



GASB 74/75 ACTUARIAL VALUATION

Fiscal Year Ending June 30, 2019

TOWN OF WEST WARWICK

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December 2, 2019

**Kristen Benoit
Town of West Warwick
1170 Main Street
West Warwick, RI 02893**

This report summarizes the GASB actuarial valuation for the Town of West Warwick 2018/19 fiscal year. To the best of our knowledge, the report presents a fair position of the funded status of the plan in accordance with GASB Statement No. 74 (Financial Reporting for Post-Employment Benefit Plans Other Than Pension Plans) and GASB Statement No. 75 (Accounting and Financial Reporting by Employers for Post-Employment Benefits Other Than Pensions).

The information presented herein is based on the actuarial assumptions and substantive plan provisions summarized in this report and participant information furnished to us by the Plan Sponsor. We have reviewed the employee census provided by the Plan Sponsor for reasonableness when compared to the prior information provided but have not audited the information at the source, and therefore do not accept responsibility for the accuracy or the completeness of the data on which the information is based. When relevant data may be missing, we may have made assumptions we feel are neutral or conservative to the purpose of the measurement. We are not aware of any significant issues with and have relied on the data provided.

The discount rate, other economic assumptions, and demographic assumptions have been selected by the Plan Sponsor with the concurrence of Nyhart. In our opinion, the actuarial assumptions are individually reasonable and in combination represent our estimate of anticipated experience of the Plan. All calculations have been made in accordance with generally accepted actuarial principles and practice.

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); and
- changes in plan provisions or applicable law.

We did not perform an analysis of the potential range of future measurements due to the limited scope of our engagement.

To our knowledge, there have been no significant events prior to the current year's measurement date or as of the date of this report that could materially affect the results contained herein.



Neither Nyhart nor any of its employees has any relationship with the plan or its sponsor that could impair or appear to impair the objectivity of this report. Our professional work is in full compliance with the American Academy of Actuaries "Code of Professional Conduct" Precept 7 regarding conflict of interest. The undersigned meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Should you have any questions please do not hesitate to contact us.

A handwritten signature in black ink that reads "Randy Gomez".

Randy Gomez, FSA, MAAA
Consulting Actuary

A handwritten signature in black ink that reads "Matt Sherertz".

Matt Sherertz, ASA, MAAA
Valuation Actuary

Executive Summary

Town of West Warwick GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

Summary of Results

Presented below is the summary of GASB 75 results for the fiscal year ending June 30, 2019 compared to the prior fiscal year as shown in the Town's Notes to Financial Statement.

	As of June 30, 2018	As of June 30, 2019
Total OPEB Liability	\$ 66,349,571	\$ 60,506,900
Actuarial Value of Assets	\$ (1,493,546)	\$ (2,173,302)
Net OPEB Liability	\$ 64,856,025	\$ 58,333,598
Funded Ratio	2.3%	3.6%

	FY 2017/18	FY 2018/19
OPEB Expense	\$ 6,026,900	\$ 5,977,769
Annual Employer Contributions	\$ 4,270,977	\$ 4,548,824
Actuarially Determined Contribution	\$ 4,956,467	\$ 5,855,458

	As of June 30, 2018	As of June 30, 2019
Discount Rate	7.50%	7.50%
Expected Return on Assets	7.50%	7.50%

	As of June 30, 2019
Total Active Participants	635
Total Retiree Participants	234

The active participants' number above may include active employees who currently have no health care coverage. Refer to Summary of Participants section for an accurate breakdown of active employees with and without coverage.

Executive Summary

Town of West Warwick GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

Summary of Results

Below is a breakdown of total GASB 75 liabilities allocated to past and current service compared to the prior year. The table below also provides a breakdown of the Total OPEB Liability allocated to pre- and post- Medicare eligibility. The liability shown below includes explicit (if any) and implicit subsidies. Refer to the Substantive Plan Provisions section for complete information on the Plan Sponsor's GASB subsidies.

Present Value of Future Benefits	As of June 30, 2018	As of June 30, 2019
Active Employees	\$ 41,003,796	\$ 35,231,567
Retired Employees	38,422,200	37,602,458
Total Present Value of Future Benefits	\$ 79,425,996	\$ 72,834,025

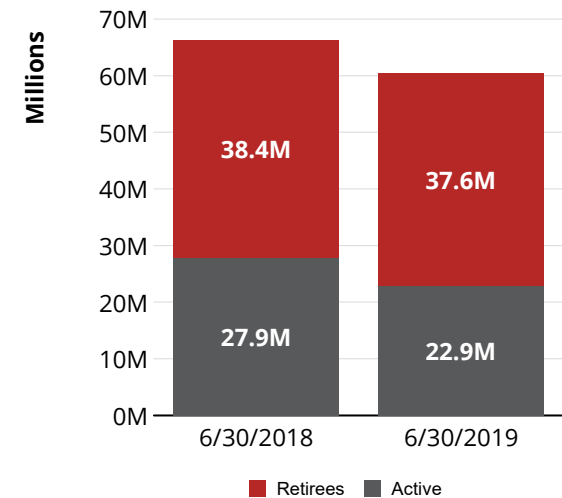
Total OPEB Liability	As of June 30, 2018	As of June 30, 2019
Active Pre-Medicare	\$ 22,935,418	\$ 19,516,663
Active Post-Medicare	4,991,953	3,387,779
Active Liability	\$ 27,927,371	\$ 22,904,442

Retiree Pre-Medicare	\$ 29,604,148	\$ 29,815,604
Retiree Post-Medicare	8,818,052	7,786,854
Retiree Liability	\$ 38,422,200	\$ 37,602,458

Total OPEB Liability	\$ 66,349,571	\$ 60,506,900
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	As of June 30, 2018	As of June 30, 2019
Discount Rate	7.50%	7.50%

Changes In Total OPEB Liability



Present Value of Future Benefits (PVFB) is the amount needed as of June 30, 2019 and June 30, 2018, to fully fund the Town's retiree health care subsidies for existing and future retirees and their dependents assuming all actuarial assumptions are met.

Total OPEB Liability is the portion of PVFB considered to be accrued or earned as of June 30, 2019 and June 30, 2018. This amount is a required disclosure in the Required Supplementary Information section.

GASB Disclosures

Town of West Warwick GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

Schedule of Changes in Net OPEB Liability and Related Ratios

OPEB Liability	FY 2018/19	FY 2017/18	FY 2016/17
Total OPEB Liability			
Total OPEB Liability - beginning of year	\$ 66,349,571	\$ 58,016,693	\$ 55,844,144
Service cost	1,181,380	1,000,384	1,063,571
Interest	4,915,859	4,247,890	4,066,880
Change of benefit terms	0	0	0
Changes in assumptions	(1,097,408)	0	(1,379,744)
Differences between expected and actual experience	(6,797,032)	7,929,261	1,719,595
Benefit payments	(4,045,470)	(4,844,657)	(3,297,753)
Net change in total OPEB liability	\$ (5,842,671)	\$ 8,332,878	\$ 2,172,549
Total OPEB Liability - end of year	\$ 60,506,900	\$ 66,349,571	\$ 58,016,693
Plan Fiduciary Net Position			
Plan fiduciary net position - beginning of year	\$ 1,493,546	\$ 1,873,233	\$ 1,338,815
Contributions - employer	4,548,824	4,270,977	3,646,994
Contributions - active employees	0	0	0
Net investment income	182,659	199,561	189,167
Benefit payments	(4,045,470)	(4,844,657)	(3,297,753)
Trust administrative expenses	(6,257)	(5,568)	(3,990)
Net change in plan fiduciary net position	\$ 679,756	\$ (379,687)	\$ 534,418
Plan fiduciary net position - end of year	\$ 2,173,302	\$ 1,493,546	\$ 1,873,233
Net OPEB Liability - end of year	\$ 58,333,598	\$ 64,856,025	\$ 56,143,460
Plan fiduciary net position as % of total OPEB liability	3.6%	2.3%	3.2%
Covered employee payroll	\$ 39,892,830	\$ 40,918,261	\$ 39,534,552
Net OPEB liability as % of covered payroll	146.2%	158.5%	142.0%

* FY 2017/18 covered payroll is based on FY 2016/17 payroll increased by the payroll growth assumption (3.50%)

GASB Disclosures

Town of West Warwick GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

Schedule of Employer Contributions

The Actuarially Determined Contributions (ADC) shown below are based on the Annual Required Contribution (ARC) calculated in prior GASB 45 actuarial valuations as shown in the Town's financial statements.

	FY 2018/19	FY 2017/18	FY 2016/17	FY 2015/16	FY 2014/15
Actuarially Determined Contribution (ADC)	\$ 5,855,458	\$ 4,956,467	\$ 4,759,537	\$ 4,585,667	\$ 4,712,809
Contributions in relation to the ADC	4,548,824	4,270,977	3,646,994	4,111,091	4,019,034
Contribution deficiency/(excess)	\$ 1,306,634	\$ 685,490	\$ 1,112,543	\$ 474,576	\$ 693,775
Covered employee payroll	\$ 39,892,830	\$ 40,918,261	\$ 39,534,552	N/A	N/A
Contribution as a % of covered payroll	11.4%	10.4%	9.2%	N/A	N/A
	FY 2013/14	FY 2012/13	FY 2011/12	FY 2010/11	FY 2009/10
Actuarially Determined Contribution (ADC)	\$ 4,803,612	\$ 7,552,618	\$ 7,552,618	\$ 7,529,803	\$ 5,327,511
Contributions in relation to the ADC	3,467,681	5,303,716	4,865,794	4,231,074	3,573,395
Contribution deficiency/(excess)	\$ 1,335,931	\$ 2,248,902	\$ 2,686,824	\$ 3,298,729	\$ 1,754,116
Covered employee payroll	N/A	N/A	N/A	N/A	N/A
Contribution as a % of covered payroll	N/A	N/A	N/A	N/A	N/A

GASB Disclosures

Town of West Warwick GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

OPEB Expense

OPEB Expense	FY 2018/19	FY 2017/18
Discount Rate		
Beginning of year	7.50%	7.50%
End of year	7.50%	7.50%
Service cost	\$ 1,181,380	\$ 1,000,384
Interest	4,915,859	4,247,890
Change of benefit terms	0	0
Projected earnings on OPEB plan investments	(130,320)	(119,163)
Reduction for contributions from active employees	0	0
OPEB plan administrative expenses	6,257	5,568
Current period recognition of deferred outflows / (inflows) of resources		
Differences between expected and actual experience	\$ 340,752	\$ 1,095,978
Changes in assumptions	(294,402)	(172,468)
Net difference between projected and actual earnings on OPEB plan investments	(41,757)	(31,289)
Total current period recognition	\$ 4,593	\$ 892,221
Total OPEB expense	\$ 5,977,769	\$ 6,026,900

GASB Disclosures

Town of West Warwick GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

Deferred Outflows / (Inflows) of Resources

Deferred Outflows / (Inflows) of Resources represents the following items that have not been recognized in the OPEB Expense:

1. Differences between expected and actual experience of the OPEB plan
2. Changes of assumptions
3. Differences between projected and actual earnings in OPEB plan investments (for funded plans only)

The initial amortization period for the first two items noted above is based on expected future service lives while the difference between the projected and actual earnings in OPEB plan investment is amortized over five years. All balances are amortized linearly on a principal only basis and new bases will be created annually for each of the items above.

Differences between expected and actual experience for FYE	Initial Balance	Initial Amortization Period	Annual Recognition	Unamortized Balance as of June 30, 2019
June 30, 2017	\$ 1,719,595	8	\$ 214,949	\$ 1,074,748
June 30, 2018	\$ 7,929,261	9	\$ 881,029	\$ 6,167,203
June 30, 2019	\$ (6,797,032)	9	\$ (755,226)	\$ (6,041,806)

Changes in assumptions for FYE	Initial Balance	Initial Amortization Period	Annual Recognition	Unamortized Balance as of June 30, 2019
June 30, 2017	\$ (1,379,744)	8	\$ (172,468)	\$ (862,340)
June 30, 2018	\$ 0	N/A	\$ 0	\$ 0
June 30, 2019	\$ (1,097,408)	9	\$ (121,934)	\$ (975,474)

Net Difference between projected and actual earnings in OPEB plan investments for FYE	Initial Balance	Initial Amortization Period	Annual Recognition	Unamortized Balance as of June 30, 2019
June 30, 2017	\$ (76,043)	5	\$ (15,209)	\$ (30,416)
June 30, 2018	\$ (80,398)	5	\$ (16,080)	\$ (48,238)
June 30, 2019	\$ (52,339)	5	\$ (10,468)	\$ (41,871)

GASB Disclosures

Town of West Warwick GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

Deferred Outflows / (Inflows) of Resources (Continued)

As of fiscal year ending June 30, 2019	Deferred Outflows	Deferred Inflows
Differences between expected and actual experience	\$ 7,241,951	\$ (6,041,806)
Changes in assumptions	0	(1,837,814)
Net difference between projected and actual earnings in OPEB plan investments	0	(120,525)
Total	\$ 7,241,951	\$ (8,000,145)

Annual Amortization of Deferred Outflows / (Inflows)

The balances as of June 30, 2019 of the deferred outflows / (inflows) of resources will be recognized in OPEB expense in the future fiscal years as noted below.

FYE	Balance
2020	\$ 4,593
2021	\$ 4,595
2022	\$ 19,804
2023	\$ 35,883
2024	\$ 46,353
Thereafter	\$ (869,422)

GASB Disclosures

Town of West Warwick GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

Sensitivity Results

The following presents the Net OPEB Liability as of June 30, 2019, calculated using the discount rate assumed and what it would be using a 1% higher and 1% lower discount rate.

- The current discount rate is 7.50%.
- The 1% decrease in discount rate would be 6.50%.
- The 1% increase in discount rate would be 8.50%.

As of June 30, 2019	Net OPEB Liability
1% Decrease	\$ 64,386,730
Current Discount Rate	\$ 58,333,598
1% Increase	\$ 53,117,823

The following presents the Net OPEB Liability as of June 30, 2019, using the health care trend rates assumed and what it would be using 1% higher and 1% lower health care trend rates.

- The current health care trend rate starts at an initial rate of 8.00%, decreasing to an ultimate rate of 4.50%.
- The 1% decrease in health care trend rates would assume an initial rate of 7.00%, decreasing to an ultimate rate of 3.50%.
- The 1% increase in health care trend rates would assume an initial rate of 9.00%, decreasing to an ultimate rate of 5.50%.

As of June 30, 2019	Net OPEB Liability
1% Decrease	\$ 52,570,308
Current Trend Rates	\$ 58,333,598
1% Increase	\$ 65,158,130

GASB Disclosures

Town of West Warwick GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

Asset Information

Asset Breakdown	FY 2017/18	FY 2018/19
Assets		
Cash and cash equivalents	\$ 0	\$ 0
Securities lending cash collateral	0	0
Total cash	\$ 0	\$ 0
Receivables		
Contributions	\$ 0	\$ 0
Accrued interest	0	0
Total receivables	\$ 0	\$ 0
Investments		
Fixed income	\$ 544,174	\$ 659,426
Equities	1,632,522	1,978,277
Mutual Funds	189,278	229,365
Total investments	\$ 2,365,974	\$ 2,867,068
Total Assets	\$ 2,365,974	\$ 2,867,068
Liabilities		
Payables		
Investment management fees	\$ 872,428	\$ 693,766
Securities lending expense	0	0
Total liabilities	\$ 872,428	\$ 693,766
Net Position Restricted to OPEB	\$ 1,493,546	\$ 2,173,302

GASB Disclosures

Town of West Warwick GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

Asset Information (Continued)

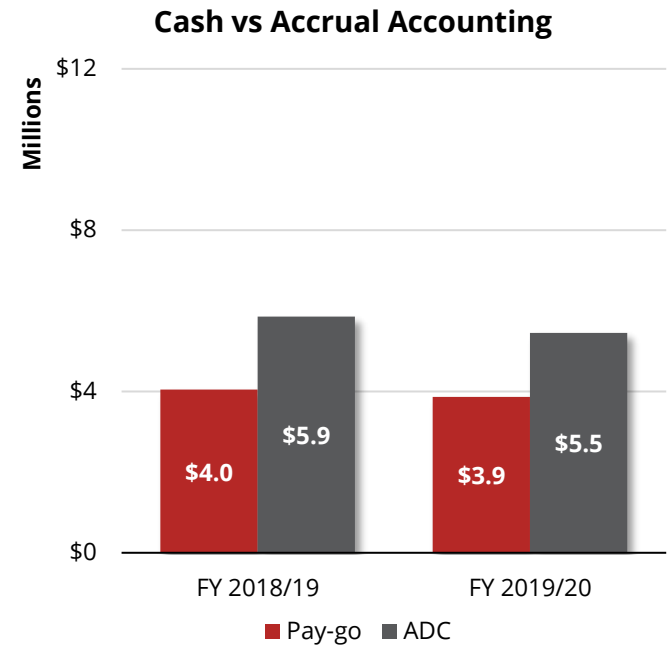
Asset Reconciliation	FY 2017/18	FY 2018/19
Additions		
Contributions Received		
Employer	\$ 4,270,977	\$ 4,548,824
Employee	0	0
Total contributions	\$ 4,270,977	\$ 4,548,824
Investment Income		
Net increase in fair value of investments	\$ 0	\$ 0
Interest and Dividends	199,561	182,659
Investment expense, other than from securities lending	0	0
Securities lending income	0	0
Securities lending expense	0	0
Net investment income	\$ 199,561	\$ 182,659
Total additions	\$ 4,470,538	\$ 4,731,483
Deductions		
Benefit payments	\$ 4,844,657	\$ 4,045,470
Administrative expenses	5,568	6,257
Other	0	0
Total deductions	\$ 4,850,225	\$ 4,051,727
Net increase in net position	\$ (379,687)	\$ 679,756
Net position restricted to OPEB		
Beginning of year	\$ 1,873,233	\$ 1,493,546
End of year	\$ 1,493,546	\$ 2,173,302

Actuarially Determined Contributions

Town of West Warwick GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

The Actuarially Determined Contributions calculated below are recommended target contributions and assumes that the Plan Sponsor has the ability to contribute these amounts on an annual basis. The Plan Sponsor has the responsibility to decide how much it should contribute after considering its other needs and the OPEB participants' needs.

	FY 2018/19	FY 2019/20
Discount rate	7.50%	7.50%
Payroll growth factor used for amortization	2.50%	2.50%
Actuarial cost method	Entry Age Normal Level % of Salary	Entry Age Normal Level % of Salary
Amortization type	Level % of Salary	Level % of Salary
Amortization period	25 years	24 years
Actuarial accrued liability (AAL) – beginning of year	\$ 66,349,571	\$ 60,506,900
Actuarial value of assets – beginning of year	(1,493,546)	(2,173,302)
Unfunded AAL – beginning of year	\$ 64,856,025	\$ 58,333,598
Normal Cost as of beginning of year	1,181,380	1,157,884
Reduction for active contributions to OPEB Trust	(68,629)	(70,345)
Net Normal Cost as of beginning of year	\$ 1,112,751	\$ 1,087,539
Amortization of UAAL	4,334,187	3,983,178
Total normal cost plus amortization	\$ 5,446,938	\$ 5,070,717
Interest to the end of year	408,520	380,304
Actuarially Determined Contribution – Preliminary	\$ 5,855,458	\$ 5,451,021
Expected benefit payments	4,045,470	3,867,443
Actuarially Determined Contribution – Final¹	\$ 5,855,458	\$ 5,451,021



Actuarially Determined Contribution (ADC) is the target or recommended contribution to a defined benefit OPEB plan, which if paid on an ongoing basis, will provide sufficient resources to fund future costs for services to be earned and liabilities attributed to past services. This is typically higher than the pay-as-you-go cost because it includes recognition of employer costs expected to be paid in future accounting periods.

¹ Set to be the greater of the preliminary ADC and expected benefit payments.

Projection of GASB Disclosures

Town of West Warwick GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

The Total OPEB Liability (TOL) is expected to change on an annual basis as a result of expected and unexpected events. Under normal circumstances, it is generally expected to have a net increase each year. Below is a list of the most common events affecting the total OPEB liability and whether they increase or decrease the liability.

Expected Events

- Increases in TOL due to additional benefit accruals as employees continue to earn service each year
- Increases in TOL due to interest as the employees and retirees age
- Decreases in TOL due to benefit payments

Unexpected Events

- Increases in TOL when actual premium rates increase more than expected. A liability decrease occurs when the reverse happens.
- Increases in TOL when more new retirements occur than expected or fewer terminations occur than anticipated. Liability decreases occur when the opposite outcomes happen.
- Increases or decreases in TOL depending on whether benefits are improved or reduced.

Projection of Total OPEB Liability (TOL)	FY 2018/19	FY 2019/20
TOL as of beginning of year	\$ 66,349,571	\$ 60,506,900
Normal cost as of beginning of year	1,181,380	1,157,884
Exp. benefit payments during the year	(4,045,470)	(3,867,443)
Interest adjustment to end of year	4,915,859	4,482,452
Exp. TOL as of end of year	\$ 68,401,340	\$ 62,279,793
Actuarial Loss / (Gain)	(7,894,440)	TBD
Actual TOL as of end of year	\$ 60,506,900	\$ TBD

Discount rate as of beginning of year	7.50%	7.50%
Discount rate as of end of year	7.50%	TBD

Projection of Actuarial Value of Assets (AVA)	FY 2018/19	FY 2019/20
AVA as of beginning of year	\$ 1,493,546	\$ 2,173,302
Exp. employer contributions during the year	4,548,824	5,451,021
Exp. benefit payments during the year	(4,045,470)	(3,867,443)
Expected investment income	130,320	220,988
Exp. Trust administrative expenses	(6,257)	(8,693)
Exp. AVA as of end of year	\$ 2,120,963	\$ 3,969,175
Differences between expected and actual experience	52,339	TBD
AVA as of end of year	\$ 2,173,302	\$ TBD

Expected asset return as of beginning of year	7.50%	7.50%
Expected asset return as of end of year	7.50%	TBD

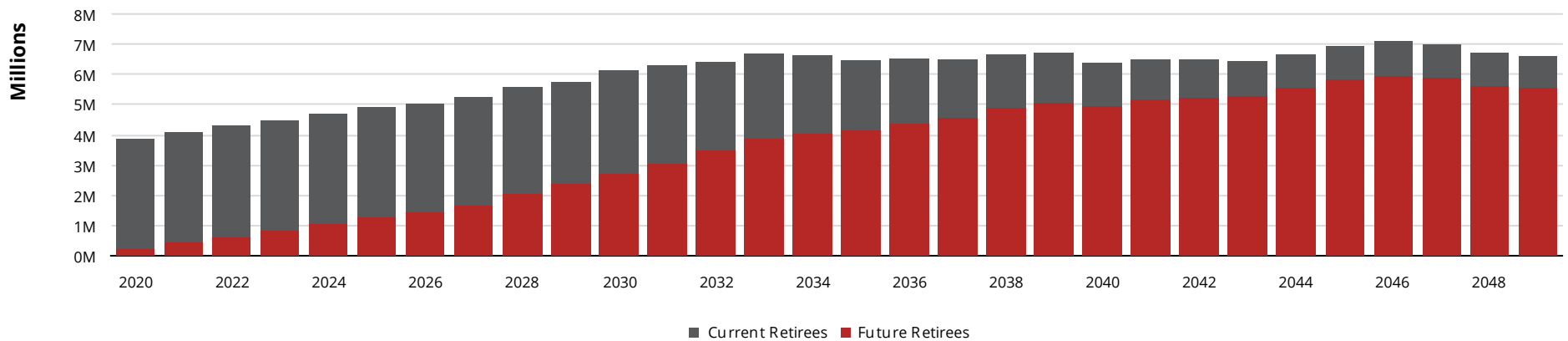
Cash Flow Projections

Town of West Warwick GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

The below projections show the actuarially estimated employer-paid contributions for retiree health benefits for the next thirty years. Results are shown separately for a closed group of current/future retirees. These projections include explicit and implicit subsidies.

FYE	Current Retirees	Future Retirees*	Total	FYE	Current Retirees	Future Retirees*	Total	FYE	Current Retirees	Future Retirees*	Total
2020	\$ 3,671,613	\$ 195,830	\$ 3,867,443	2030	\$ 3,397,018	\$ 2,728,430	\$ 6,125,448	2040	\$ 1,436,266	\$ 4,952,278	\$ 6,388,544
2021	\$ 3,602,532	\$ 460,159	\$ 4,062,691	2031	\$ 3,248,804	\$ 3,037,490	\$ 6,286,294	2041	\$ 1,314,164	\$ 5,194,926	\$ 6,509,090
2022	\$ 3,676,813	\$ 624,821	\$ 4,301,634	2032	\$ 2,936,504	\$ 3,456,025	\$ 6,392,529	2042	\$ 1,247,232	\$ 5,265,309	\$ 6,512,541
2023	\$ 3,645,606	\$ 828,285	\$ 4,473,891	2033	\$ 2,843,064	\$ 3,854,935	\$ 6,697,999	2043	\$ 1,182,991	\$ 5,287,078	\$ 6,470,069
2024	\$ 3,643,177	\$ 1,051,870	\$ 4,695,047	2034	\$ 2,576,045	\$ 4,026,110	\$ 6,602,155	2044	\$ 1,122,020	\$ 5,579,161	\$ 6,701,181
2025	\$ 3,626,557	\$ 1,283,397	\$ 4,909,954	2035	\$ 2,314,875	\$ 4,144,193	\$ 6,459,068	2045	\$ 1,130,265	\$ 5,836,801	\$ 6,967,066
2026	\$ 3,556,145	\$ 1,443,902	\$ 5,000,047	2036	\$ 2,169,453	\$ 4,363,852	\$ 6,533,305	2046	\$ 1,125,559	\$ 5,972,097	\$ 7,097,656
2027	\$ 3,603,418	\$ 1,655,573	\$ 5,258,991	2037	\$ 1,919,328	\$ 4,598,412	\$ 6,517,740	2047	\$ 1,126,871	\$ 5,887,348	\$ 7,014,219
2028	\$ 3,524,750	\$ 2,026,275	\$ 5,551,025	2038	\$ 1,783,183	\$ 4,917,753	\$ 6,700,936	2048	\$ 1,118,550	\$ 5,605,292	\$ 6,723,842
2029	\$ 3,348,608	\$ 2,375,979	\$ 5,724,587	2039	\$ 1,618,742	\$ 5,093,735	\$ 6,712,477	2049	\$ 1,066,257	\$ 5,556,344	\$ 6,622,601

Projected Employer Pay-go Cost



* Projections for future retirees do not take into account future new hires.

Discussion of Discount Rates

Town of West Warwick GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

Under GASB 74, the discount rate used in valuing OPEB liabilities for funded plans as of the Measurement Date must be based on the long-term expected rate of return on OPEB plan investments that are expected to be used to finance future benefit payments to the extent that (a) they are sufficient to pay for the projected benefit payments and (b) the OPEB plan assets are invested using a strategy that will achieve that return. When the OPEB plan investments are insufficient to cover future benefit payments, a yield for 20-year tax-exempt general obligation municipal bonds with an average rating of AA /Aa or higher (or equivalent quality on another rating scale) must be used.

For the current valuation:

1. The long-term expected rate of return on OPEB plan investment is assumed to be 7.50%. The expected future real rates of return are shown below. Inflation is expected to be 1.80%. The best estimates of arithmetic real rates of return for each major asset class included in the OPEB Plan's target asset allocation as of June 30, 2019 are summarized in the following table.
2. The discount rate used when the OPEB plan investments are insufficient to pay for future benefit payments are selected from the range of indices as shown in the table below, where the range is given as the spread between the lowest and highest rate shown.

Asset Class	Target Allocation	L/T Expected Real ROR
U.S. Equity	48.30%	5.00%
Non-U.S. Equity	20.70%	7.10%
U.S. Aggregate Bonds	9.00%	1.70%
Intermediate-Term Credit	5.40%	2.20%
Short-Term Credit	3.60%	2.00%
Intermediate-Term TIPS	5.00%	1.00%
REITS	8.00%	4.10%

Yield as of	July 1, 2018	June 30, 2019
Bond Buyer Go 20-Bond Municipal Bond Index	3.87%	3.51%
S&P Municipal Bond 20-Year High Grade Rate Index	2.98%	2.79%
Fidelity 20-Year Go Municipal Bond Index	3.62%	3.13%
Bond Index Range	2.98% - 3.87%	2.79% - 3.51%

3. The final equivalent single discount rate used for this year's valuation is 7.50%. This is with the expectation that the Town continues its funding policy of fully funding the ADC annually through a combination of employer contributions for pay-go costs and pre-funding.

Summary of Plan Participants

Town of West Warwick GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

Active Employees¹

By Health Plan

Actives with coverage	Single	Non-Single	Total	Avg. Age	Avg. Svc	Salary
Town Plan 65	1		1	65.5	13.4	\$ 47,299
Town HM \$500	17	31	48	46.2	13.0	\$ 2,480,978
Town HDHP	34	95	129	42.5	13.0	\$ 6,914,973
School HM	5	10	15	56.5	12.2	\$ 996,659
School HM Deductible	17	32	49	49.3	14.9	\$ 3,783,587
School HDHP	76	225	301	46.6	14.8	\$ 20,156,530
Total actives with coverage	150	393	543	46.1	14.2	\$ 34,380,026

By Union

Actives with coverage	Single	Non-Single	Total	Avg. Age	Avg. Svc	Salary
Town Firefighters ²	13	54	67	43.2	13.7	\$ 3,671,773
Town Municipal	15	33	48	48.3	14.6	\$ 2,128,681
Town Police	20	27	47	38.4	11.7	\$ 2,883,530
Town Sewer	4	12	16	46.8	9.4	\$ 759,267
School Certified	79	205	284	46.4	15.0	\$ 22,056,098
School Non-Certified	19	62	81	50.6	13.9	\$ 2,880,677
Total actives with coverage	150	393	543	46.1	14.2	\$ 34,380,026

Actives without coverage ³	Total	Avg. Age	Avg. Svc	Salary
Town	1	28.5	0.5	\$ 31,200
School	91	46.5	12.1	\$ 5,481,604
Total actives without coverage	92	46.3	12.0	\$ 5,512,804

¹ Active employees enrollment below exclude Municipal Non-Union and Library employees who are not eligible for retiree health benefits

² Town firefighters include fire civilians

³ Employees who currently have no coverage are assumed not to elect coverage at retirement. They have been excluded from the GASB valuation.

Summary of Plan Participants

Town of West Warwick GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

Active Age-Service Distribution

Age	Years of Service										Total	
	< 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up		
Under 25	2	5										7
25 to 29	6	23	6									35
30 to 34	5	22	18	11								56
35 to 39	1	14	14	52	10	1						92
40 to 44	2	13	12	25	36	9	1					98
45 to 49	5	14	16	18	23	26	10	2				114
50 to 54	2	11	10	22	19	18	18	8				108
55 to 59	1	2	7	5	14	13	12	5				59
60 to 64	2	2	4	8	6	14	8	3				47
65 to 69				3	5	5	1	1				15
70 & up					2	1		1				4
Total	26	106	87	144	115	87	50	20	0	0		635

Summary of Plan Participants

Town of West Warwick GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

Retirees

By Health Plan

Retirees with coverage	Single	Non-Single	Total	Avg. Age
Town HM No Deductible	7	15	22	58.3
Town HM \$500	11	67	78	56.1
Town HDHP	4	18	22	51.7
Town Plan 65	26	42	68	73.5
School HM	4	8	12	62.6
School HM Deductible	5	11	16	63.8
School HDHP	10	5	15	61.6
School Plan 65	0	1	1	80.3
Total retirees with coverage	67	167	234	62.3

By Union

Retirees with coverage	Single	Non-Single	Total	Avg. Age
Town Department Head	1	0	1	83.4
Town Firefighters	16	55	71	62.8
Town Municipal	13	26	39	60.7
Town Police	16	55	71	61.9
Town Sewer	2	6	8	60.8
School Certified	16	15	31	62.9
School Non-Certified	3	10	13	63.5
Total Retirees with coverage	67	167	234	62.3

Retiree Age Distribution

Age	Retirees
< 45	4
45 to 49	19
50 to 54	32
55 to 59	38
60 to 64	63
65 to 69	32
70 to 74	26
75 to 79	9
80 to 84	5
85 to 89	3
90 & up	3
Total	234

In addition to the above retirees, there are 215 retirees (209 School and 6 Town) who currently have no health coverage. For the 209 School retirees, if they are eligible for dental benefits, dental liability is valued for them. For the 6 Town Retirees, all of them have dental coverage and dental liability is valued for them.

Substantive Plan Provisions

Town of West Warwick GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

Eligibility

All employees are eligible for retiree health benefits once they meet the pension benefit retirement eligibility requirements which are described below.

Firefighters retirement eligibility requirements:

- Hired prior to July 1, 2014 – earlier of age 62 or age 50 with 25 years of service
- Hired on/after July 1, 2014 – earlier of age 62 or age 55 with 25 years of service

Four grandfathered firefighters are eligible to retire upon attaining age 62.5 or 20 years of service.

Police officers are eligible to retire once they have 20 years of service. For those hired on/after July 1, 2014, retiree health benefits will commence at age 50.

Municipal Union employees (including Wastewater and School Non-Certified employees) are eligible to retire at the earlier of age 62 with 12 years of service or 25 years of service. For those hired on/after July 1, 2014, if they retire with 25 years of service, retiree health benefits will commence at age 55.

School Certified employees are eligible to retire once they have 15 years of service or 25 years of service or 28 years of service (with no age requirements). The cost sharing requirement differs at each eligibility requirement.

Municipal Non-Union and Library employees are not eligible for health benefits at retirement.

Duration of Retiree Health Benefits

Firefighters and police officers are eligible for lifetime subsidized retiree health benefits.

Municipal Union (including Wastewater) employees are eligible for subsidized medical benefits until Medicare eligibility and lifetime free dental benefits.

School Non-Certified employees are eligible for lifetime retiree health benefits but they are only eligible for five years of free retiree health benefits if they have 20 years of service at retirement.

School Certified employees are eligible to either four years of subsidized retiree health benefits or until Medicare eligibility depending on years of service at retirement.

Spouse Benefit

Upon death of retiree, coverage continues to surviving spouses, for the same duration as the retiree.

Substantive Plan Provisions

Town of West Warwick GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

Retiree Cost Sharing for Future Retirees

Employees belonging in the following groups contribute 4% of pension for medical benefits if they elect HM \$500 plan at retirement.

- Firefighters
- Police Officers
- Municipal Union (including Wastewater employees)

For those electing HDHP at retirement, medical coverage is free. Dental benefits are also free.

School Non-Certified employees receive free medical and dental coverage for 5 years after retirement if they have 20 years of service at retirement. If the 5-year period extends past Medicare eligibility, the Town will still pay for the medical and dental benefits. Retirees are allowed to continue coverage beyond the 5-year period by paying the full cost of coverage although for GASB valuation purposes, we have assumed that none of them do so. Employees retiring with less than 20 years of service at retirement are allowed to enroll in the School's group health plan by paying the full cost of coverage.

School Certified employees cost sharing requirements are as follows:

- Retiring with 15 years of service – free medical coverage for 4 years after retirement until Medicare eligibility
- Retiring with 25 years of service – free medical coverage until age 65
- Retiring with 28 years of service – free medical and dental coverage until age 65

Substantive Plan Provisions

Town of West Warwick GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

Retiree Cost Sharing for Current Retirees

Town

Town employees who retired prior to 7/1/2014 contribute a percentage of working rates based on the health plan options elected (for all employee groups):

- HDHP – 0%
- HM \$500 – 5% (7% is disabled)
- HM no deductible – 15%

Town employees who retire on/after 7/1/2014 contribute either 4% of working rates or 4% of their monthly pension.

School

Currently retired Non-Certified employees have the same contribution requirement as future retirees.

Currently retired School Certified employees have the same contribution requirements as future retirees, except for those who retired prior to September 1, 2012 with at least 25 years of service, retiree health benefits are available until age 66.

Pension Benefit

Firefighters

Benefit formula: 2.2% of Salary for all YOS up to 25 plus 3.0% of Salary for YOS between 25 and 30. Salary is defined as the average of 3 highest consecutive base annual salary (includes annual salary, longevity, holiday, and EMTC pay).

COLA at retirement starts at the earlier of age 62.5 or 7 years from retirement. COLA provision is 2.25% simple interest, payable for 15 years.

Police Officers

Benefit formula:

- Employees with 20 YOS at June 30, 2014: 2.5% of Salary for all YOS up to 28
- Employees with less than 20 YOS at June 30, 2014: 2.5% of Salary for all YOS up to 20 plus 1.0% of Salary for the next 5 years of employment plus 2.5% of Salary for the next 6 years of employment

Salary is defined as basic rate of annual earnings, longevity for the 12 months prior to retirement date, including wellness stipend and 105 holiday hours.

COLA at retirement starts 7 years from retirement. COLA provision is 2.25% compound interest, payable for 15 years.

Substantive Plan Provisions

Town of West Warwick GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

Pension Benefit (continued)

Municipal Union and Sewer

Benefit formula: 2.5% of Salary for all YOS (the benefit multiplier is 2.4% for those hired on/after July 1, 2014).

Salary is defined as the average salary for the last 10 years of employment.

COLA at retirement starts 7 years from retirement. COLA provision is 2.00% compound interest, payable for 15 years.

OPEB Trust Contribution

Firefighters and Police Officers contribute 1% of Salary to the OPEB Trust while actively working.

Dental Benefit

The Town provides free lifetime dental benefits for all retiree groups, except for School Certified employees who retire with less than 25 years of service. Monthly dental premiums effective on July 1, 2019 are as follows:

- Schools: \$38.83 single and \$120.69 family
- Town: \$29.81 single and \$90.55 family

Substantive Plan Provisions

Town of West Warwick GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

Medical Benefits

Same benefit options are available to retirees as active employees. All pre-Medicare health plans are self-insured. Post Medicare health plan is fully-insured and community-rated. The 2019/20 monthly premiums by plan effective July 1, 2019 are as shown below.

Group Suffix	Plan Name	Single	Family
School			
Classified 0001 class 0002	HM \$0 Ded \$10 OV/\$25 ER, \$5/15/30/30 Rx	\$ 973.61	\$ 2,408.78
Certified 0003 class 0002	HM \$0 Ded \$10 OV/\$25 ER, \$5/15/30/30 Rx	\$ 973.61	\$ 2,408.78
Certified 0002 class 0004	HM \$0 Ded \$5 OV/\$25 ER, \$5/10/10 Rx	\$ 1,009.40	\$ 2,497.37
Classified 0004 class 0005	HM \$0 Ded \$15 OV/\$100 ER, \$7/25/40/40 Rx	\$ 942.11	\$ 2,330.88
Certified 0002 class 0005	HM \$0 Ded \$15 OV/\$100 ER, \$7/25/40/40 Rx	\$ 942.11	\$ 2,330.88
Classified 0007 class 0008	\$2000 HSA	\$ 620.25	\$ 1,534.98
Classified 0003 class 0001	\$2000 HSA	\$ 620.25	\$ 1,534.98
Certified 0001 class 0001	\$2000 HSA	\$ 620.25	\$ 1,534.98
Certified 0002 class 0001	\$2000 HSA	\$ 620.25	\$ 1,534.98
Certified 0001 class 0003	HM \$500 Ded \$15 OV/\$100 ER, \$7/25/40/40 Rx	\$ 875.66	\$ 2,167.18
Classified 0003 class 0002	HM \$500 Ded \$15/25 OV	\$ 866.90	\$ 2,145.52
Certified 0002 class 0002	HM \$500 Ded \$15/25 OV	\$ 866.90	\$ 2,145.52
Town			
All groups	HM No Deductible	\$ 943.79	\$ 2,375.90
All groups	HM \$500	\$ 839.01	\$ 2,117.20
All groups	HDHP \$2000	\$ 578.44	\$ 1,537.11

Upon Medicare eligibility, the Town provides Plan 65 and the monthly premium effective on July 1, 2019 is \$184.08.

Actuarial Methods and Assumptions

Town of West Warwick GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

The actuarial assumptions used in this report represent a reasonable long-term expectation of future OPEB outcomes. As national economic and Town experience change over time, the assumptions will be tested for ongoing reasonableness and, if necessary, updated.

There are changes to the actuarial methods and assumptions since the last GASB valuation, which was for the fiscal year ending June 30, 2018. Refer to Actuary's Notes section for complete information on these changes. For the current year GASB valuation, we have also updated the per capita costs. We expect to update discount rate, health care trend rates, mortality table, and per capita costs again in the next full GASB valuation, which will be for the fiscal year ending June 30, 2021.

Measurement Date	For fiscal year ending June 30, 2019, a June 30, 2019 measurement date was used.
Actuarial Valuation Date	June 30, 2019 with no adjustments to get to the June 30, 2019 measurement date. Liabilities as of July 1, 2018 are based on an actuarial valuation date of July 1, 2017 projected to July 1, 2018 on a "no loss / no gain" basis.
Discount Rate	7.50% as of July 1, 2018 and June 30, 2019 for accounting and funding disclosure purposes. Refer to the Discussion of Discount Rate section for more information on the selection of the discount rate.
Payroll Growth	3.5% for valuation purposes 2.5% per year for amortization purposes
Inflation Rate	1.80% per year
Cost Method	Allocation of Actuarial Present Value of Future Benefits for services prior and after the Measurement Date was determined using Entry Age Normal Level % of Salary method where: <ul style="list-style-type: none">• Service Cost for each individual participant, payable from date of employment to date of retirement, is sufficient to pay for the participant's benefit at retirement; and• Annual Service Cost is a constant percentage of the participant's salary that is assumed to increase according to the Payroll Growth.
Census Data	Census information was provided by the Town in September - November 2019. We have reviewed it for reasonableness and no material modifications were made to the census data.
Asset Valuation Method	Market Value

Actuarial Methods and Assumptions

Town of West Warwick GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

Mortality

Police and Fire	RP-2014 Blue Collar Mortality Table with generational improvements from 2006 based on assumption from the 2019 SSA Trustees' Report
All Others	RP-2014 Mortality Table with generational improvements from 2006 based on assumption from the 2019 SSA Trustees' Report

Disability

None

Turnover Rate

Police and Fire	None
All Others	Crocker-Sarason T-3. Sample rates are as shown below:

<u>Age</u>	<u>Rate</u>
25	5.3%
35	4.5%
45	3.2%
55	0.3%

Actuarial Methods and Assumptions

Town of West Warwick GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

Retirement Rate

Annual retirement rates that are the same as those used in the Funding Improvement Plan pension valuation are as shown below:

Firefighters					Fire Civilians	
Age	<10 YOS	15 – 24 YOS	25 YOS	26+ YOS	Age	Rates
50	0.0%	5.0%	50.0%	50.0%	50 – 59	5.0%
51 – 54	0.0%	5.0%	50.0%	5.0%	60	50.0%
55	0.0%	30.0%	50.0%	50.0%	61	10.0%
56 – 59	0.0%	10.0%	50.0%	10.0%	62	50.0%
60	0.0%	30.0%	50.0%	50.0%	63 – 64	10.0%
61	0.0%	10.0%	50.0%	10.0%	65	100.0%
62	100.0%	100.0%	100.0%	100.0%		

Police DOH < 7/1/2011						
Age	<10 YOS	10 – 19 YOS	20 YOS	21 – 24 YOS	25 YOS	26+ YOS
35 – 49	0.0%	0.0%	25.0%	5.0%	50.0%	5.0%
50 – 61	0.0%	5.0%	25.0%	5.0%	50.0%	5.0%
62	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Police DOH ≥ 7/1/2011						
Age	<10 YOS	10 – 19 YOS	20 YOS	21 – 24 YOS	25 YOS	26+ YOS
50	0.0%	5.0%	25.0%	25.0%	50.0%	50.0%
51 – 61	0.0%	5.0%	25.0%	5.0%	50.0%	5.0%
62	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

All Others except for School Certified			
Age	<12 YOS	12 – 24 YOS	25+ YOS
40 – 55	0.0%	0.0%	2.0%
56 – 59	0.0%	0.0%	4.0%
60	0.0%	0.0%	25.0%
61	0.0%	0.0%	10.0%
62 – 64	0.0%	30.0%	30.0%
65 – 66	0.0%	25.0%	25.0%
67 – 69	0.0%	50.0%	50.0%
70+	0.0%	100.0%	100.0%

Actuarial Methods and Assumptions

Town of West Warwick GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

Retirement Rate (continued)

Retirement rates are based on the assumptions used in the RI ERS actuarial valuation report as of June 30, 2016, which is a flat 25% per year retirement probability for members eligible for unreduced retirement. A 60% retirement probability at first eligibility will be applied if they have reached age 65 or with at least 25 years of service.

Health Care Trend Rates

FYE	Medical/Rx	Dental
2020	8.00%	4.00%
2021	7.50%	3.75%
2022	7.00%	3.50%
2023	6.50%	3.25%
2024	6.00%	3.00%
2025	5.50%	3.00%
2026	5.00%	3.00%
2027+	4.50%	3.00%

The initial trend rate was based on a combination of employer history, national trend surveys, and professional judgment.

The ultimate trend rate was selected based on historical medical CPI information.

Retiree Contributions

For retirees who contribute a percentage of premium rates, the retiree contributions are assumed to increase according to health care trend rates. For future retirees who contribute a percentage of pension, the retiree contributions are assumed to remain constant in the future except when a COLA increase occurs and then the retiree health contribution will increase similarly. For existing retirees who contribute a percentage of pension, the retiree contributions are assumed to increase by 2.25% annually.

Participation Rate

100% of active employees with current coverage are assumed to continue coverage at retirement.
0% of active employees without current coverage are assumed to elect coverage at retirement.

100% of retirees with current coverage are assumed to continue coverage at retirement
0% of retirees without coverage are assumed to elect coverage in the future.

Spousal Coverage

All retirees who currently have family coverage are assumed to have spouses. Husbands are assumed to be three years older than wives.

85% of employees are assumed to be married at retirement. Husbands are assumed to be three years older than wives.

Actuarial Methods and Assumptions

Town of West Warwick GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

Per Capita Costs

Annual per capita costs were calculated based on the Town's monthly premium rates effective on July 1, 2019 actuarially increased using health index factors and current enrollment. The costs are assumed to increase with health care trend rates. Annual per capita costs are as shown below:

The per capita costs represent the cost of coverage for a retiree-only population.

Actuarial standards require the recognition of higher inherent costs for a retired population versus an active population.

Age	Town HM No Deductible		Town HM \$500		Town HDHP	
	Male	Female	Male	Female	Male	Female
50 - 54	\$ 12,000	\$ 13,600	\$ 10,700	\$ 12,100	\$ 7,400	\$ 8,300
55 - 59	\$ 16,200	\$ 15,700	\$ 14,400	\$ 13,900	\$ 9,900	\$ 9,600
60 - 64	\$ 21,900	\$ 19,300	\$ 19,500	\$ 17,200	\$ 13,400	\$ 11,800

Age	School HM		School HM Deductible		School HDHP	
	Male	Female	Male	Female	Male	Female
50 - 54	\$ 11,100	\$ 12,500	\$ 10,100	\$ 11,400	\$ 7,100	\$ 8,100
55 - 59	\$ 15,000	\$ 14,500	\$ 13,600	\$ 13,100	\$ 9,600	\$ 9,300
60 - 64	\$ 20,300	\$ 17,900	\$ 18,400	\$ 16,200	\$ 13,000	\$ 11,500

Medicare per capita cost for participants eligible for lifetime benefit is assumed to be \$2,209, increasing with health care trend rates.

Dental per capita costs for participants eligible for subsidized dental benefit are assumed to be \$466 and \$358 for School and Town respectively. These costs are assumed to increase with dental trend rates.

Explicit Subsidy

The difference between (a) the premium rate and (b) the retiree contribution. Below is an example of the monthly explicit subsidies for a Firefighter retiring after July 1, 2014 who is enrolled in the HDHP plan.

	Premium Rate	Retiree Contribution	Explicit Subsidy
	A	B	C = A - B
Retiree	\$ 578.44	\$ 0.00	\$ 578.44
Spouse	\$ 958.67	\$ 0.00	\$ 958.67

Actuarial Methods and Assumptions

Town of West Warwick GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

Implicit Subsidy

The difference between (a) the per capita cost and (b) the premium rate. Below is an example of the monthly implicit subsidies for a 60 – 64 male retiree with a spouse of the same age enrolled in the Town’s HDHP plan.

	Per Capita Cost	Premium Rate	Implicit Subsidy
	A	B	C = A - B
Retiree	\$ 1,116.67	\$ 578.44	\$ 538.23
Spouse	\$ 983.33	\$ 958.67	\$ 24.66

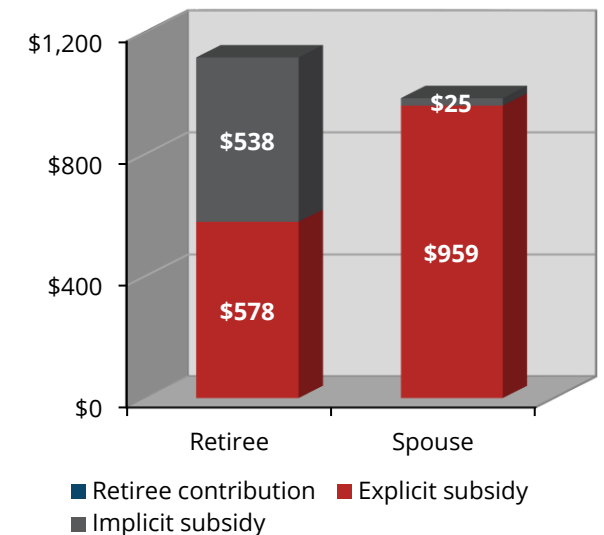
All employers that utilize premium rates based on blended active/retiree claims experience will have an implicit subsidy. There is an exception for Medicare plans using a true community-rated premium rate.

GASB Subsidy Breakdown

Below is a breakdown of the GASB 74/75 monthly total cost for a male Firefighter age 60 retiring after July 1, 2014 and his spouse of the same age enrolled in the Town’s HDHP plan.

	Retiree	Spouse
Retiree contribution	\$ 0.00	\$ 0.00
Explicit subsidy	\$ 578.44	\$ 958.67
Implicit subsidy	\$ 538.23	\$ 24.66
Total monthly cost	\$ 1,116.67	\$ 983.33

GASB Subsidy Breakdown



APPENDIX

The background features a complex geometric design. The top half is a solid dark gray. The bottom half is composed of several overlapping, semi-transparent shapes. On the left, there are white and light gray shapes. On the right, there are large, vibrant red shapes that overlap with the lighter tones. The overall effect is a modern, minimalist aesthetic.

Appendix

Town of West Warwick GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

Comparison of Participant Demographic Information

The active participants' number below may include active employees who currently have no health care coverage. Refer to Summary of Participants section for an accurate breakdown of active employees with and without coverage.

	As of June 30, 2017	As of June 30, 2019
Active Participants	679	635
Retired Participants ⁴	241	234
Averages for Active		
Age	45.4	46.1
Service	13.7	13.9
Averages for Inactive		
Age	61.6	62.3

⁴ Retired participant counts include retirees with health coverage only

Appendix

Town of West Warwick GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

Detailed Actuary's Notes

There have been no substantive plan provision changes since the last full valuation, which was for the fiscal year ending June 30, 2017.

The following assumptions have been updated.

1. Mortality table has been updated as follows, causing a decrease to liabilities:
 - a. Police and Fire employees and retirees: from RP-2014 Blue Collar Mortality Table with generational improvements from 2006 based on assumptions from the 2017 SSA Trustees' Report to RP-2014 Blue Collar Mortality Table with generational improvements from 2006 based on assumptions from the 2019 SSA Trustees' Report
 - b. All other employees and retirees: from RP-2014 Mortality Table with generational improvements from 2006 based on assumptions from the 2017 SSA Trustees' Report to RP-2014 Mortality Table with generational improvements from 2006 based on assumptions from the 2019 SSA Trustees' Report
2. The termination rates have been changed to 0% for Police and Fire employees. The termination rates for School certified employees have been updated to the Crocker Sarason T-3 table. This change caused the liabilities to increase.
3. Health care trend rates have been reset to an initial rate of 8.0% decreasing by 0.5% annually to an ultimate rate of 4.5%. This change caused a decrease in liabilities for the Town.
4. Dental trend rates have been reset to an initial rate of 4.0% decreasing by 0.25% annually to an ultimate rate of 3.0%. This change caused a decrease in the Town's liabilities.

Appendix

Town of West Warwick GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

GASB Results by Group

Below is the summary of the GASB results for fiscal year ending June 30, 2019 based on the Entry Age Normal Level % of Pay cost method with a discount rate of 7.50%.

Union Groups	Total OPEB Liability		Actuarial Value of Assets		Net OPEB Liability	
	As of June 30, 2019		As of June 30, 2019		As of June 30, 2019	
Department Head	\$	2,341	\$	(62)	\$	2,279
Firefighters	\$	20,846,683	\$	(554,373)	\$	20,292,310
Municipal	\$	8,458,306	\$	(224,931)	\$	8,233,375
Police	\$	18,637,184	\$	(495,616)	\$	18,141,568
School Certified	\$	8,630,526	\$	(628,758)	\$	8,001,768
School Non-Certified	\$	2,164,574	\$	(157,695)	\$	2,006,879
Sewer	\$	1,767,286	\$	(111,867)	\$	1,655,419
Total	\$	60,506,900	\$	(2,173,302)	\$	58,333,598

GLOSSARY

The background features a complex geometric design. The top half is a solid dark gray. Below this, there are several overlapping triangles and polygons in various shades of gray and white, creating a layered, architectural effect. A prominent bright red triangle is located in the bottom right corner, overlapping the other shapes.

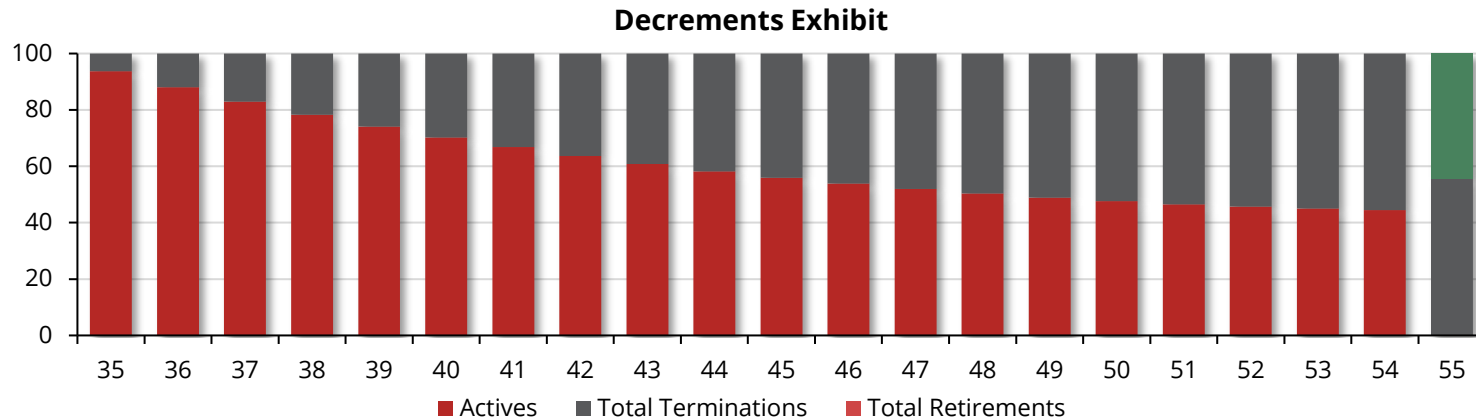
Glossary – Decrements Exhibit

Town of West Warwick GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

The table below illustrates how actuarial assumptions can affect a long-term projection of future liabilities. Starting with 100 employees at age 35, the illustrated actuarial assumptions show that 44.43 employees out of the original 100 are expected to retire and could elect retiree health benefits at age 55.

Age	# Remaining Employees	# of Terminations per Year ⁵	# of Retirements per Year	Total Decrements
35	100.000	6.276	0.000	6.276
36	93.724	5.677	0.000	5.677
37	88.047	5.136	0.000	5.136
38	82.911	4.648	0.000	4.648
39	78.262	4.209	0.000	4.209
40	74.053	3.814	0.000	3.814
41	70.239	3.456	0.000	3.456
42	66.783	3.131	0.000	3.131
43	63.652	2.835	0.000	2.835
44	60.817	2.564	0.000	2.564
45	58.253	2.316	0.000	2.316

Age	# Remaining Employees	# of Terminations per Year	# of Retirements per Year	Total Decrements
46	55.938	2.085	0.000	2.085
47	53.853	1.866	0.000	1.866
48	51.987	1.656	0.000	1.656
49	50.331	1.452	0.000	1.452
50	48.880	1.253	0.000	1.253
51	47.627	1.060	0.000	1.060
52	46.567	0.877	0.000	0.877
53	45.690	0.707	0.000	0.707
54	44.983	0.553	0.000	0.553
55	44.430	0.000	44.430	44.430



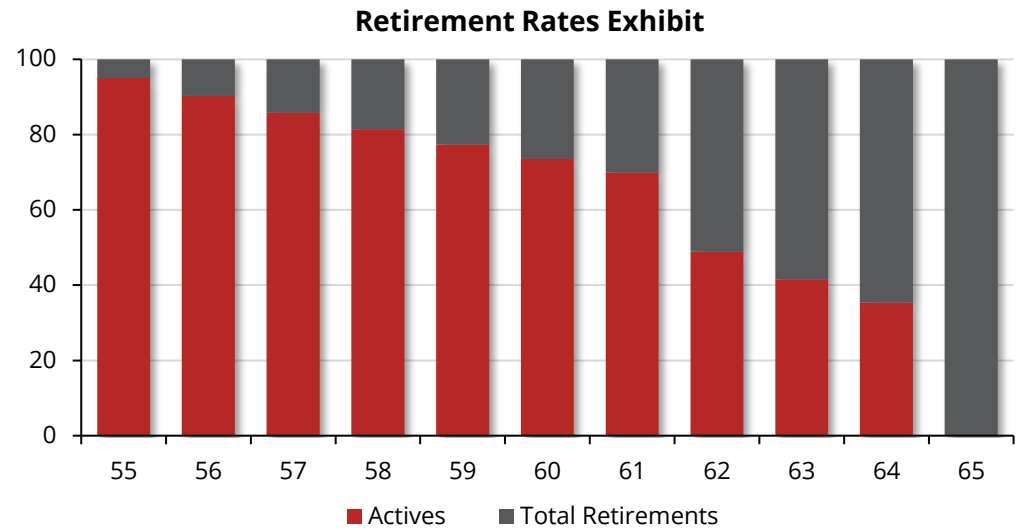
⁵ The above rates are illustrative rates and are not used in our GASB calculations.

Glossary – Retirement Rates Exhibit

Town of West Warwick GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

The table below illustrates how actuarial assumptions can affect a long-term projection of future liabilities. The illustrated retirement rates show the number of employees who are assumed to retire annually based on 100 employees age 55 who are eligible for retiree health care coverage. The average age at retirement is 62.0.

Age	Active Employees BOY	Annual Retirement Rates*	# Retirements per Year	Active Employees EOY
55	100.000	5.0%	5.000	95.000
56	95.000	5.0%	4.750	90.250
57	90.250	5.0%	4.513	85.738
58	85.738	5.0%	4.287	81.451
59	81.451	5.0%	4.073	77.378
60	77.378	5.0%	3.869	73.509
61	73.509	5.0%	3.675	69.834
62	69.834	30.0%	20.950	48.884
63	48.884	15.0%	7.333	41.551
64	41.551	15.0%	6.233	35.318
65	35.318	100.0%	35.318	0.000



* The above rates are illustrative rates and are not used in our GASB calculations.

Glossary – Definitions

Town of West Warwick GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

GASB 75 defines several unique terms not commonly employed in the funding of pension and retiree health plans. The definitions of the terms used in the GASB actuarial valuations are noted below.

1. **Actuarial Assumptions** – Assumptions as to the occurrence of future events affecting health care costs, such as: mortality, withdrawal, disablement and retirement; changes in compensation and Government provided health care benefits; rates of investment earnings and asset appreciation or depreciation; procedures used to determine the Actuarial Value of Assets; characteristics of future entrants for Open Group Actuarial Cost Methods; and other relevant items.
2. **Actuarial Cost Method** – A procedure for determining the Actuarial Present Value of Future Benefits and expenses and for developing an actuarially equivalent allocation of such value to time periods, usually in the form of a Service Cost and a Total OPEB Liability.
3. **Actuarially Determined Contribution** - A target or recommended contribution to a defined benefit OPEB plan for the reporting period, determined in accordance with the parameters and in conformity with Actuarial Standards of Practice.
4. **Actuarial Present Value** – The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. For purposes of this standard, each such amount or series of amounts is:
 - a. adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, Social Security, marital status, etc.);
 - b. multiplied by the probability of the occurrence of an event (such as survival, death, disability, termination of employment, etc.) on which the payment is conditioned; and
 - c. discounted according to an assumed rate (or rates) of return to reflect the time value of money.
5. **Deferred Outflow / (Inflow) of Resources** – represents the following items that have not been recognized in the OPEB Expense:
 - a. Differences between expected and actual experience of the OPEB plan
 - b. Changes in assumptions
 - c. Differences between projected and actual earnings in OPEB plan investments (for funded plans only)
6. **Explicit Subsidy** – The difference between (a) the amounts required to be contributed by the retirees based on the premium rates and (b) actual cash contribution made by the employer.
7. **Funded Ratio** – The actuarial value of assets expressed as a percentage of the Total OPEB Liability.

Glossary – Definitions

Town of West Warwick GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

8. **Healthcare Cost Trend Rate** – The rate of change in the per capita health claims costs over time as a result of factors such as medical inflation, utilization of healthcare services, plan design, and technological developments.
9. **Implicit Subsidy** – In an experience-rated healthcare plan that includes both active employees and retirees with blended premium rates for all plan members, the difference between (a) the age-adjusted premiums approximating claim costs for retirees in the group (which, because of the effect of age on claim costs, generally will be higher than the blended premium rates for all group members) and (b) the amounts required to be contributed by the retirees.
10. **OPEB** – Benefits (such as death benefits, life insurance, disability, and long-term care) that are paid in the period after employment and that are provided separately from a pension plan, as well as healthcare benefits paid in the period after employment, regardless of the manner in which they are provided. OPEB does not include termination benefits or termination payments for sick leave.
11. **OPEB Expense** – Changes in the Net OPEB Liability in the current reporting period, which includes Service Cost, interest cost, changes of benefit terms, expected earnings on OPEB Plan investments, reduction of active employees' contributions, OPEB plan administrative expenses, and current period recognition of Deferred Outflows / (Inflows) of Resources.
12. **Pay-as-you-go** – A method of financing a benefit plan under which the contributions to the plan are generally made at about the same time and in about the same amount as benefit payments and expenses becoming due.
13. **Per Capita Costs** – The current cost of providing postretirement health care benefits for one year at each age from the youngest age to the oldest age at which plan participants are expected to receive benefits under the plan.
14. **Present Value of Future Benefits** – Total projected benefits include all benefits estimated to be payable to plan members (retirees and beneficiaries, terminated employees entitled to benefits but not yet receiving them, and current active members) as a result of their service through the valuation date and their expected future service. The actuarial present value of total projected benefits as of the valuation date is the present value of the cost to finance benefits payable in the future, discounted to reflect the expected effects of the time value (present value) of money and the probabilities of payment. Expressed another way, it is the amount that would have to be invested on the valuation date so that the amount invested plus investment earnings will provide sufficient assets to pay total projected benefits when due.
15. **Real Rate of Return** – the rate of return on an investment after adjustment to eliminate inflation.

Glossary – Definitions

Town of West Warwick GASB 74/75 Valuation for Fiscal Year Ending June 30, 2019

16. **Select and Ultimate Rates** – Actuarial assumptions that contemplate different rates for successive years. Instead of a single assumed rate with respect to, for example, the investment return assumption, the actuary may apply different rates for the early years of a projection and a single rate for all subsequent years. For example, if an actuary applies an assumed investment return of 8% for year 20W0, then 7.5% for 20W1, and 7% for 20W2 and thereafter, then 8% and 7.5% select rates, and 7% is the ultimate rate.
17. **Service Cost** – The portion of the Actuarial Present Value of projected benefit payments that are attributed to a valuation year by the Actuarial Cost Method.
18. **Substantive Plan** – The terms of an OPEB plan as understood by the employer(s) and plan members.
19. **Total OPEB Liability** – That portion, as determined by a particular Actuarial Cost Method, of the Actuarial Present Value of Future Benefits which is attributed to past periods of employee service (or not provided for by the future Service Costs).