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# **TOWN OF WINDSOR OTHER POST-EMPLOYMENT BENEFITS PLAN**

**Actuarial Valuation as of July 1, 2019  
To Determine Funding for Fiscal Year 2020-21**

**Prepared by**

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## Certification

We have performed an actuarial valuation of the Plan as of July 1, 2019 to determine funding for fiscal year 2020-21. This report presents the results of our valuation.

The ultimate cost of an Other Post-Employment Benefits (OPEB) plan is the total amount needed to provide benefits for plan members and beneficiaries and to pay the expenses of administering the plan. OPEB costs are met by contributions and by investment return on plan assets. The principal purpose of this report is to set forth an actuarial recommendation of the contribution, or range of contributions, which will properly fund the plan, in accordance with applicable actuarial standards of practice. In addition, this report provides:

- A valuation of plan assets and liabilities to review the year-to-year progress of funding.
- Review of plan experience since the previous valuation to ascertain whether the assumptions and methods employed for valuation purposes are reflective of actual events and remain appropriate for prospective application.
- Assessment of the relative funded position of the plan, i.e., through a comparison of plan assets and projected plan liabilities.
- Comments on any other matters which may be of assistance in the funding and operation of the plan.

This report may not be used for purposes other than those listed above without Milliman's prior written consent. If this report is distributed to other parties, it must be copied in its entirety, including this certification section.

Milliman's work is prepared solely for the internal business use of the Town of Windsor ("Town"). To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exceptions: (a) the Town may provide a copy of Milliman's work, in its entirety, to the Town's professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit the Town; and (b) the Town may provide a copy of Milliman's work, in its entirety, to other governmental entities, as required by law. No third party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

In preparing this report, we relied on employee census data and financial information as of the valuation date, furnished by the Town. We performed a limited review of the data used directly in our analysis for reasonableness and consistency and have found them to be reasonably consistent and comparable with data used for other purposes. If the underlying data or information is inaccurate or incomplete, the results of our analysis may likewise be inaccurate or incomplete and our calculations may need to be revised. If there are material defects in the data, it is possible that they would be uncovered by a detailed, systematic review and comparison of the data to search for data values that are questionable or for relationships that are materially inconsistent. Such a review was beyond the scope of our assignment.

## Certification

The calculations reported herein have been made on a basis consistent with our understanding of the plan provisions. Additional determinations may be needed for purposes other than determining funding amounts, such as judging benefit security at plan termination or meeting employer accounting requirements. On the basis of the foregoing, we hereby certify that, to the best of our knowledge, this report is complete and accurate and all costs and liabilities were determined in conformance with generally accepted actuarial principles and practices.

We further certify that, in our opinion, each actuarial assumption, method and technique used is reasonable taking into account the experience of the Plan and reasonable expectations. Future actuarial measurements may differ significantly from the current measurements presented in this report due to factors such as, but not limited to, the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic 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 or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of the actuarial assignment, we did not perform an analysis of the potential range of such future measurement.

The consultants who worked on this assignment are actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The undersigned are 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.



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## Section I - Executive Summary Changes Since the Prior Valuation

### Demographic Changes and Plan Experience

From July 1, 2017 to July 1, 2019, the overall membership decreased from 854 to 851. The number of active members decreased from 652 to 639, and the total number of members and spouses/dependents receiving benefits increased from 202 to 212.

The average age of active members decreased slightly from 46.1 to 45.4, and the average age of members receiving benefits increased from 70.1 to 70.2.

### Plan Changes

None.

### Changes in Actuarial Methods and Assumptions

This valuation reflects the adoption of the Pub-2010 mortality table with generational projection of future improvements per MP Ultimate Table. In addition to this, we also updated certain demographic assumptions for the BOE Certified employees to reflect the assumptions used in the June 30, 2018 Pension Actuarial Valuation Report for the Connecticut State Teachers' Retirement System.

We changed the basis for allocating assets to each group to be based on Accrued Liability rather than Net Budget Impact. Finally, we lengthened the amortization period for the Police Unfunded Accrued Liability to 24 years, from 14, so that it is now the same as the other groups.

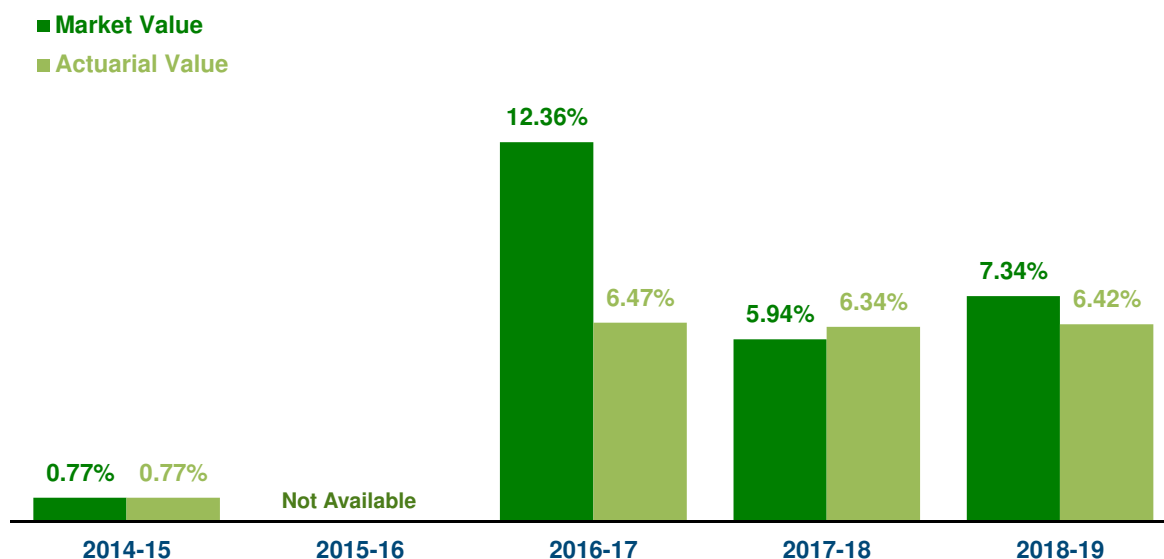
These changes in combination caused the Unfunded Accrued Liability to increase by about \$3.54 million and the Actuarially Determined Contribution to increase by about \$47,000.

## Section I - Executive Summary Assets

There are two different measures of the plan's assets that are used throughout this report. The Market Value is a snapshot of the plan's investments as of the valuation date. The Actuarial Value is a smoothed asset value designed to temper the volatile fluctuations in the market by recognizing investment gains or losses non-asymptotically over five years.

	<b>Market</b>	<b>Actuarial</b>
Value as of July 1, 2017	\$1,337,839	\$1,279,497
Town Contributions	1,976,204	1,976,204
Investment Income	94,245	96,900
Benefit Payments	(1,477,321)	(1,477,321)
Value as of July 1, 2018	1,930,967	1,875,280
Town Contributions	2,226,427	2,226,427
Investment Income	163,760	139,562
Benefit Payments	(1,627,682)	(1,627,682)
Value as of July 1, 2019	2,693,472	2,613,587

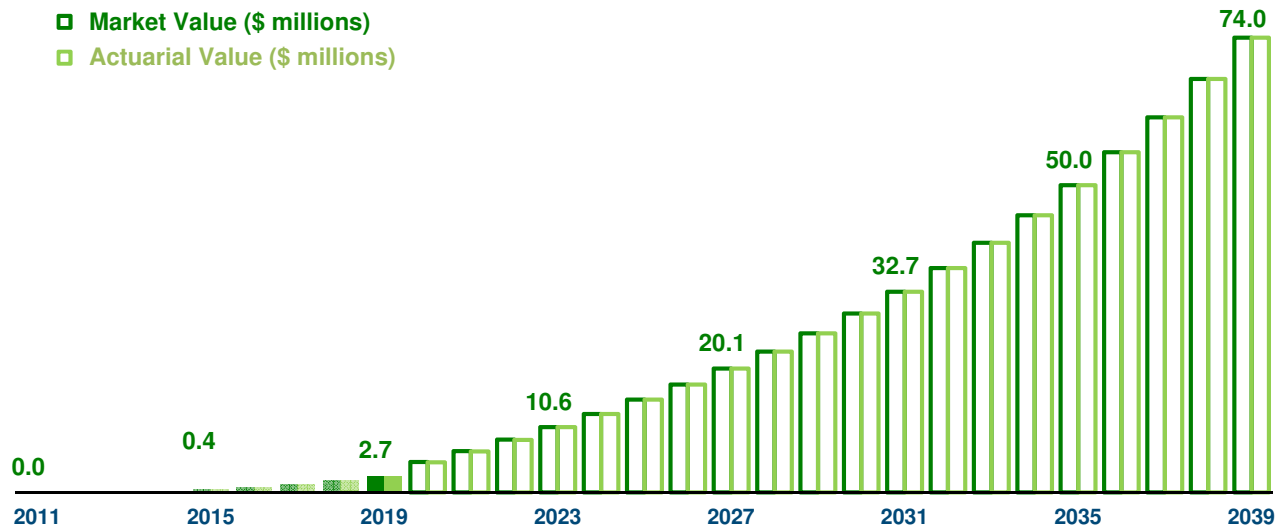
For fiscal year 2017-18, the plan's assets earned 5.94% on a Market Value basis. The actuarial assumption for this period was 5.00%; the result is an asset gain of about \$14,900. For fiscal year 2018-19, the plan's assets earned 7.34% on a Market Value basis. The actuarial assumption for this period was 5.00%; the result is an asset gain of about \$52,200. Historical rates of return are shown in the graph below.



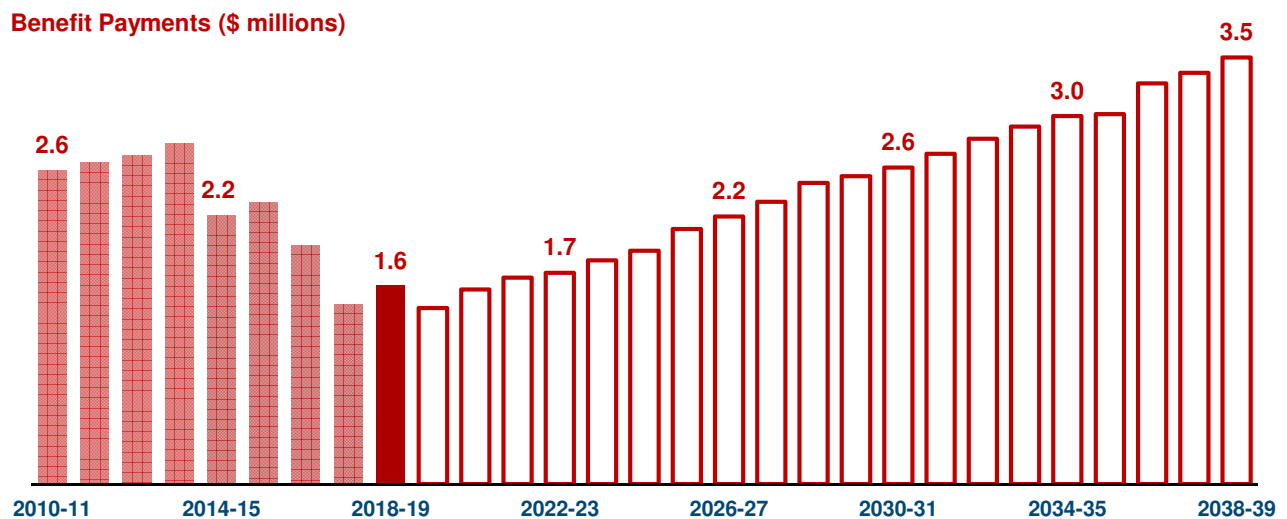
Please note that the Actuarial Value currently is less than the Market Value by \$79,885. This figure represents investment gains that will be gradually recognized in future years. This process will exert downward pressure on the Town's contribution, unless there are offsetting market losses.

## Section I - Executive Summary Assets (continued)

The graph below shows how this year's asset values compare to where the plan's assets have been over the past several years and how they are projected to change over the next 20 years. For purposes of this projection, we have assumed that the Town always contributes the Actuarially Determined Contribution and the investments always earn the assumed interest rate each year.

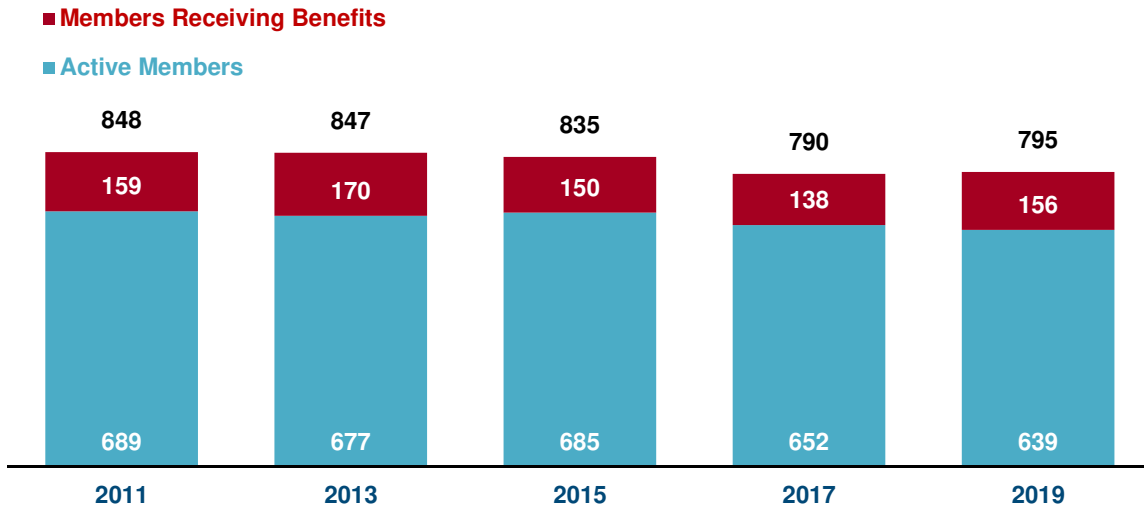


In 2018-19, the plan paid out \$1.6 million in benefits to members. Over the next 20 years, the plan is projected to pay out a total of \$49.1 million in benefits to members.



## Section I - Executive Summary Membership

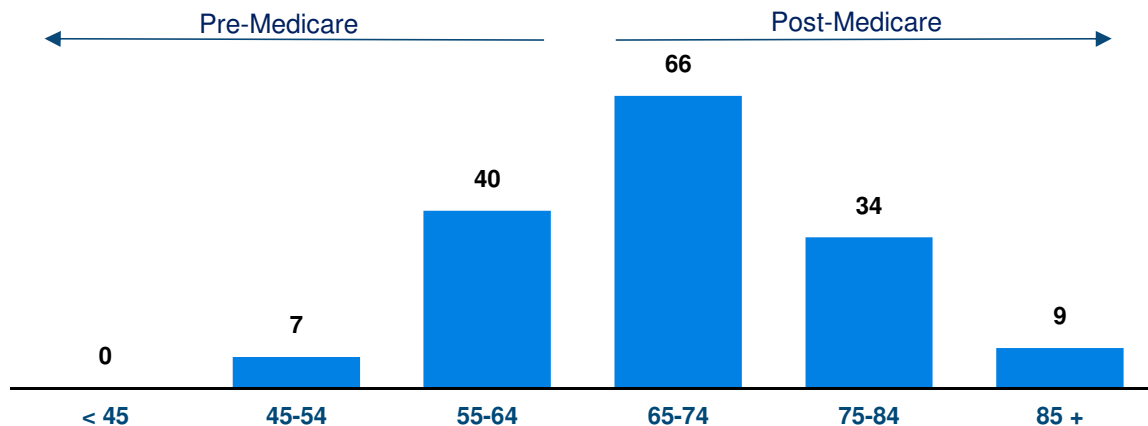
There are two basic categories of plan members included in the valuation: (1) members who are receiving benefits and (2) active employees who have met the eligibility requirements for membership.



### Currently Receiving Benefits on July 1, 2019

Members Receiving Benefits	156
Spouses/Dependents Receiving Benefits	<u>56</u>
Total	212
 Average Age	 70.0

The members receiving benefits fall across a wide distribution of ages:





## Section I - Executive Summary Membership (continued)

### Active Members on July 1, 2019

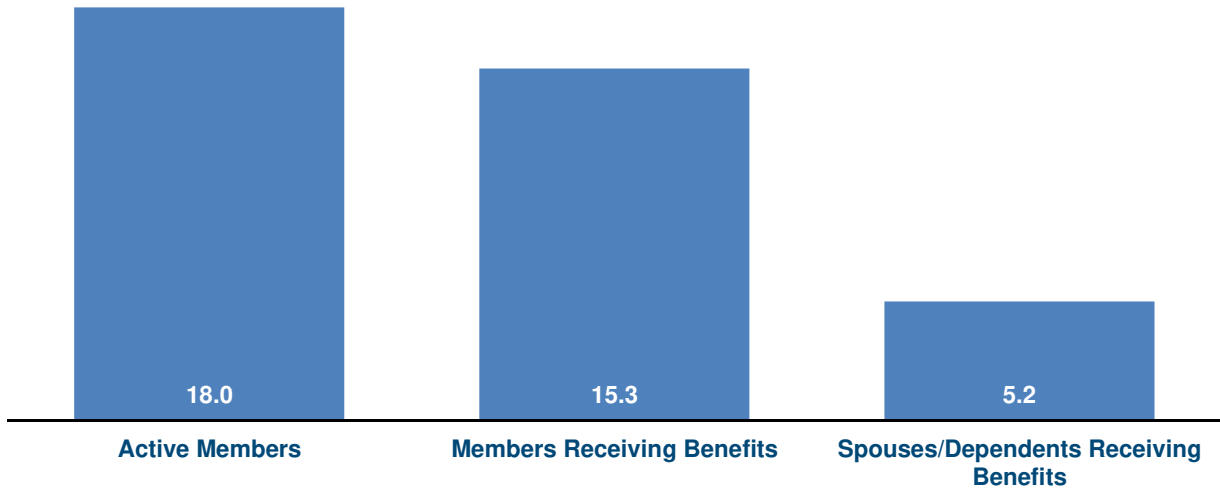
Count	639
Average Age	45.4
Average Service	10.5
Payroll	\$43,755,414
Average Payroll	68,475

The table below illustrates the age and years of service of the active membership:

Age	Years of Service							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
< 25	17							17
25-29	63	7						70
30-34	37	18	4					59
35-39	31	18	22	2				73
40-44	27	13	22	17	5			84
45-49	28	12	16	21	8			85
50-54	18	16	22	10	11	7	5	89
55-59	11	15	13	22	10	3	6	80
60-64	6	9	10	21	3	5	11	65
65+	1	3	4	5	1		3	17
<b>Total</b>	239	111	113	98	38	15	25	639

## Section I - Executive Summary Accrued Liability

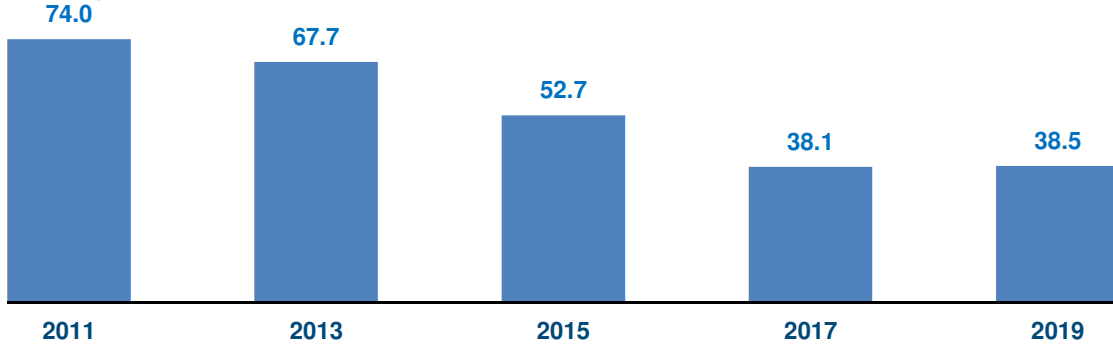
The Accrued Liability as of July 1, 2019 is \$38,454,762 and consists of the following pieces (in \$ millions):



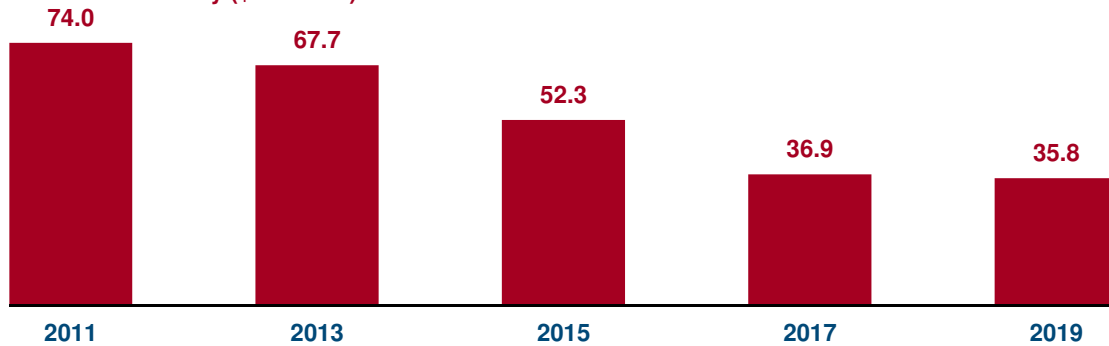
## Section I - Executive Summary Funded Status

The Accrued Liability grows over time as active members earn additional benefits, and goes down over time as members receive benefits; it may also change when there are changes to the plan provisions or changes in the actuarial assumptions. The Unfunded Accrued Liability is the dollar difference between the Accrued Liability and the Actuarial Value of Assets; the Funded Ratio is the ratio of the two.

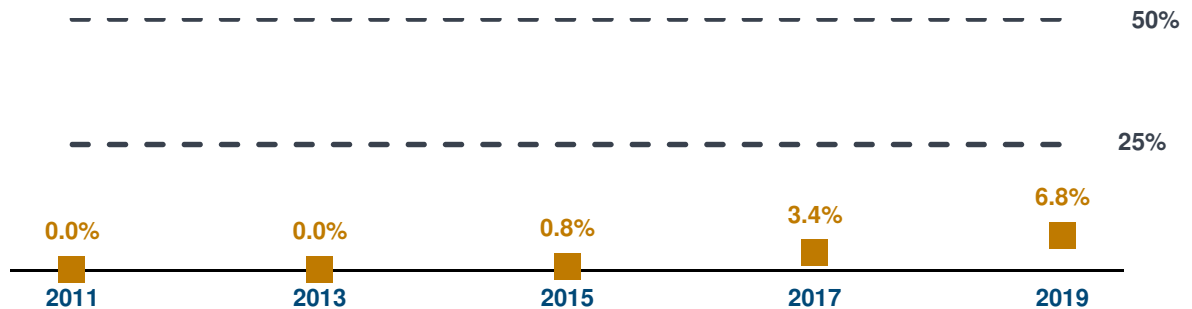
Accrued Liability (\$ millions)



Unfunded Accrued Liability (\$ millions)



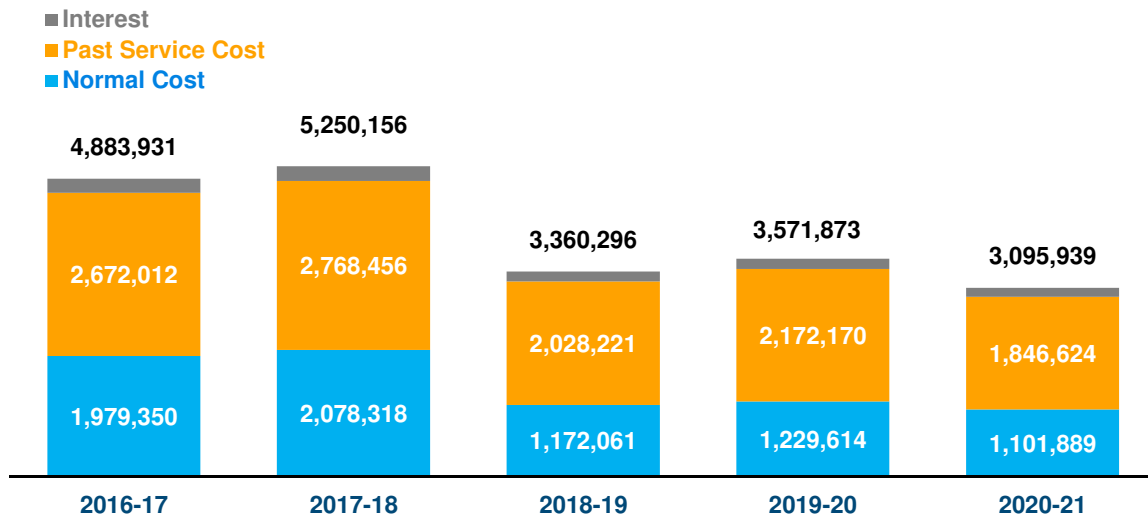
Funded Ratio



## Section I - Executive Summary Actuarially Determined Contribution

The Actuarially Determined Contribution consists of three pieces: a Normal Cost payment to fund the benefits earned each year, a Past Service Cost to gradually reduce any unfunded or surplus liability, and Interest to reflect the timing of the contribution relative to the valuation date.

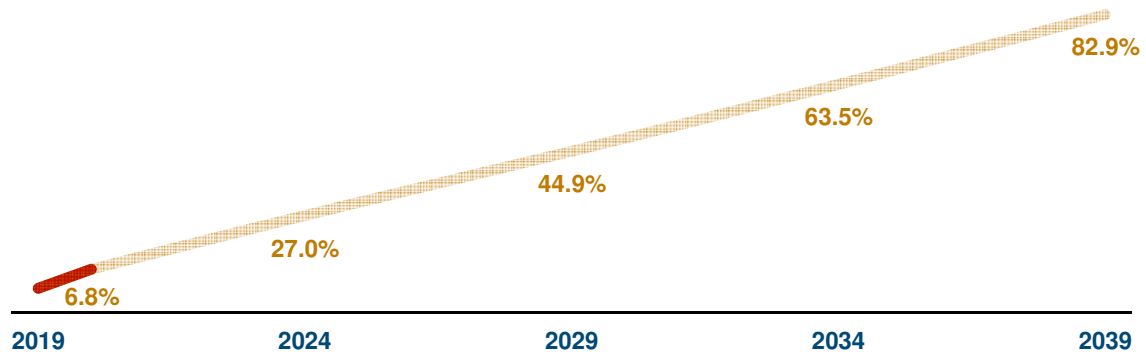
The Actuarially Determined Contribution for fiscal year 2020-21 is \$3,095,939 as shown graphically below, along with the comparable figures for the preceding four fiscal years. Note that the Normal Cost is relatively consistent from year to year, whereas the Past Service Cost tends to be more volatile since it reflects the impact of asset performance.



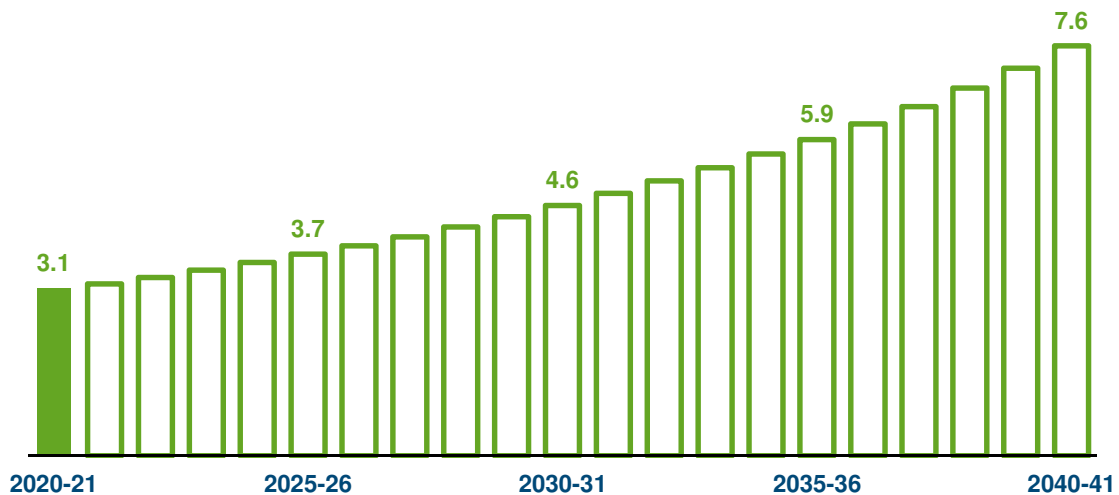
## Section I - Executive Summary Long-Range Forecast

If the Town pays the Actuarially Determined Contribution each year, the investments earn exactly the assumed interest rate each year, and there are no changes in the plan provisions or in the actuarial methods and assumptions, then we project the following changes in the plan's funded status and the long-range contribution levels:

### Funded Ratio



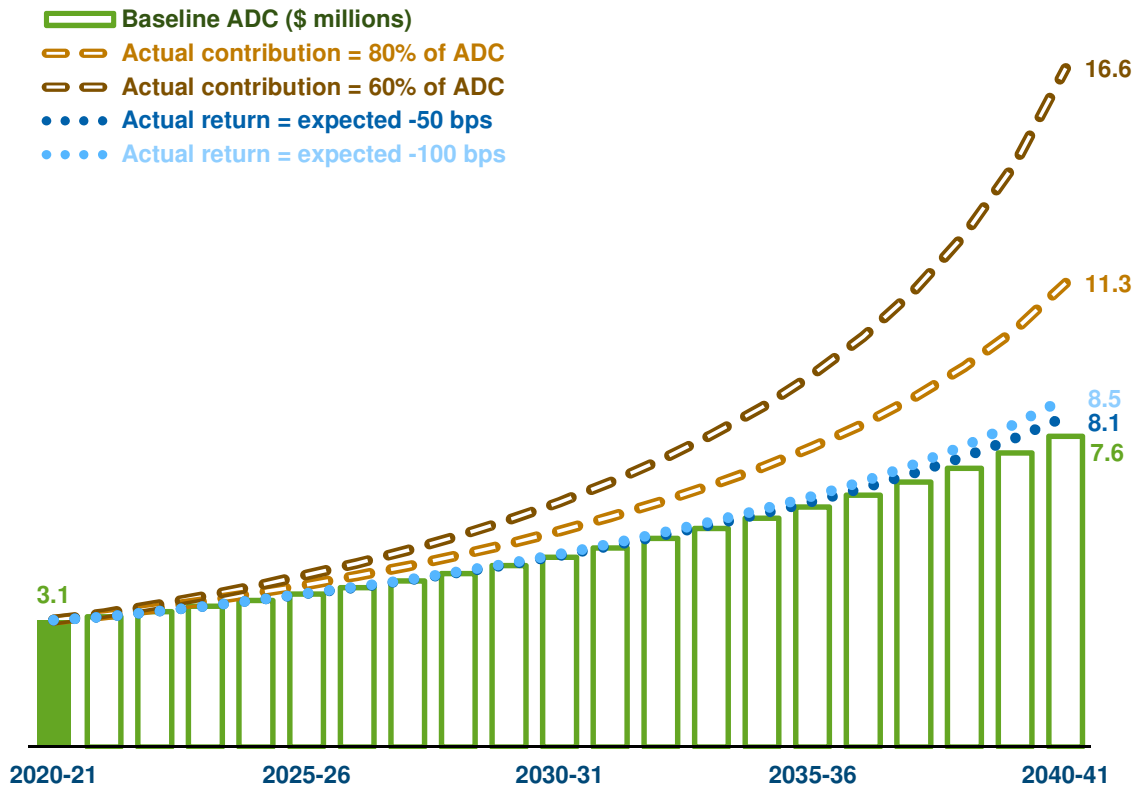
### Actuarially Determined Contribution (\$ millions)



To the extent that there are future investment or liability gains or losses, changes in the actuarial assumptions or methods, or plan changes, the actual valuation results will differ from these forecasts. Please see Section III C for more details of the long range forecast.

## Section I - Executive Summary Long-Range Forecast (continued)

Benefits are paid for through a combination of contributions from the Town and from employees, and from investment income. If the Town pays less than the Actuarially Determined Contribution each year, or if the investments persistently earn less than the assumed interest rate, then the plan's funded status would suffer, and to compensate, the Town's contribution levels would be pushed higher. The risks of underfunding and underearning are illustrated in the hypothetical scenarios below:



The scenarios illustrated above are based on deterministic projections that assume emerging plan experience always exactly matches the actuarial assumptions; in particular that actual asset returns will be constant in every year of the projection period. Variation in asset returns, contribution amounts, and many other factors may have a significant impact on the long-term financial health of the plan, the liquidity constraints on plan assets, and the Town's future contribution levels. Stochastic projections could be prepared that would enable the Town to understand the potential range of future results based on the expected variability in asset returns and other factors. Such analysis was beyond the scope of this engagement.

## Section I - Executive Summary Summary of Principal Results

<b>Membership as of</b>	<b>July 1, 2017</b>	<b>July 1, 2019</b>
Active Members	652	639
Members Receiving Benefits	<u>138</u>	<u>156</u>
Total Count	790	795
Payroll	\$46,133,025	\$43,755,414
<b>Assets and Liabilities as of</b>	<b>July 1, 2017</b>	<b>July 1, 2019</b>
Market Value of Assets	\$1,337,839	\$2,693,472
Actuarial Value of Assets	1,279,497	2,613,587
Accrued Liability for Active Members	20,194,137	17,973,294
Accrued Liability for Members Receiving Benefits	<u>17,948,259</u>	<u>20,481,468</u>
Total Accrued Liability	38,142,396	38,454,762
Unfunded Accrued Liability	36,862,899	35,841,175
Funded Ratio	3.4%	6.8%
<b>Actuarially Determined Contribution for Fiscal Year</b>	<b>2018-19</b>	<b>2020-21</b>
Normal Cost	\$1,172,061	\$1,101,889
Past Service Cost	2,028,221	1,846,624
Interest	<u>160,014</u>	<u>147,426</u>
Actuarially Determined Contribution	3,360,296	3,095,939

## Section II - Plan Assets

### A. Summary of Fund Transactions

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<b>Market Value as of July 1, 2017</b>	<b>\$1,337,839</b>
Town Contributions	1,976,204
Member Contributions	0
Net Investment Income	94,245
Benefit Payments	(1,476,204)
Administrative Expenses	(1,117)
 <b>Market Value as of June 30, 2018</b>	 <b>1,930,967</b>
Expected Return on Market Value of Assets, 2017-18	79,331
Market Value (Gain)/Loss, 2017-18	(14,914)
Approximate Rate of Return, 2017-18*	5.94%
 <b>Market Value as of July 1, 2018</b>	 <b>\$1,930,967</b>
Town Contributions	2,226,427
Member Contributions	0
Net Investment Income	163,760
Benefit Payments	(1,626,427)
Administrative Expenses	(1,255)
 <b>Market Value as of June 30, 2019</b>	 <b>2,693,472</b>
Expected Return on Market Value of Assets, 2018-19	111,553
Market Value (Gain)/Loss, 2018-19	(52,207)
Approximate Rate of Return, 2018-19*	7.34%

\* The rates shown here are not the dollar or time weighted investment yield rate which measures investment performance. They are an approximate net return assuming all activity occurred on average midway through the fiscal year.



## Section II - Plan Assets

### B. Development of Actuarial Value of Assets

In order to minimize the impact of market fluctuations on the contribution level, we use an Actuarial Value of Assets that recognizes gains and losses in equal installments ('non-asymptotically') over a five year period. The Actuarial Value of Assets as of July 1, 2018 is determined below.

1.	Expected Market Value of Assets:																					
	a. Market Value of Assets as of July 1, 2017	\$1,337,839																				
	b. Town Contributions	1,976,204																				
	c. Benefit Payments	(1,477,321)																				
	d. Expected Earnings Based on 5.00% Interest	<u>79,331</u>																				
	e. Expected Market Value of Assets as of July 1, 2018	1,916,053																				
2.	Actual Market Value of Assets as of July 1, 2018	1,930,967																				
3.	Market Value (Gain)/Loss: (1e) - (2)	(14,914)																				
4.	Delayed Recognition of Market (Gains)/Losses																					
	<table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Plan Year End</th> <th style="text-align: left;">(Gain)/Loss</th> <th style="text-align: left;">Percent Not Recognized</th> <th style="text-align: left;">Amount Not Recognized</th> </tr> </thead> <tbody> <tr> <td>06/30/2018</td> <td style="text-align: right;">(\$14,914)</td> <td style="text-align: right;">80%</td> <td style="text-align: right;">(\$11,931)</td> </tr> <tr> <td>06/30/2017</td> <td style="text-align: right;">(72,927)</td> <td style="text-align: right;">60%</td> <td style="text-align: right;">(43,756)</td> </tr> <tr> <td>06/30/2016</td> <td style="text-align: right;">0</td> <td style="text-align: right;">40%</td> <td style="text-align: right;">0</td> </tr> <tr> <td>06/30/2015</td> <td style="text-align: right;">0</td> <td style="text-align: right;">20%</td> <td style="text-align: right;"><u>0</u></td> </tr> </tbody> </table>	Plan Year End	(Gain)/Loss	Percent Not Recognized	Amount Not Recognized	06/30/2018	(\$14,914)	80%	(\$11,931)	06/30/2017	(72,927)	60%	(43,756)	06/30/2016	0	40%	0	06/30/2015	0	20%	<u>0</u>	(55,687)
Plan Year End	(Gain)/Loss	Percent Not Recognized	Amount Not Recognized																			
06/30/2018	(\$14,914)	80%	(\$11,931)																			
06/30/2017	(72,927)	60%	(43,756)																			
06/30/2016	0	40%	0																			
06/30/2015	0	20%	<u>0</u>																			
5.	Actuarial Value of Assets as of July 1, 2018: (2) + (4)	1,875,280																				
6.	Return on Actuarial Value of Assets	96,900																				
7.	Approximate Rate of Return on Actuarial Value of Assets	6.34%																				
8.	Actuarial Value (Gain)/Loss	(20,456)																				

## Section II - Plan Assets

### B. Development of Actuarial Value of Assets

The Actuarial Value of Assets as of July 1, 2019 is determined below.

1.	Expected Market Value of Assets:		
	a. Market Value of Assets as of July 1, 2018		\$1,930,967
	b. Town Contributions		2,226,427
	c. Benefit Payments		(1,627,682)
	d. Expected Earnings Based on 5.00% Interest		<u>111,553</u>
	e. Expected Market Value of Assets as of July 1, 2019		2,641,265
2.	Actual Market Value of Assets as of July 1, 2019		2,693,472
3.	Market Value (Gain)/Loss: (1e) - (2)		(52,207)
4.	Delayed Recognition of Market (Gains)/Losses		
		<b>Percent Not</b>	<b>Amount Not</b>
	<b>Plan Year End</b>	<b>(Gain)/Loss</b>	<b>Recognized</b>
	06/30/2019	(\$52,207)	80%
	06/30/2018	(14,914)	60%
	06/30/2017	(72,927)	40%
	06/30/2016	0	20%
			<u>0</u>
			(79,885)
5.	Actuarial Value of Assets as of July 1, 2019: (2) + (4)		2,613,587
6.	Return on Actuarial Value of Assets		139,562
7.	Approximate Rate of Return on Actuarial Value of Assets		6.42%
8.	Actuarial Value (Gain)/Loss		(30,869)

## Section III - Development of Contribution

### A. Summary of Liabilities

We have calculated the Accrued Liability separately for 11 groups, who are eligible for different OPEB benefits. We have broken the accrued liability into several pieces: benefits that are expected to be paid prior to age 65 (i.e. prior to Medicare) and after age 65 (i.e. after Medicare) to current active members and their covered dependents after retirement, and the same figures for members who have already retired and are currently receiving benefits. In all cases, the Accrued Liability only reflects benefits that are paid for by the Town, taking into account any implicit rate subsidies.

	BOE Admin	Teachers	BOE Clerical	BOE Custodians	BOE Food Service	BOE Non-Union	BOE Nurses	Town Dispatchers	Town Admin	Town Teamsters	Police	Total
<b>Current active members</b>												
Members Under Age 65	\$88,722	\$2,416,765	\$134,301	\$373,067	\$41,569	\$157,713	\$34,104	\$144,436	\$1,081,803	\$696,354	\$1,119,209	\$6,288,043
Members Over Age 65	0	415,002	342,350	964,766	203,950	556,350	0	279,614	2,349,976	1,185,989	1,244,433	7,542,430
Dependents Under Age 65	27,112	675,222	2,390	64,607	68	12,888	0	5,478	230,612	243,223	933,824	2,195,424
Dependents Over Age 65	<u>0</u>	<u>191,730</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>53,808</u>	<u>0</u>	<u>33,924</u>	<u>499,428</u>	<u>342,649</u>	<u>825,858</u>	<u>1,947,397</u>
Total	115,834	3,698,719	479,041	1,402,440	245,587	780,759	34,104	463,452	4,161,819	2,468,215	4,123,324	17,973,294
<b>Current members receiving benefits</b>												
Members Under Age 65	42,520	183,648	8,149	69,806	24,917	183,735	24,076	0	119,061	161,042	1,347,221	2,164,175
Members Over Age 65	761,681	3,334,384	478,538	155,045	69,251	2,754,896	23,331	0	1,824,458	1,660,392	2,081,633	13,143,609
Dependents Under Age 65	0	51,134	0	36,002	0	181,079	0	0	129,328	101,203	792,180	1,290,926
Dependents Over Age 65	<u>0</u>	<u>196,226</u>	<u>47,376</u>	<u>0</u>	<u>0</u>	<u>686,844</u>	<u>0</u>	<u>0</u>	<u>747,857</u>	<u>549,463</u>	<u>1,654,992</u>	<u>3,882,758</u>
Total	804,201	3,765,392	534,063	260,853	94,168	3,806,554	47,407	0	2,820,704	2,472,100	5,876,026	20,481,468
<b>Total Accrued Liability</b>	920,035	7,464,111	1,013,104	1,663,293	339,755	4,587,313	81,511	463,452	6,982,523	4,940,315	9,999,350	38,454,762
<b>Accrued Liability Sensitivity</b>												
		<b>1% Decrease</b>			<b>Baseline</b>			<b>1% Increase</b>				
Discount Rate		44,531,385			38,454,763			33,583,847				
Trend Rate		33,219,068			38,454,763			45,039,041				

## Section III - Development of Contribution

### B. Actuarially Determined Contribution

The Actuarially Determined Contribution (ADC) for the OPEB program consists of three pieces: a Normal Cost (the cost of benefits earned each year should be accrued in that year) plus a Past Service Cost (a catch-up accrual to amortize the Unfunded Accrued Liability) plus Interest to reflect the timing lag between the valuation date and the fiscal year. The amortization method produces annual payments that will increase by 3.00% annually. On this basis, the ADC is determined as follows:

	BOE Admin	Teachers	BOE Clerical	BOE Custodians	BOE Food Service	BOE Non-Union	BOE Nurses	Town Dispatchers	Town Admin	Town Teamsters	Police	Total
Accrued Liability	\$920,035	\$7,464,111	\$1,013,104	\$1,663,293	\$339,755	\$4,587,313	\$81,511	\$463,452	\$6,982,523	\$4,940,315	\$9,999,350	\$38,454,762
Actuarial Value of Assets*	62,530	507,299	68,856	113,046	23,092	311,778	5,540	31,499	474,569	335,770	679,608	2,613,587
Unfunded Accrued Liability	857,505	6,956,812	944,248	1,550,247	316,663	4,275,535	75,971	431,953	6,507,954	4,604,545	9,319,742	35,841,175
Funded Ratio	6.8%	6.8%	6.8%	6.8%	6.8%	6.8%	6.8%	6.8%	6.8%	6.8%	6.8%	6.8%
Amortization Period	24	24	24	24	24	24	24	24	24	24	24	24
Amortization Growth Rate	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Past Service Cost	44,181	358,432	48,650	79,872	16,315	220,286	3,914	22,255	335,306	237,237	480,176	1,846,624
Normal Cost	17,764	269,966	27,798	47,246	16,511	39,644	4,560	15,455	202,772	104,499	354,374	1,100,589
Employee Contributions	0	0	0	0	0	0	0	0	0	0	0	0
Expenses*	31	253	34	56	11	155	3	16	236	167	338	1,300
Employer Normal Cost	17,795	270,219	27,832	47,302	16,522	39,799	4,563	15,471	203,008	104,666	354,712	1,101,889
Interest	3,099	31,433	3,824	6,359	1,642	13,004	424	1,886	26,916	17,095	41,744	147,426
ADC for FY 2020-21	65,075	660,084	80,306	133,533	34,479	273,089	8,901	39,612	565,230	358,998	876,632	3,095,939
Expected Benefit Payouts	(57,612)	(284,517)	(40,989)	(18,381)	(10,227)	(243,698)	(5,947)	(3,028)	(218,856)	(180,418)	(382,273)	(1,445,946)
Net Budget Impact	7,463	375,567	39,317	115,152	24,252	29,391	2,954	36,584	346,374	178,580	494,359	1,649,993

\*The Actuarial Value of Assets and Expenses are allocated to groups in proportion to their respective Accrued Liability

## Section III - Development of Contribution C. Long Range Forecast

This forecast is based on the results of the July 1, 2019 actuarial valuation and assumes that the Town will pay the Actuarially Determined Contribution each year, the assets will return the assumed interest rate on a market value basis each year, and there are no future changes in the actuarial methods or assumptions or in the plan provisions. Actual results at each point in time will yield different values, reflecting the actual experience of the plan membership and assets.

Valuation Date	Values as of the Valuation Date				Fiscal Year	Cash Flows Projected to the Following Fiscal Year			
	Accrued Liability	Actuarial Value of Assets	Unfunded Accrued Liability	Funded Ratio		Town Contributions	Member Contributions	Benefit Payments	Net Cash Flows
7/1/2019	\$38,454,762	\$2,613,587	\$35,841,175	6.8%	2020-21	\$3,095,939	\$0	(\$1,597,777)	\$1,498,162
7/1/2020	40,148,000	4,868,000	35,280,000	12.1%	2021-22	3,180,000	0	(1,693,000)	1,487,000
7/1/2021	41,821,000	6,676,000	35,145,000	16.0%	2022-23	3,300,000	0	(1,734,000)	1,566,000
7/1/2022	43,535,000	8,547,000	34,988,000	19.6%	2023-24	3,436,000	0	(1,835,000)	1,601,000
7/1/2023	45,361,000	10,589,000	34,772,000	23.3%	2024-25	3,580,000	0	(1,916,000)	1,664,000
7/1/2024	47,250,000	12,758,000	34,492,000	27.0%	2025-26	3,733,000	0	(2,094,000)	1,639,000
7/1/2025	49,233,000	15,100,000	34,133,000	30.7%	2026-27	3,888,000	0	(2,195,000)	1,693,000
7/1/2026	51,213,000	17,533,000	33,680,000	34.2%	2027-28	4,052,000	0	(2,317,000)	1,735,000
7/1/2027	53,275,000	20,142,000	33,133,000	37.8%	2028-29	4,233,000	0	(2,473,000)	1,760,000
7/1/2028	55,415,000	22,925,000	32,490,000	41.4%	2029-30	4,425,000	0	(2,527,000)	1,898,000
7/1/2029	57,611,000	25,874,000	31,737,000	44.9%	2030-31	4,630,000	0	(2,596,000)	2,034,000
7/1/2030	59,978,000	29,112,000	30,866,000	48.5%	2031-32	4,855,000	0	(2,710,000)	2,145,000
7/1/2031	62,514,000	32,650,000	29,864,000	52.2%	2032-33	5,089,000	0	(2,834,000)	2,255,000
7/1/2032	65,192,000	36,479,000	28,713,000	56.0%	2033-34	5,333,000	0	(2,935,000)	2,398,000
7/1/2033	68,015,000	40,614,000	27,401,000	59.7%	2034-35	5,585,000	0	(3,021,000)	2,564,000
7/1/2034	71,015,000	45,100,000	25,915,000	63.5%	2035-36	5,856,000	0	(3,036,000)	2,820,000
7/1/2035	74,223,000	49,982,000	24,241,000	67.3%	2036-37	6,145,000	0	(3,289,000)	2,856,000
7/1/2036	77,731,000	55,369,000	22,362,000	71.2%	2037-38	6,464,000	0	(3,374,000)	3,090,000
7/1/2037	81,328,000	61,062,000	20,266,000	75.1%	2038-39	6,805,000	0	(3,500,000)	3,305,000
7/1/2038	85,197,000	67,281,000	17,916,000	79.0%	2039-40	7,176,000	0	(3,736,000)	3,440,000

**Section III - Development of Contribution**  
**D. History of Funded Status**

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<b>Valuation Date</b>	<b>Actuarial Value of Assets</b>	<b>Accrued Liability</b>	<b>Unfunded Accrued Liability</b>	<b>Funded Ratio</b>
July 1, 2011	\$0	\$74,028,000	\$74,028,000	0.0%
July 1, 2013	0	67,718,910	67,718,910	0.0%
July 1, 2015	407,210	52,675,687	52,268,477	0.8%
July 1, 2017	1,279,497	38,142,396	36,862,899	3.4%
July 1, 2019	2,613,587	38,454,762	35,841,175	6.8%

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### Section III - Development of Contribution E. History of Town Contributions

Fiscal Year	Actuarially Determined Contribution	Actual Town Contribution	Contribution Deficiency (Excess)
2012-13	\$7,258,000	\$2,047,000	\$5,211,000
2013-14	7,831,000	2,240,000	5,591,000
2014-15	6,299,617	2,595,904	3,703,713
2015-16	6,762,112	2,593,319	4,168,793
2016-17	4,883,931	2,410,939	2,472,992
2017-18	5,250,156	1,976,204	3,273,952
2018-19	3,360,296	2,226,427	1,133,869
2019-20	3,571,873	2,170,946	1,400,927
2020-21	3,095,939	TBD	TBD

## Section IV - Membership Data

### A. Statistics of Active Membership

		As of July 1, 2017	As of July 1, 2019
<b>Number of Active Members</b>	BOE Admin	26	26
	Teachers	349	346
	BOE Clerical	30	28
	BOE Custodians	36	33
	BOE Food Service	13	14
	BOE Non-Union	24	25
	BOE Nurses	5	5
	Town Dispatchers	8	8
	Town Admin	75	25
	Town Teamsters	39	5
	Police	47	8
	Total	652	639
<b>Average Age</b>	BOE Admin	45.4	44.4
	Teachers	43.6	44.0
	BOE Clerical	51.8	49.5
	BOE Custodians	54.4	53.8
	BOE Food Service	54.2	50.8
	BOE Non-Union	51.7	48.0
	BOE Nurses	56.8	53.2
	Town Dispatchers	44.1	46.3
	Town Admin	49.0	48.0
	Town Teamsters	49.9	53.2
	Police	41.3	46.3
	Total	46.1	45.4
<b>Average Service</b>	BOE Admin	5.0	4.7
	Teachers	9.7	10.5
	BOE Clerical	10.6	8.6
	BOE Custodians	16.3	14.2
	BOE Food Service	11.1	7.1
	BOE Non-Union	8.2	6.5
	BOE Nurses	14.5	8.8
	Town Dispatchers	12.3	14.3
	Town Admin	11.6	6.5
	Town Teamsters	15.6	8.8
	Police	12.8	14.3
	Total	10.8	10.5



## Section IV - Membership Data

### B. Distribution of Active Members as of July 1, 2019

#### BOE Admin

Age	Years of Service						Total
	0-4	5-9	10-14	15-19	20-24	25-29	
< 25							0
25-29							0
30-34	2						2
35-39	5	1					6
40-44	4	3					7
45-49	3	1	2				6
50-54		2	1				3
55-59							0
60-64		2					2
65+							0
<b>Total</b>	<b>14</b>	<b>9</b>	<b>3</b>				<b>26</b>

#### Teachers

Age	Years of Service						Total
	0-4	5-9	10-14	15-19	20-24	25-29	
< 25	10						10
25-29	42	6					48
30-34	17	13	2				32
35-39	17	12	18	1			48
40-44	14	6	14	11	3		48
45-49	12	7	5	16	3		43
50-54	6	8	12	7	4	5	44
55-59	3	6	8	12	2	1	35
60-64	4	2	7	7	1	2	28
65+	1	2	2	3			10
<b>Total</b>	<b>126</b>	<b>62</b>	<b>68</b>	<b>57</b>	<b>13</b>	<b>8</b>	<b>346</b>

#### BOE Clerical

Age	Years of Service						Total
	0-4	5-9	10-14	15-19	20-24	25-29	
< 25							0
25-29	2	1					3
30-34	1						1
35-39	2		1				3
40-44			1				1
45-49	4		1				5
50-54	2	2		1			5
55-59	1	3			1		5
60-64				3			3
65+				1	1		2
<b>Total</b>	<b>12</b>	<b>6</b>	<b>3</b>	<b>5</b>	<b>2</b>		<b>28</b>

## Section IV - Membership Data

### B. Distribution of Active Members as of July 1, 2019

#### BOE Custodians

Age	Years of Service							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
< 25								0
25-29								0
30-34		1						1
35-39	1	1						2
40-44	2							2
45-49	1	1			2			4
50-54	1	1	3		2		1	8
55-59	1	1	1	1	3			7
60-64	1	1		3		2	1	8
65+			1					1
<b>Total</b>	<b>7</b>	<b>6</b>	<b>5</b>	<b>4</b>	<b>7</b>	<b>2</b>	<b>2</b>	<b>33</b>

#### BOE Food Service

Age	Years of Service							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
< 25								0
25-29	1							1
30-34	1							1
35-39								0
40-44	1	1						2
45-49			1					1
50-54	2	1						3
55-59	2							2
60-64		1		2				3
65+			1					1
<b>Total</b>	<b>7</b>	<b>3</b>	<b>2</b>	<b>2</b>				<b>14</b>

#### BOE Non-Union

Age	Years of Service							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
< 25	1							1
25-29	1							1
30-34		1						1
35-39	2							2
40-44	3	1	1					5
45-49	1	1	1					3
50-54	1	2			1			4
55-59	2	2		1				5
60-64	1		2					3
65+								0
<b>Total</b>	<b>12</b>	<b>7</b>	<b>4</b>	<b>1</b>	<b>1</b>			<b>25</b>

## Section IV - Membership Data

### B. Distribution of Active Members as of July 1, 2019

#### BOE Nurses

Age	Years of Service							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
< 25								0
25-29								0
30-34								0
35-39								0
40-44								0
45-49	2							2
50-54	1							1
55-59				2				2
60-64								0
65+								0
<b>Total</b>	<b>3</b>			<b>2</b>				<b>5</b>

#### Town Dispatchers

Age	Years of Service							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
< 25								0
25-29								0
30-34	2							2
35-39		1						1
40-44			1					1
45-49								0
50-54				1				1
55-59		1				1		2
60-64							1	1
65+								0
<b>Total</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>1</b>		<b>1</b>	<b>1</b>	<b>8</b>

#### Town Admin

Age	Years of Service							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
< 25	1							1
25-29	2							2
30-34	8	2	1					11
35-39	2	2	2					6
40-44	1		1	3				5
45-49	2	2	3					7
50-54	3		3		1	2		9
55-59	1		3	6		1	1	12
60-64		3	1	3	2		3	12
65+		1		1			1	3
<b>Total</b>	<b>20</b>	<b>10</b>	<b>14</b>	<b>13</b>	<b>3</b>	<b>3</b>	<b>5</b>	<b>68</b>

## Section IV - Membership Data

### B. Distribution of Active Members as of July 1, 2019

#### Town Teamsters

Age	Years of Service							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
< 25	1							1
25-29	3							3
30-34	2	1						3
35-39	1							1
40-44	2		2	1				5
45-49	1		2	1	1			5
50-54	2		2	1			2	7
55-59	1	2	1		3		1	8
60-64				3		1	1	5
65+								0
<b>Total</b>	<b>13</b>	<b>3</b>	<b>7</b>	<b>6</b>	<b>4</b>	<b>1</b>	<b>4</b>	<b>38</b>

#### Police

Age	Years of Service							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
< 25	4							4
25-29	12							12
30-34	4		1					5
35-39	1	1	1	1				4
40-44		2	2	2	2			8
45-49	2		1	4	2			9
50-54			1		3			4
55-59					1		1	2
60-64								0
65+								0
<b>Total</b>	<b>23</b>	<b>3</b>	<b>6</b>	<b>7</b>	<b>8</b>		<b>1</b>	<b>48</b>

## Section IV - Membership Data

### C. Information on Members Receiving Benefits

Members Receiving Benefits	As of July 1, 2017	As of July 1, 2019
<b>Number</b>		
BOE Admin	2	5
Teachers	31	27
BOE Clerical	6	7
BOE Custodians	1	3
BOE Food Service	0	1
BOE Non-Union	13	23
BOE Nurses	0	1
Town Dispatchers	0	0
Town Admin	33	34
Town Teamsters	24	24
Police	<u>28</u>	<u>31</u>
Total	138	156
<b>Average Age</b>		
BOE Admin	73.5	71.2
Teachers	68.6	71.8
BOE Clerical	77.0	76.8
BOE Custodians	69.0	68.3
BOE Food Service	N/A	62.1
BOE Non-Union	71.8	70.9
BOE Nurses	N/A	61.4
Town Dispatchers	N/A	N/A
Town Admin	70.2	71.4
Town Teamsters	74.8	72.4
Police	65.3	64.2
Total	70.1	70.2

## Section IV - Membership Data

### C. Information on Members Receiving Benefits

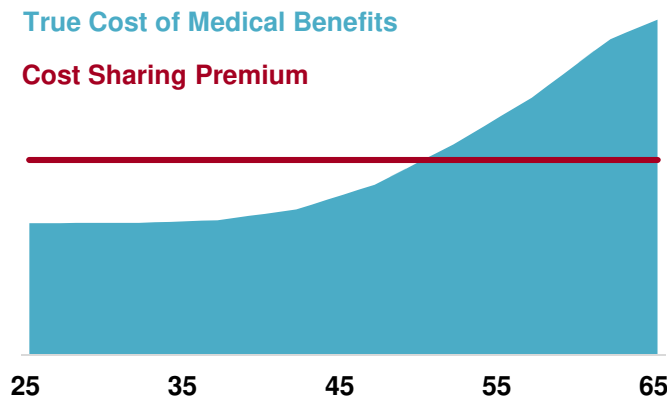
Spouses/Dependents Receiving Benefits	As of July 1, 2017	As of July 1, 2019
<b>Number</b>		
BOE Admin	0	0
Teachers	12	4
BOE Clerical	2	1
BOE Custodians	0	1
BOE Food Service	0	0
BOE Non-Union	4	11
BOE Nurses	0	0
Town Dispatchers	0	0
Town Admin	13	11
Town Teamsters	12	11
Police	<u>21</u>	<u>17</u>
Total	64	56
<b>Average Age</b>		
BOE Admin	N/A	N/A
Teachers	63.1	65.5
BOE Clerical	84.1	82.3
BOE Custodians	N/A	52.7
BOE Food Service	N/A	N/A
BOE Non-Union	69.8	67.1
BOE Nurses	N/A	0.0
Town Dispatchers	N/A	N/A
Town Admin	69.7	72.8
Town Teamsters	71.4	72.6
Police	67.1	67.8
Total	68.6	69.4

## Section V - Healthcare Information

### A. Introduction

In many cases, the cost sharing premium is lower than the true cost of providing the medical benefits, for two reasons:

- The cost sharing premium is usually a fixed amount such as a COBRA premium that does not take into account the age of the retiree and his/her dependents. Since medical costs generally increase with age, the cost sharing premium is often lower than the true cost of the medical benefits:



- The cost sharing premium is usually a blended rate that takes into account the cost of medical benefits for active employees as well as retirees. Medical costs are generally higher for retirees than for active employees of the same age. This means that, again, the cost sharing premium is often lower than the true cost of the medical benefits.

Because of these two factors, a retiree who is paying 100% of the cost sharing premium is most likely not paying 100% of the true cost of the medical benefits. This situation is known as an "implicit rate subsidy." GASB 74 and 75 require the plan sponsor to measure the liability for this subsidy; that is, the difference between the true cost of the medical benefits and the cost sharing premiums paid by the retiree. To do this, our valuation consists of several steps:

First, we calculate the liability for the true cost of medical benefits expected to be received by retirees and their dependents. This liability is based on factors developed by Milliman's health actuaries that reflect how the cost of medical benefits varies by age and gender, as well as the other assumptions discussed in Appendix B. We term this amount the "gross liability."

Next, we calculate the liability for the future premiums expected to be paid by the retiree for their own and their dependents' coverage. This liability is based on the current premium rates without adjustment for age or gender. It also is based on the terms of the Other Post-Employment Benefits Plan – different retirees pay different percentages based on their union, date of retirement, age at retirement, and other factors. We term this amount the "offset liability."

Finally, the net liability for the Town is calculated as the difference between the gross liability and the offset liability.

## Section V - Healthcare Information

### B. Current Premiums

The annual medical premiums are shown below.

<b>Pre-65 Medical Plan</b>	<b>Employee</b>	<b>Spouse</b>	<b>Effective Date</b>
Board of Education Blended	\$8,244.96	\$8,232.48	7/1/2019
Town Blended	7,774.92	7,774.92	7/1/2019
<b>Post-65 Medical Plan</b>			
Board of Education Blended	7,353.84	7,346.04	7/1/2019
<b>Pre-65 Dental Plan</b>			
Board of Education Blended	521.04	567.84	7/1/2019
Town Blended	465.96	745.20	7/1/2019
<b>Post-65 Dental Plan</b>			
Board of Education Blended	521.04	567.84	7/1/2019
Town Blended	465.96	745.20	7/1/2019



## Section V - Healthcare Information

### C. Expected Healthcare Costs

Milliman's Health Cost Guidelines were used to develop the expected true cost of healthcare benefits by age and gender, separately for employees and spouses. Representative healthcare cost factors are shown in the table below. These factors were then applied to the plan's healthcare rates for the year beginning July 1, 2019 to arrive at the expected annual per capita claims costs for a 65-year-old, which are also shown below.

#### Town

Age	Employee		Spouse	
	Male	Female	Male	Female
45	0.50195	0.50195	0.51880	0.51880
50	0.56321	0.56321	0.60009	0.60009
55	0.65020	0.65020	0.69795	0.69795
60	0.78527	0.78527	0.81960	0.81960
65	1.00000	1.00000	1.00000	1.00000
70	1.19555	1.19555	1.18537	1.18537
75	1.40195	1.40195	1.38332	1.38332
80	1.59951	1.59951	1.57652	1.57652
85	1.81087	1.81087	1.78358	1.78358
90	2.00185	2.00185	1.97014	1.97014

#### Age 65 per capita claims cost

Pre-Medicare	\$15,019.56	\$15,019.56	\$13,570.80	\$13,570.80
Medicare	1,959.81	1,959.81	1,971.30	1,971.30

#### Board of Education

Age	Employee		Spouse	
	Male	Female	Male	Female
45	0.58868	0.58868	0.42778	0.42778
50	0.63020	0.63020	0.51724	0.51724
55	0.69771	0.69771	0.63031	0.63031
60	0.81700	0.81700	0.77448	0.77448
65	1.00000	1.00000	1.00000	1.00000
70	1.18021	1.18021	1.20057	1.20057
75	1.37388	1.37388	1.41113	1.41113
80	1.56487	1.56487	1.61085	1.61085
85	1.76976	1.76976	1.82432	1.82432
90	1.95407	1.95407	2.01748	2.01748

#### Age 65 per capita claims cost

Pre-Medicare	\$16,058.78	\$16,058.78	\$15,560.90	\$15,560.90
Medicare	5,470.41	5,470.41	0.00	0.00

## Appendix A - Actuarial Funding Method

The actuarial funding method used in the valuation of this Plan is known as the Entry Age Normal Method. The Actuarially Determined Contribution consists of three pieces: Normal Cost plus a Past Service Cost payment to gradually eliminate the Unfunded Accrued Liability plus Interest to reflect the timing of the contribution relative to the valuation date.

The Normal Cost is determined by calculating the present value of future benefits for present active Members that will become payable as the result of death, disability, retirement or termination. This cost is then spread as a level percentage of earnings from entry age to termination as an Active Member. If Normal Costs had been paid at this level for all prior years, a fund would have accumulated. Because this fund represents the portion of benefits that would have been funded to date, it is termed the Accrued Liability. In fact, it is calculated by adding the present value of benefits for Retired Members and Terminated Vested Members to the present value of benefits for Active Members and subtracting the present value of future Normal Cost contributions.

The funding cost of the Plan is derived by making certain specific assumptions as to rates of interest, mortality, turnover, etc. which are assumed to hold for many years into the future. Since actual experience may differ somewhat from the assumptions, the costs determined by the valuation must be regarded as estimates of the true costs of the Plan.

The Unfunded Accrued Liability is the excess of the Accrued Liability over the assets which have been accumulated for the plan. This Unfunded Accrued Liability is amortized as a level percent over a closed 30 year period starting July 1, 2015.

The Actuarial Value of Assets is determined by recognizing market gains and losses non-asymptotically over a five year period.

The long-range forecasts included in this report have been developed by assuming that members will terminate, retire, become disabled, and die according to the actuarial assumptions with respect to these causes of decrement, and that pay increases, cost of living adjustments, and so forth will likewise occur according to the actuarial assumptions. For those unions whose new employees are eligible to participate in this plan, members who are projected to leave active employment are assumed to be replaced by new active members with the same age, service, gender, and pay characteristics as those hired in the past few years.

## Appendix B - Actuarial Assumptions

Each of the assumptions used in this valuation was set based on industry standard published tables and data, the particular characteristics of the plan, relevant information from the plan sponsor or other sources about future expectations, and our professional judgement regarding future plan experience. We believe the assumptions are reasonable for the contingencies they are measuring, and are not anticipated to produce significant cumulative actuarial gains or losses over the measurement period.

<b>Discount Rate</b>	5.00%
<b>Inflation Rate</b>	2.70%
<b>Medical Inflation Rate</b>	5.20% - 4.47% for 68 years (Prior: 7.27% - 4.60% over 70 years)
<b>Dental Inflation Rate</b>	3.00%
<b>Amortization Growth Rate</b>	3.00%

<b>Salary Scale</b>	<b>Teachers and Administrators<sup>#</sup></b>	
	<b>Service</b>	<b>Rate</b>
	0-1	6.50%
	2-9	6.25%
	10-11	5.50%
	12-14	5.00%
	15	4.75%
	16	4.50%
	17	4.25%
	18	4.00%
	19	3.75%
	20	3.50%
	21+	3.25%
	<b>All Others</b>	3.50%

## Appendix B - Actuarial Assumptions

### Healthy Mortality

**Teachers and Administrators<sup>#</sup>:** For healthy retirees and beneficiaries, the RPH-2014 White Collar table with employee and annuitant rates blended from ages 50 to 80 projected to the year 2020 using the BB improvement scale and further adjusted to grade in increases (5% for females and 8% for males) to rates over age 80. This assumption does not include a margin for mortality improvement beyond the valuation date. (Prior: RP-2000 projected forward 19 years using scale AA, with a two-year age setback.)

**Police:** PubS-2010 Mortality Table with generational projection per MP-2014 ultimate scale, with employee rates before benefit commencement and healthy annuitant rates after benefit commencement. This assumption includes a margin for mortality improvement beyond the valuation date. (Prior: RP-2000 Combined Healthy Mortality Table set forward one year for males and set back one year for females.)

**All Others:** PubG-2010 Mortality Table with generational projection per MP-2014 ultimate scale, with employee rates before benefit commencement and healthy annuitant rates after benefit commencement. This assumption includes a margin for mortality improvement beyond the valuation date. (Prior: RP-2000 Combined Healthy Mortality Table with generational projection per scale AA, with separate tables for males and females.)

### Disabled Mortality

**Teachers and Administrators<sup>#</sup>:** RPH-2014 Disabled Mortality Table projected to 2017 using the BB improvement scale. This assumption does not include a margin for mortality improvement beyond the valuation date. (Prior: RP-2000 Combined Healthy Mortality Table for males and females projected forward 19 years using Scale AA, with an eight-year age set forward for males and females.)

**All Others:** N/A.

## Appendix B - Actuarial Assumptions

**Turnover**

**Teachers, Administrators and Central Office Administrators<sup>#</sup>:** Rates based on gender and length of service for the first ten years and gender and age thereafter:

<b>Service</b>	<b>Male</b>	<b>Female</b>
0-1	14.00%	12.00%
1-2	11.00%	10.50%
2-3	8.00%	8.75%
3-4	6.50%	7.50%
4-5	4.50%	6.75%
5-6	3.50%	6.00%
6-7	3.00%	5.25%
7-8	2.75%	4.75%
8-9	2.50%	4.25%
10+	2.50%	4.00%

<b>Age</b>	<b>Male</b>	<b>Female</b>
25	1.50%	4.00%
35	1.50%	3.50%
45	1.59%	1.50%
55	3.44%	2.50%

**Police:** None.

**All Others:** according to the Crocker-Sarason T9 Table:

<b>Age</b>	<b>Rate</b>
20	17.95%
30	15.85%
40	11.27%
50	5.10%

## Appendix B - Actuarial Assumptions

**Retirement**

**Teachers and Central Office Administrators<sup>#</sup>:** rates based on age, eligibility for pension benefits, and gender:

Age	Unreduced		Proratable		Reduced	
	Male	Female	Male	Female	Male	Female
50	27.50%	27.50%			1.00%	1.00%
51	27.50%	27.50%			1.00%	1.25%
52	27.50%	27.50%			1.00%	1.75%
53	27.50%	27.50%			2.00%	2.25%
54	27.50%	27.50%			3.00%	2.75%
55	38.50%	27.50%			4.00%	4.75%
56	38.50%	27.50%			6.00%	6.25%
57	38.50%	27.50%			7.00%	6.75%
58	38.50%	27.50%			8.00%	7.25%
59	38.50%	27.50%			11.00%	8.50%
60	22.00%	27.50%	6.00%	5.50%		
61	25.30%	27.50%	6.00%	6.50%		
62	25.30%	27.50%	9.00%	7.50%		
63	27.50%	27.50%	11.00%	7.50%		
64	27.50%	27.50%	10.00%	8.00%		
65	36.30%	32.50%	13.00%	12.50%		
66-67	27.50%	32.50%	20.00%	12.50%		
68	27.50%	32.50%	20.00%	12.00%		
69	27.50%	32.50%	30.00%	14.50%		
70-73	100.00%	32.50%	30.00%	14.50%		
74-79	100.00%	32.50%	30.00%	18.00%		
80	100.00%	100.00%	100.00%	100.00%		

**Police:** 15% at age 55 with 10 years of service; 40% at age 55 with 25 years of service; at all other ages:

Age	Rate
45-49	25%
50	20%
51	16%
52	14%
53-58	12%
59	16%
60-62	20%
63-64	25%
65+	100%

## Appendix B - Actuarial Assumptions

### Retirement

**All Others:** 15% at age 55 with 10 years of service; 40% at the earlier of age 55 with 30 years of service or age 65 with 10 years of service; at all other ages:

Age	Rate
56-59	10%
60-61	20%
62-69	30%
70	100%

### Disability

**Teachers and Central Office Administrators<sup>#</sup>:** rates based on age and gender:

Age	Male	Female
20	0.0341%	0.0500%
30	0.0341%	0.0410%
40	0.0536%	0.0720%
50	0.2438%	0.2630%
60	0.9604%	0.5000%

**All Others:** None.

### Future Retiree Coverage

**Teachers, Central Office Administrators, and BOE Non-Certified:** 90% of future retirees are assumed to elect coverage under the retiree medical program.

**All Others:** 100% of future retirees are assumed to elect coverage under the retiree medical program.

### Future Dependent Coverage

Current active members are assumed to elect dependent coverage at retirement as follows. All female spouses are assumed to be 3 years younger than males.

	Male	Female
<b>Teachers and Central Office</b>	50%	30%
<b>Police</b>	80%	80%
<b>Town</b>	70%	25%
<b>BOE Non-Certified</b>	50%	40%

### Future Post-65 Coverage

**Teachers and Central Office Administrators:** 75% of current Non-Medicare eligible actives and pre-65 retirees are assumed either to enroll in retiree health coverage through the Connecticut State Teachers Retirement System at age 65, or transfer to a Medicare Supplement Plan.

**All Others:** All current actives and pre-65 retirees are assumed to continue coverage past age 65 (if available).

## Appendix B - Actuarial Assumptions

**Valuation of Dental and  
Post-65 Medicare Eligible  
Medical Benefits**

It is assumed that there is no implicit rate subsidy associated with these benefits.

**Valuation of Benefits  
for Children**

Benefits attributed to children have been excluded from this valuation for all groups except Police, as they were determined to be de minimis.

# Certain actuarial demographic assumptions for **Teachers** and **Administrators** are based on the assumptions used in the June 30, 2018 valuation of the Connecticut State Teachers' Retirement System.



## Appendix C - Summary of Plan Provisions

This exhibit summarizes the major provisions of the Plan. It is not intended to be, nor should it be interpreted as a complete statement of all plan provisions. All eligibility requirements and benefit amounts shall be determined in strict accordance with the plan document itself. To the extent that this summary does not accurately reflect the plan provisions, then the results of this valuation may not be accurate.

### Eligibility

**BOE Certified (Teachers and Administrators)** A Teacher or Administrator retiring under the Connecticut State Teachers' Retirement System shall be eligible to receive health benefits for self and spouse.

Normal Retirement for Teachers and Administrators is the earliest of age 60 with 20 years of service, or completion of 35 years of service regardless of age. Early Retirement is the earliest of age 60 with 10 years of service, any age with 25 years of service, or age 55 with 20 years of service.

Education Support Personnel (ESP) employees are not eligible for post-employment benefits.

**BOE Clerical (SEIU)** Category A and B retirees with at least 15 years of full-time employment in the Granby Public Schools are eligible to continue health and life insurance coverage.

**BOE Custodians (UPSEU)** A retired member shall be eligible to continue health and life insurance coverage.

**BOE Non-Union** A retired member shall be eligible to continue health benefits for self and spouse, when applicable per individual contract. The School Business Manager shall be eligible to continue health and life insurance coverage upon retirement.

**Town (GMEA, UPSEU and Non-Union) and Police (IBPO)** Retired members are eligible to continue health coverage as long as their coverage is uninterrupted and does not cause adverse effect on the group's experience as determined by the Town.

## Appendix C - Summary of Plan Provisions

### Cost-Sharing

#### Teachers

Medical Retiree contributes 21% of the PPO cost and 16.5% of the HSA cost.

Dental Retiree contributes 21% of the cost.

The above cost-sharing applies for two years following retirement. Thereafter, the retiree shall contribute 100% of the cost.

#### Administrators

Medical Retiree contributes 18% of the cost (prior: Board contributes 100% of the cost).

Dental Retiree contributes 22% of the cost (prior: Board contributes 100% of the cost).

The above cost-sharing applies for two years following retirement. Thereafter, the retiree shall contribute 100% of the cost.

#### BOE Clerical and Custodians

Medical Retiree contributes 22.5% of the PPO cost (prior: 20.5%), and 16% (Clerical and Custodians) of the HSA cost.

Dental Retiree contributes 21.5% of the cost (prior: 21%).

The above cost-sharing applies for two years following retirement. Thereafter, the retiree shall contribute 100% of the cost.

### 40

The above cost-sharing for Clerical and Custodians applies. The School Business Manager will contribute the same premium share as active Administrators for the two years following retirement. Thereafter the School Business Manager shall contribute 100% of the cost as long as the coverage is uninterrupted.

#### Town GMEA

Medical Retiree contributes 100% of the cost.

#### Town UPSEU

Medical Retiree contributes 100% of the cost.

Dental Retiree contributes 100% of the cost.

## Appendix C - Summary of Plan Provisions

### Cost-Sharing

#### Town Non-Union

Date of Hire prior to September 1, 2002:

Medical	Retiree contributes 15% of the cost.
Dental	Retiree contributes 15% of the cost.

Date of Hire after September 1, 2002:

Medical	Retiree contributes 100% of the cost.
Dental	Retiree contributes 100% of the cost.

#### Police (IBPO)

The Town shall contribute 50% of the cost of PPO insurance for the retiree only. The retiree shall contribute the remainder of the cost.

### Life Insurance

In the event of an employee's death in the line of duty, the Town shall contribute 100% of the health insurance cost coverage for the surviving spouse as well as any dependent children until the child attains the age of 26 years.

Retirees may continue coverage (if applicable), based on the terms of their respective collective bargaining agreements. In general, if coverage continuation is permitted, then the retiree contributes 100% of the cost after two years.

## Appendix D - Glossary

**Actuarial Cost Method** - This is a procedure for determining the Actuarial Present Value of Benefits and allocating it to time periods to produce the Actuarial Accrued Liability and the Normal Cost.

**Accrued Liability** - This is the portion of the Actuarial Present Value of Benefits attributable to periods prior to the valuation date by the Actuarial Cost Method (i.e., that portion not provided by future Normal Costs).

**Actuarial Assumptions** - With any valuation of future benefits, assumptions of anticipated future events are required. If actual events differ from the assumptions made, the actual cost of the plan will vary as well. Some examples of key assumptions include the interest rate, salary scale, and rates of mortality, turnover and retirement.

**Actuarial Present Value of Benefits** - This is the present value, as of the valuation date, of future payments for benefits and expenses under the Plan, where each payment is: a) multiplied by the probability of the event occurring on which the payment is conditioned, such as the probability of survival, death, disability, termination of employment, etc.; and b) discounted at the assumed interest rate.

**Actuarial Value of Assets** - This is the value of cash, investments and other property belonging to the plan, typically adjusted to recognize investment gains or losses over a period of years to dampen the impact of market volatility on the Actuarially Determined Contribution.

**Actuarially Determined Contribution (“ADC”)** - This is the employer’s periodic contributions to a defined benefit plan, calculated in accordance with actuarial standards of practice.

**Attribution Period** - The period of an employee’s service to which the expected benefit obligation for that employee is assigned. The beginning of the attribution period is the employee’s date of hire and costs are spread across all employment.

**Interest Rate** - This is the long-term expected rate of return on any investments set aside to pay for the benefits. In a financial reporting context (e.g., GASB 68) this is termed the Discount Rate.

**Normal Cost** - This is the portion of the Actuarial Present Value of Benefits allocated to a valuation year by the Actuarial Cost Method.

**Past Service Cost** - This is a catch-up payment to fund the Unfunded Accrued Liability over time (generally 10 to 30 years). A closed amortization period is a specific number of years counted from one date and reducing to zero with the passage of time; an open amortization period is one that begins again or is recalculated at each valuation date. Also known as the Amortization Payment.

**Return on Plan Assets** - This is the actual investment return on plan assets during the fiscal year.

**Unfunded Accrued Liability** - This is the excess of the Accrued Liability over the Actuarial Value of Assets.