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March 25, 2019

PERSONAL & CONFIDENTIAL

Ms. Julie R. Goucher, Treasurer
Town of Bristol
Town Hall
10 Court Street
Bristol, RI 02809

Re: July 1, 2018 Valuation of Other Post-Employment Benefits

Dear Julie:

We are pleased to provide this actuarial report for the Town of Bristol Other Post-Employment Benefits Program. The report shows the financial status of the plan as of July 1, 2018 and presents the cost figures for the 2019-20 fiscal year.

We have included 10 bound copies of the report and one unbound copy in case you need to make additional copies.

Please let us know if you have any questions.

Sincerely,

Jenn

Jennifer M. Castelhano, FSA
Consulting Actuary

JC:sl 76 BRP032519OPEBValCover2018

TOWN OF BRISTOL
OTHER POST-EMPLOYMENT BENEFITS PROGRAM

July 1, 2018 Actuarial Valuation

Prepared by

Jennifer M. Castelhano, FSA
Consulting Actuary

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March 25, 2019

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Certification

We have performed an actuarial valuation of the Town of Bristol Other Post-Employment Benefits Program as of July 1, 2018. The results of this valuation, along with supporting data, are set forth in the following report.

The ultimate cost of an 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 any plan assets. The principal purpose of this report is to set forth an actuarial determination of plan liabilities. In addition, this report provides:

- Information needed to meet disclosure requirements.
- Review of plan experience since the last 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 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. No attempt is being made to offer any accounting opinion or advice. The calculations reported herein have been made on a basis consistent with our understanding of the plan provisions. Additional determinations may be needed for other purposes.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as 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 or accounting standards. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements.

In preparing this report, we relied on employee census data, financial information, and claims and premium information as of the valuation date, furnished by the Town. We performed a limited review of the information 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 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

In our opinion, each assumption used is individually reasonable (taking into account the experience of the plan and reasonable expectations) and, in combination, offer our best estimate of anticipated experience under the plan. On the basis of the foregoing, we hereby certify that to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the principles prescribed by the Actuarial Standards Board and the Code of Professional Conduct and Qualification Standards for Public Statements of Actuarial Opinion of the American Academy of Actuaries.

Milliman's work is prepared solely for the internal business use of the Town of Bristol. 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 exception(s): (a) The Town of Bristol may provide a copy of Milliman's work, in its entirety, to the Town of Bristol'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 of Bristol; and (b) The Town of Bristol 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.

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.

Jennifer M. Castelhano, FSA
Consulting Actuary

March 25, 2019

Discussion of Experience

This valuation reflects a number of changes relative to the July 1, 2016 valuation:

Demographic Changes from 2016 to 2018

From July 1, 2016 to July 1, 2018, the overall membership increased from 255 to 261. The total number of active members decreased from 138 to 136 and the total number of retirees and spouses of retirees increased from 117 to 118.

The average age of active members increased slightly from 45.9 to 46.9 and the average age of retired members increased slightly from 65.9 to 67.1.

Actuarial Assumption and Method Changes

Medical inflation: The medical cost inflation trend used in this valuation was derived from the "Getzen Model" established by the Society of Actuaries for developing long term medical cost trends. This assumption was revised to an initial inflation rate of 5.40%, grading down to an ultimate inflation rate of 4.40% over a period of 73 years (Prior valuation: an initial inflation rate of 5.30% graded down to an ultimate inflation rate of 4.40% over a period of 75 years)

Medical Claims Costs: We updated the expected claims costs based on our analysis of the claims experience and premium information that was provided to us for this valuation.

We changed the actuarial cost method from Projected Unit Credit to Entry Age Normal. The Entry Age Normal cost method was required starting in FY 2017 for financial reporting purposes per GASB 74 and 75; making this changed provides the Town with a single set of results for all plan liability reporting purposes.

Beginning July 1, 2018 the Actuarial Value of Assets is determined by recognizing market gains and losses over five years.

The effect of the above changes increased the Unfunded Accrued Liability by about $1,001,000 and increased the Actuarially Determined Contribution by about $58,000.

The Valuation Process

The process of determining the liability for OPEB benefits is based on many assumptions about future events. The key actuarial assumptions are:

Turnover and retirement rates: How likely is it that an employee will qualify for post-employment benefits and when will they start?

Medical inflation and claims costs assumptions: When an employee starts receiving post-employment benefits many years from now, how much will be paid each year for the benefits and how rapidly will the costs grow?

Mortality assumption: How long is a retiree likely to receive the benefits?

Discount rate assumption: What is the present value of those future benefit payments in terms of today's dollars?

Since the liability is being recognized over the employee's whole career with the Town, the present value is divided into three pieces: the part that is attributed to past years (the "Accrued Liability" or "Past Service Liability"), the part that is being earned this year (the "Normal Cost"), and the part that will be earned in future years (the "Future Service Liability").

Once the Accrued Liability and the Normal Cost have been calculated, the next step is to determine an annual contribution. This consists of three pieces:

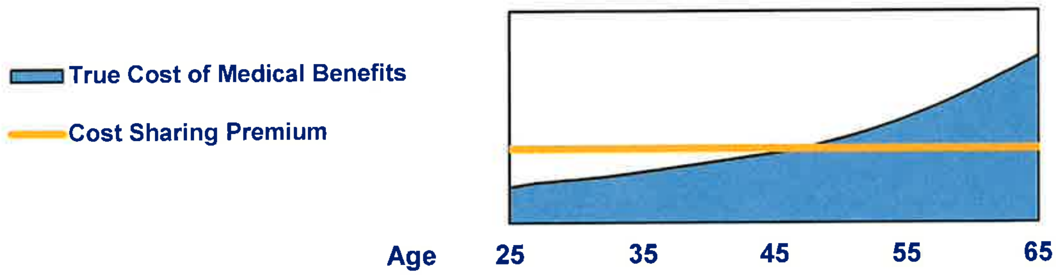
- Normal Cost – because the benefits earned each year should be paid for each year
- Past Service Cost – a catch-up payment to fund the Accrued Liability over time.
- Interest - adjusts for the lag between the valuation date and the start of the fiscal year

The final step is to keep track going forward of how much of the contribution is actually paid. There is no requirement to actually fund these benefits, but the cumulative deficiency must be disclosed on the Town's financial statements. In addition, the Discount Rate used to calculate the liabilities must reflect the expected investment income of whatever funds are set aside to prefund the benefits; if there is no prefunding then the Discount Rate will be much lower and the liabilities significantly higher than if the benefits are prefunded.

Implicit Rate Subsidies

As part of the Other Post-Employment Benefits Program, there are situations where the cost is borne partly or entirely by retirees. In most cases, the premium that is used to split the cost is lower than the true cost of providing the medical benefits, for two reasons:

- The cost sharing 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 on the prior page. 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 retiree medical program – 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.

Market Value of Assets

	Total
Market Value as of July 1, 2016	$5,553,051
Employer Contributions	1,332,305
Employee Contributions	91,402
Dividends	116,514
Other Income	58,978
Realized Gain/Loss	162,822
Unrealized Gain/Loss	442,508
Net Transfers	(6,748)
Benefit Distributions	(1,107,305)
Administration Fees	0
Investment Fees	(14,438)
Market Value as of July 1, 2017	6,629,089
Beginning of Year Adjustment *	1,181,155
Employer Contributions	1,350,016
Employee Contributions	83,193
Dividends	139,170
Other Income	47,364
Realized Gain/Loss	238,876
Unrealized Gain/Loss	297,408
Net Transfers	0
Benefit Distributions	(1,182,348)
Administration Fees	0
Investment Fees	(22,465)
Market Value as of July 1, 2018	8,761,458
Approximate Rate of Return for 2016-17	13.30%
Approximate Rate of Return for 2017-18	8.83%

* Adjustment to include cash surrender value of life insurance

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 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	$7,810,244
	b. Employer and Employee Contributions	1,433,209
	c. Benefit Payments and Administrative Expenses	(1,182,348)
	d. Expected Investment Return Based on 6.75% Interest	535,377
	e. Expected Market Value of Assets as of July 1, 2018	8,596,482
2.	Actual Market Value of Assets as of July 1, 2018	8,761,458
3.	Market Value (Gain)/Loss: (1e) - (2)	(164,976)
4.	Delayed Recognition of Market (Gains)/Losses:	

Plan Year End	(Gain)/Loss	Percent Not Recognized	Amount Not Recognized	
06/30/2018	($164,976)	80%	($131,981)	
06/30/2017	(374,106)	60%	(224,464)	
06/30/2016	N/A	40%	0	
06/30/2015	N/A	20%	0	
				(356,445)

5.	Actuarial Value of Assets as of July 1, 2018: (2) + (4)	8,405,013
6.	Approximate Rate of Return on Actuarial Value of Assets	4.68%
7.	Actuarial Value (Gain)/Loss	(152,113)

Summary of Liabilities

We have calculated the Accrued Liability separately for four groups of Town employees, 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.

	Town	Public Works	Sewer	Police	Total
Current active members					
Employees under age 65	$144,802	$208,078	$110,919	$1,942,223	$2,406,022
Employees over age 65	240,503	217,987	90,988	214,130	763,608
Dependents under age 65	25,873	449,198	252,192	2,651,373	3,378,636
Dependents over age 65	0	0	0	36,397	36,397
Total	411,178	875,263	454,099	4,844,123	6,584,663
Current retired members					
Employees under age 65	262,326	16,266	83,461	3,166,839	3,528,892
Employees over age 65	696,776	227,215	107,472	690,770	1,722,233
Dependents under age 65	73,812	189,741	178,452	4,644,814	5,086,819
Dependents over age 65	0	0	0	211,905	211,905
Total	1,032,914	433,222	369,385	8,714,328	10,549,849
Total Accrued Liability	1,444,092	1,308,485	823,484	13,558,451	17,134,512

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 period is 30 years starting for FYE 2008. The amortization method produces annual payments that will increase by 3.00% annually. On this basis, the ADC is determined as follows:

	Town	Public Works	Sewer	Police	Total
Accrued Liability	$1,444,092	$1,308,485	$823,484	$13,558,451	$17,134,512
Actuarial Value of Assets*	708,372	641,853	403,945	6,650,843	8,405,013
Unfunded Accrued Liability	735,720	666,632	419,539	6,907,608	8,729,499
Amortization Period	18	18	18	18	18
Amortization Growth Rate	3.00%	3.00%	3.00%	3.00%	3.00%
Past Service Cost	54,450	49,337	31,050	511,231	646,068
Total Normal Cost	22,751	23,407	12,468	256,589	315,215
Employee Contributions	20,045	17,324	9,030	51,689	98,088
Net Normal Cost	2,706	6,083	3,438	204,900	217,127
Interest	3,858	3,741	2,328	48,339	58,266
ADC for FY 2020	61,014	59,161	36,816	764,470	921,461

The ADC is assumed to be paid at the beginning of the Fiscal Year.

* The Actuarial Value of Assets has been allocated based on the ratio each group's Accrued Liability to the total Accrued Liability.

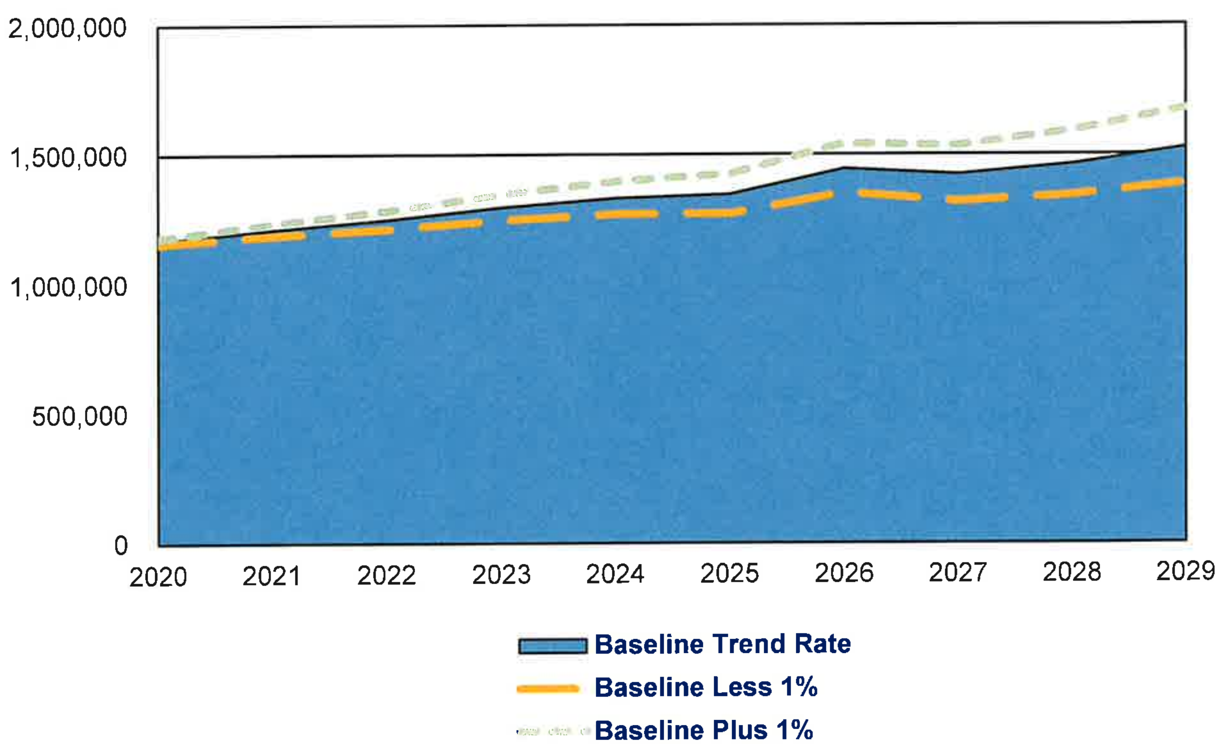
The following benefits are expected to be paid in FY 2019-20:

Implicit Rate Subsidy	97,075	12,067	14,229	190,535	313,906
Explicit Benefit Costs	156,598	60,931	58,444	891,429	1,167,402
Total	253,673	72,998	72,673	1,081,964	1,481,308

Projected Payouts

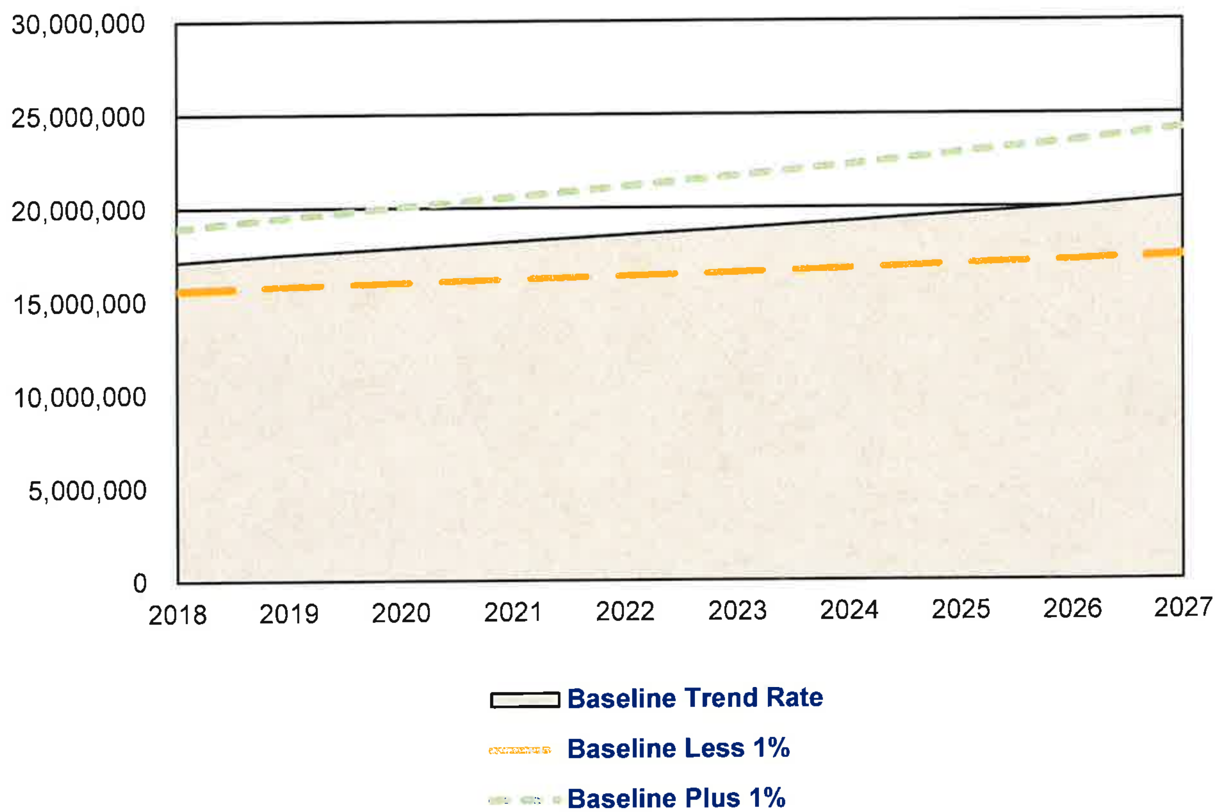
The table and graph below show the expected annual payments for OPEB benefits for the next 10 years.

Fiscal Year	Baseline Less 1%	Baseline Trend Rate	Baseline Plus 1%
2020	$1,156,409	$1,167,402	$1,178,395
2021	1,188,860	1,211,564	1,234,486
2022	1,214,359	1,249,290	1,284,890
2023	1,248,814	1,296,921	1,346,420
2024	1,270,346	1,331,788	1,395,610
2025	1,272,367	1,346,521	1,424,282
2026	1,352,576	1,444,961	1,542,766
2027	1,319,390	1,422,766	1,533,256
2028	1,342,856	1,461,703	1,589,936
2029	1,388,708	1,525,855	1,675,249



Projected Liabilities

The graph below shows how the Town's accrued liability for OPEB benefits is expected to grow over the next 10 years.



History of Funding Progress

The following information is required to be disclosed in the Town's financial statement.

($ 000s)

Actuarial Valuation Date	Actuarial Value of Assets (a)	Accrued Liability (b)	Unfunded Accrued Liability (UAL) (b - a)	Funded Ratio (a / b)	Covered Payroll (c)	UAL as a Percentage of Covered Payroll ((b - a) / c)
7/1/2008	$1,675	$12,862	$11,187	13%	N/A	N/A
7/1/2010	2,313	13,779	11,466	17%	5,042	227%
7/1/2012	3,428	16,712	13,284	21%	6,279	212%
7/1/2014	4,516	16,495	11,979	27%	6,777	177%
7/1/2016	5,553	16,382	10,829	34%	7,463	145%
7/1/2018	8,405	17,135	8,729	49%	7,571	115%

History of Employer Contributions

The following information is required to be disclosed in the Town's financial statement.

($ 000s)

Year Ended June 30	Annual Required Contribution	Actual Contribution Made	Percentage Contributed
2011	$897	$884	98.6%
2012	945	950	100.5%
2013	997	957	96.0%
2014	1,153	1,155	100.2%
2015	1,198	1,251	104.4%
2016	1,118	1,275	114.0%
2017	1,162	1,332	114.6%
2018	1,066	1,350	126.6%
2019	1,067	TBD	TBD
2020	921	TBD	TBD

Summary of Census Data

The following were included in our analysis based on information provided as of July 1, 2018 by the Town.

	Town	Public Works	Sewer	Police	Total
Number of members					
Active	39	33	16	48	136
Retired members	26	17	6	38	87
Spouses of retirees	2	1	1	27	31
Beneficiaries	0	2	2	3	7
Total	67	53	25	116	261
Average age					
Active	53.2	47.5	50.3	40.4	46.9
Retired members	72.2	75.0	66.0	60.2	67.1
Average retirement age					
Active	63.8	62.9	64.1	56.6	61.1
Retired members	61.1	62.9	58.7	46.6	55.0
Expected lifetime					
Active [to retirement]	10.6	15.3	13.9	16.2	14.1
Retired [lifetime]	16.8	12.1	18.6	24.9	19.5

The retiree census data excludes post 65 Medicare eligible retired members who are paying 100% of the premium. It is assumed that there is no implicit rate subsidy associated with these benefits.

Where complete census data was not available, we have made assumptions which we believe to be reasonable.

Current Premiums

Based on information provided by the Town regarding current plan elections, the following weighted average blended actual premiums were used:

2018 - 2019 Monthly Premiums		Employee	Spouse
Medical -	Pre 65	$533.56	$874.80
	Post 65	174.53	174.53
Dental -		32.40	73.69

Health Cost Adjustment Factors

Milliman's Health Cost Guidelines were used to develop the expected true cost of health care benefits by age. Representative health care costs (per person per month) are shown below.

	Police - Medical		Town - Medical HDHP	
Age	Employee	Spouse*	Employee	Spouse
40	$525	$871	$490	$558
45	611	939	570	621
50	734	1,056	685	730
55	920	1,201	858	865
60	1,168	1,385	1,089	1,036
65	163	158	163	158
70	185	178	185	178
75	207	197	207	197
80	223	212	223	212

* Child dependent claim costs are included with pre-65 spouse claim costs.

	Town - Medical No HDHP	
Age	Employee	Spouse
40	$525	$598
45	611	666
50	734	783
55	920	928
60	1,168	1,111
65	163	158
70	185	178
75	207	197
80	223	212

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. The statement assumes a closed group of employees and other participants unless otherwise stated; that is, no new entrants are assumed. Six methods are permitted under GASB 45 – Unit Credit, Entry Age Normal, Attained Age, Aggregate, Frozen Entry Age, and Frozen Attained Age. Entry Age Normal is required under GASB 74 and 75.

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 discount rate, medical cost inflation, and rates of mortality, turnover and retirement.

Actuarial Present Value of Benefits - This is the value, as of the applicable 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 discount rate.

Actuarial Value of Assets - This is the value of cash, investments and other property belonging to the Plan, as used by the actuary for the purpose of an Actuarial Valuation.

Amortization Payment - This is the amount of the contribution required to pay interest on and to amortize over a given period the Unfunded Actuarial Accrued Liability. 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 actuarial valuation date.

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

Attribution Period - The period of an employee's service to which the expected postretirement 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.

Benefit Payments - The monetary or in-kind benefits or benefit coverage to which participants may be entitled under a post-employment benefit plan, including health care benefits and life insurance not provided through a pension plan.

Glossary

Discount Rate - GASB 74 and 75 require that the interest rate used to discount future benefit payments back to the present day be based on the expected rate of return on any investments set aside to pay for these benefits. If no funds are set aside for this purpose, the discount rate is based on a municipal bond index at the measurement date.

Funding Excess - This is the excess of the Actuarial Value of Assets over the Actuarial Accrued Liability.

Implicit Rate Subsidy - This is the excess of the expected health care cost per retired member over the gross premium charged for that coverage. In most cases, the gross premium charged to a retiree is less than the expected health care cost, since the premium is a blended average rate that does not fully reflect the above-average, increasing costs by age that apply during retirement.

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

Other Post-Employment Benefits ("OPEB") - This refers to post-employment benefits other than pension benefits, including healthcare benefits regardless of the type of plan that provides them, and all other post-employment benefits provided separately from a pension plan, excluding benefits defined as termination benefits or offers.

Past Service Cost - This is a catch-up payment to fund the Unfunded Actuarial Accrued Liability over time (generally 10 to 30 years). Also known as the **Amortization Payment**.

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

Substantive Plan - The terms of the postretirement benefit plan as understood by an employer that provides postretirement benefits and the employees who render services in exchange for those benefits. The substantive plan is the basis for the accounting for the plan.

Trend Rate - This is the rate at which medical or dental costs are assumed to increase over time.

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

Actuarial Method

Beginning July 1, 2018, the actuarial funding method used is the **Entry Age Normal Cost Method**. Recommended annual contributions consist of three pieces: Normal Cost plus a payment towards the Unfunded Accrued Liability plus Interest to adjust for the lag between the valuation date and the start of the fiscal year.

The **Normal Cost** is determined by calculating the present value of future benefits for present active Members. 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 **Unfunded Accrued Liability** is the Accrued Liability less the value of any plan assets.

Beginning July 1, 2018 the **Actuarial Value of Assets** is determined by recognizing market gains and losses over **five** years.

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 judgment 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.

Discount Rate 6.75%

Inflation Rate 2.75%

Medical Inflation Rate 5.40% - 4.40% over 73 years (Prior: 5.30% - 4.40% over 75 years)

Dental Inflation Rate 3.00%

Amortization Growth Rate 3.00%

Salary Scale 4.25%

Post-Retirement Mortality

Healthy

Police hired prior to March 22, 1998: RP-2000 Combined Healthy Table for males and females with generational projection per Scale AA. This assumption includes a margin for mortality improvement beyond the valuation date.

All Others#: 115% of the RP-2000 Combined Healthy for Males with White Collar adjustments, projected with Scale AA. 95% of the RP-2000 Combined Healthy for Females with White Collar adjustments, projected with Scale AA. This assumption includes a margin for mortality improvement beyond the valuation date.

Disabled

Police hired prior to March 22, 1998: RP-2000 Disabled Table. This assumption does not include a margin for mortality improvement beyond the valuation date.

All Others#: 60% of the PBGC Table Va for disabled males eligible for Social Security disability benefits. 60% of the PBGC Table VIa for disabled females eligible for Social Security disability benefits. This assumption does not include a margin for mortality improvement beyond the valuation date.

Pre-Retirement Mortality **Police hired prior to March 22, 1998:** RP-2000 Combined Healthy Table for males and females with generational projection per Scale AA. This assumption includes a margin for mortality improvement beyond the valuation date.

Actuarial Assumptions

Pre-Retirement Mortality

All Others#: 75% of RP-2000 Combined Healthy for Males with White Collar adjustments. 75% of RP-2000 Combined Healthy for Females with White Collar Adjustments. This assumption does not include a margin for mortality improvement beyond the valuation date.

Turnover

Police hired prior to March 22, 1998: None.

Police hired on or after March 22, 1998#:

Service	Rate
0	10.00%
5	2.32%
10	1.28%
15	0.67%
20	0.00%

All Others#:

Service	Rate
0	17.50%
5	6.15%
10	2.71%
15	1.75%
20	1.49%

Retirement

Police hired prior to March 22, 1998: 50% of members will retire at the completion of 20 years of service, 50% the year after, 40% the next year, and 5% at each year thereafter. 100% will have retired upon attaining 29 years of service.

Police hired on or after March 22, 1998#: rates are based on length of service. All members are assumed to retire upon reaching age 65 with at least 10 years of service.

Because of the enactment of the Rhode Island Retirement Security Act (RIRSA) in 2011, the retirement assumption was modified for members not eligible for retirement as of June 30, 2012. Members who would have been assumed to retire at an earlier age under the previous rules, are assumed to retire when first eligible for an unreduced benefit. This is recognized by adding 10% probability for every year the member has been deferred.

Service	Rate
20	12%
21-23	10%
24	12%
25	14%
26	16%
27	18%
28-29	20%
30+	35%

Actuarial Assumptions

Retirement

All Others#:

A flat 25% per year retirement probability for members eligible for unreduced retirement. A 50% retirement probability at first eligibility will be only applied if they have reached age 65 or with at least 25 years of service.

100% of members eligible to retire as of June 30, 2012 are assumed to retire once they reach 35 years of service. All members not eligible to retire as of June 30, 2012 are assumed to retire at SSNRA, if eligible.

Early retirement rates are based on years from normal retirement age:

Years from Normal Retirement Age	Rate
3-5	2%
2	3%
1	4%

Disability

Police hired prior to March 22, 1998: 50% of the 1985 Pension Disability Table (DP-85) Class 4 rates.

Police hired on or after March 22, 1998#:

Age	Service-Connected	Non Service-Connected
25	0.170%	0.026%
35	0.290%	0.044%
45	0.720%	0.108%
55	1.210%	0.182%
65	1.210%	0.182%

All Others#:

	Service-Connected		Non Service-Connected	
Age	Male	Female	Male	Female
25	0.018%	0.006%	0.059%	0.027%
35	0.030%	0.011%	0.098%	0.045%
45	0.072%	0.025%	0.234%	0.108%
55	0.202%	0.071%	0.657%	0.303%
65	0.462%	0.162%	1.502%	0.693%

Actuarial Assumptions

Future Retiree Coverage

100% of active members are assumed to elect coverage at retirement.

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
Police	95%	95%
Sewer and **Public Works**	80%	80%
Town	75%	25%

Future Post-65 Coverage

100% of current actives and pre-65 retirees are assumed to continue past age 65 based on current elections (if available).

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 are based on the assumptions used in the June 30, 2015 valuations of the Employees Retirement System of Rhode Island and the Municipal Employees' Retirement System State of Rhode Island.

Summary of Plan Provisions

This summary is intended only to describe our understanding of the essential features of the benefits that will be provided to future retirees based on copies of bargaining agreements, applicable personnel rules and the benefits being currently provided to retired members. All eligibility requirements and benefit amounts shall be determined in strict accordance with the relevant plan documents. To the extent that this summary does not accurately reflect the plan provisions, then the results of this valuation may not be accurate.

Police

Members who have retired under the Town of Bristol Police Retirement Plan or the Municipal Employees Retirement System (MERS) for Police, shall be eligible to receive medical and dental benefits for self and spouse.

For all members hired prior to March 22, 1998, eligibility for retirement is completion of 20 years of service regardless of age.

For all members hired on or after March 22, 1998, eligibility for retirement is age 55 with 25 years of service.

Hired prior to May 1, 2002:

Medical Benefit - 100% Town-paid coverage for employee until age 75 and spouse until age 65.

Dental Benefit - 100% Town-paid coverage for employee and spouse until age 75.

Life Insurance Benefit – $50,000 ($10,000 in retirement; excess funds deposited into OPEB trust); 100% Town-paid.

Hired on or after May 1, 2002:

Medical and Dental Benefits – 100% Town-paid coverage for employee and spouse until age 65.

Life Insurance Benefit – $50,000 ($10,000 in retirement; excess funds deposited into OPEB trust); 100% Town-paid.

Employee Contributions: 1.5% of the salary of a second class patrol officer.

Summary of Plan Provisions

Civilian Police

For all members eligible to retire prior to July 1, 2012, eligibility for retirement is the earlier of completion of 30 years of service regardless of age, or age 58 with 10 years of service.

For all new hires or members with less than five years of service on June 30, 2012, the new retirement age will match their Social Security Retirement Age.

Members with five or more years of service on June 30, 2012, will be eligible to retire at their social security retirement age but will receive a proportional downward adjustment based on years of service prior to July 1, 2012, with a minimum retirement age of 59.

Transition Rules for Retirement Age:

Members with ten or more years of service by June 30, 2012 may retire at their retirement age under the previous rules.

Members who are within 5 years of reaching normal retirement age with at least 20 years of service.

Hired prior to May 1, 2002:

Medical Benefit - 100% Town-paid coverage for employee until age 75 and spouse until age 65.

Dental Benefit - 100% Town-paid coverage for employee and spouse until age 75.

Life Insurance Benefit – $50,000 ($10,000 in retirement; excess funds deposited into OPEB trust); 100% Town-paid.

Hired on or after May 1, 2002:

Medical and Dental Benefits – 100% Town-paid coverage for employee and spouse until age 65.

Life Insurance Benefit – $50,000 ($10,000 in retirement; excess funds deposited into OPEB trust); 100% Town-paid.

Employee Contributions:

Civilian Police - 1.5% of the salary of a dispatcher.

Secretaries - 1.5% of salary.

Summary of Plan Provisions

Sewer and **Public Works**

For all members eligible to retire prior to July 1, 2012, eligibility for retirement is the earlier of completion of 30 years of service regardless of age, or age 58 with 10 years of service.

For all new hires or members with less than five years of service on June 30, 2012, the new retirement age will match their Social Security Retirement Age.

Members with five or more years of service on June 30, 2012, will be eligible to retire at their social security retirement age but will receive a proportional downward adjustment based on years of service prior to July 1, 2012, with a minimum retirement age of 59.

Transition Rules for Retirement Age:

Members with ten or more years of service by June 30, 2012 may retire at their retirement age under the previous rules.

Members who are within 5 years of reaching normal retirement age with at least 20 years of service.

Hired prior to September 1, 2002:

Medical Benefit - 100% Town-paid coverage for employee until age 75 and spouse until age 65.

Dental Benefit - retirees can elect coverage for self and spouse for a period of 10 years from the date of retirement at their own expense.

Life Insurance Benefit – $50,000 ($10,000 in retirement; excess funds deposited into OPEB trust); 100% Town-paid.

Hired on or after to September 1, 2002:

Medical Benefit – 100% Town-paid coverage for employee and spouse until age 65.

Dental Benefit - retirees can elect coverage for self and spouse for a period of 10 years from the date of retirement at their own expense.

Life Insurance Benefit – $50,000 ($10,000 in retirement; excess funds deposited into OPEB trust); 100% Town-paid.

Employee Contributions: 1% of employee yearly salary.

Summary of Plan Provisions

Town (Town Hall, Senior Center, Recreation, Fire Management and Library)

For all members eligible to retire prior to July 1, 2012, eligibility for retirement is the earlier of completion of 30 years of service regardless of age, or age 58 with 10 years of service.

For all new hires or members with less than five years of service on June 30, 2012, the new retirement age will match their Social Security Retirement Age.

Members with five or more years of service on June 30, 2012, will be eligible to retire at their social security retirement age but will receive a proportional downward adjustment based on years of service prior to July 1, 2012, with a minimum retirement age of 59.

Transition Rules for Retirement Age:

> Members with ten or more years of service by June 30, 2012 may retire at their retirement age under the previous rules.
>
> Members who are within 5 years of reaching normal retirement age with at least 20 years of service.

Medical Benefit:

> Retirees who retired prior to, or eligible retirees, who had 25 years of service as of September 1, 2006 shall receive 100% Town-paid lifetime individual medical coverage. Spouse coverage is available until age 65 at their own expense.
>
> Employees hired prior to September 1, 2004 and retiring after September 1, 2006 who did not have at least 25 years of service with the Town as of September 1, 2006 shall receive 100% Town-paid individual medical coverage until age 75. Spouse coverage is available until age 65 at their own expense.
>
> Employees hired on or after September 1, 2004 can elect medical coverage at retirement for self and spouse until age 65 at their own expense.

Dental Benefit: retirees can elect coverage for a period of 10 years from the date of retirement at their own expense. Spouse coverage is not available.

Life Insurance Benefit: $50,000 ($10,000 in retirement; excess funds deposited into OPEB trust); 100% Town-paid.

Employee Contributions: 1% of employee yearly salary