retirees: 60% 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.

### PPACA

OPEB liabilities as of June 30, 2020 no longer include an estimate of the impact from the Patient Protection and Affordable Care Act (PPACA), including the so-called "Cadillac Tax" on high-cost health plans, as it has been repealed as of the measurement date. The Cadillac Tax on plans whose richness exceeds set levels was to begin in 2022.

## 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 \$1.16 per month, or 50% of the \$2.32 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.

■ **Town of Andover**

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- **Cadillac Tax:** Under the Affordable Care Act and starting in 2022, a 40% excise tax on the value of employer-sponsored health benefits exceeding specified thresholds. This has been repealed.
- **Commercial Plans:** Plans designed to cover the medical expenses of those not otherwise covered by Medicare.
- **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.
- **Service Cost:** The portion of the Actuarial Present value of plan benefits that is allocated to a valuation year by the Actuarial Cost Method. Referred to as Normal Cost in funding valuations.
- **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.