



# GASB 45 ACTUARIAL VALUATION

Fiscal Year Ending June 30, 2016

# Bristol Warren Regional School District

**Nyhart Actuary & Employee Benefits**

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**November 14, 2016**

**Bristol Warren Regional School District**

**Pauline Silva**

**151 State Street**

**Bristol, RI 2809**

This report summarizes the GASB 45 actuarial valuation for the Bristol Warren Regional School District 2015/16 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. 45 (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 and other economic assumptions have been selected by the Plan Sponsor. 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.

**November 14, 2016**

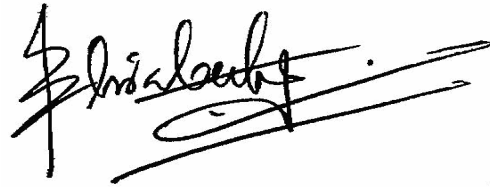
Neither Nyhart nor any of its employees has any relationship with the plan or its sponsor that could impair or appear to impair the objectivity of this report. Our professional work is in full compliance with the American Academy of Actuaries "Code of Professional Conduct" Precept 7 regarding conflict 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.



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Randy Gomez, FSA, MAAA  
Consulting Actuary



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Evi Laksana, ASA, MAAA  
Valuation Actuary

## Summary of Results

Presented below is the summary of GASB 45 results for the fiscal year ending June 30, 2016 compared to the prior fiscal year.

	<i>As of July 1, 2014</i>		<i>As of July 1, 2015</i>	
<b>Actuarial Accrued Liability</b>	\$	21,002,157	\$	18,453,793
<b>Actuarial Value of Assets</b>	\$	0	\$	0
<b>Unfunded Actuarial Accrued Liability</b>	\$	21,002,157	\$	18,453,793
<b>Funded Ratio</b>		0.0%		0.0%

	<i>FY 2014/15</i>		<i>FY 2015/16</i>	
<b>Annual Required Contribution</b>	\$	2,150,847	\$	1,975,248
<b>Annual OPEB Cost</b>	\$	1,987,086	\$	1,780,593
<b>Annual Employer Contribution</b>	\$	1,705,844	\$	1,375,686

	<i>As of June 30, 2015</i>		<i>As of June 30, 2016</i>	
<b>Net OPEB Obligation</b>	\$	3,814,973	\$	4,219,880

	<i>As of June 30, 2016</i>	
<b>Total Active Participants</b>		62
<b>Total Retiree Participants</b>		222

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

Executive Summary

Below is a breakdown of total GASB 45 liabilities allocated for past, current, and future service for the fiscal year beginning July 1, 2015 compared to the prior valuation as of July 1, 2014.

	<i>As of July 1, 2014</i>		<i>As of July 1, 2015</i>	
<b>Present Value of Future Benefits</b>	<b>\$</b>	<b>21,757,875</b>	<b>\$</b>	<b>19,069,899</b>
Active Employees		4,024,750		3,610,605
Retired Employees		17,733,125		15,459,294
<b>Actuarial Accrued Liability</b>	<b>\$</b>	<b>21,002,157</b>	<b>\$</b>	<b>18,453,793</b>
Active Employees		3,269,032		2,994,499
Retired Employees		17,733,125		15,459,294
<b>Normal Cost</b>	<b>\$</b>	<b>121,382</b>	<b>\$</b>	<b>105,689</b>
<b>Future Normal Cost</b>	<b>\$</b>	<b>634,336</b>	<b>\$</b>	<b>510,417</b>

**Present Value of Future Benefits (PVFB)** is the total liability amount as of July 1, 2014 and July 1, 2015 and represents the amount the School District needs to fully fund its retiree health care obligations assuming all actuarial assumptions are met.

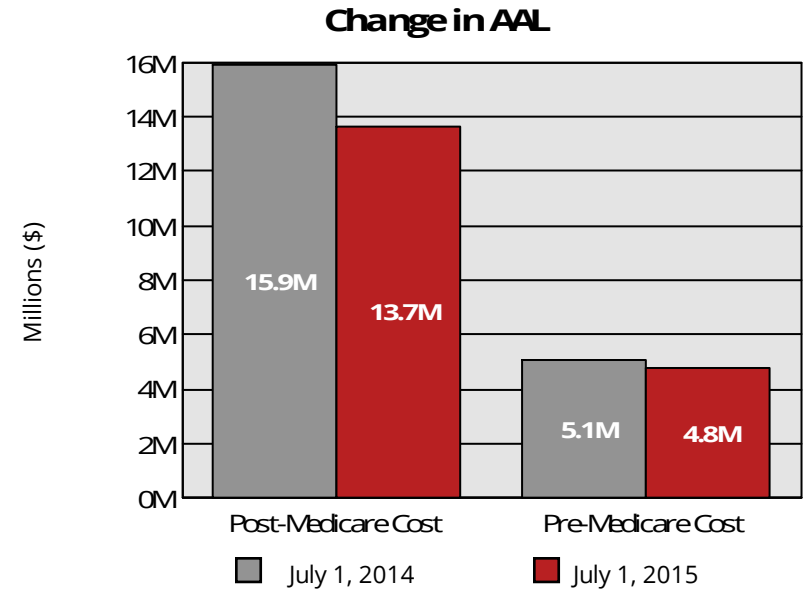
**Actuarial Accrued Liability** is the portion of PVFB considered to be accrued or earned as of July 1, 2014 and July 1, 2015. This amount is a required disclosure in the Required Supplementary Information section.

**Normal Cost** is the portion of the total liability amount that is attributed and accrued for current year active employee service by the actuarial cost method level dollar.

**Future Normal Cost** is the portion of the total liability amount that is attributed to the future employee service by the actuarial cost method level dollar.

Below is a breakdown of total GASB 45 liabilities allocated for 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.

Actuarial Accrued Liability (AAL)	As of July 1, 2014		As of July 1, 2015	
<b>Total Active AAL</b>	<b>\$</b>	<b>3,269,032</b>	<b>\$</b>	<b>2,994,499</b>
Active Pre-Medicare		1,688,359		1,967,946
Active Post-Medicare		1,580,673		1,026,553
<b>Total Retirees AAL</b>	<b>\$</b>	<b>17,733,125</b>	<b>\$</b>	<b>15,459,294</b>
Retirees Pre-Medicare		3,364,659		2,829,674
Retirees Post-Medicare		14,368,466		12,629,620
<b>Total AAL</b>	<b>\$</b>	<b>21,002,157</b>	<b>\$</b>	<b>18,453,793</b>

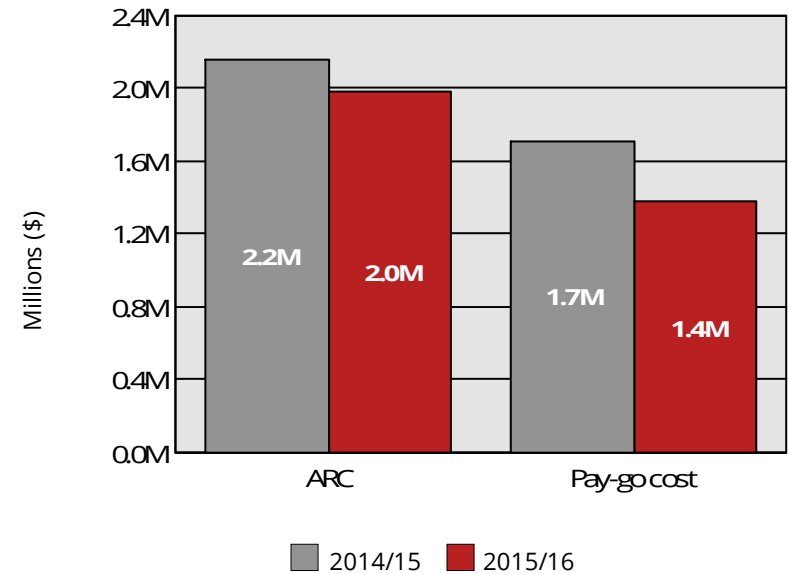


### Development of Annual Required Contribution (ARC)

Required Supplementary Information	FY 2014/15	FY 2015/16
<b>Actuarial Accrued Liability</b> as of beginning of year	\$ 21,002,157	\$ 18,453,793
<b>Actuarial Value of Assets</b> as of beginning of year	0	0
<b>Unfunded Actuarial Accrued Liability (UAAL)</b>	<b>\$ 21,002,157</b>	<b>\$ 18,453,793</b>
Covered payroll	\$ 5,059,572	\$ 4,549,808
UAAL as a % of covered payroll	415.1%	405.6%

Annual Required Contribution	FY 2014/15	FY 2015/16
Normal cost as of beginning of year	\$ 121,382	\$ 105,689
Amortization of the UAAL	1,927,044	1,775,500
Total normal cost and amortization payment	\$ 2,048,426	\$ 1,881,189
Interest to end of year	102,421	94,059
<b>Total Annual Required Contribution (ARC)</b>	<b>\$ 2,150,847</b>	<b>\$ 1,975,248</b>

### Cash vs. Accrual Accounting



**Annual Required Contribution (ARC)** is the annual expense recorded in the income statement under GASB 45 accrual accounting. It replaces the cash basis method of accounting recognition with an accrual method. The GASB 45 ARC is higher than the pay-as-you-go cost because it includes recognition of employer costs expected to be paid in future accounting periods.

\* 2014/15 covered payroll is based on 2013/14 covered payroll increased by the payroll growth assumption (3.0%).



### Development of Annual OPEB Cost and Net OPEB Obligation

Annual employer contributions for pay-go cost are estimated figures for FY 2014/15 and FY 2015/16.

Net OPEB Obligation (NOO)	FY 2014/15	FY 2015/16
ARC as of end of year	\$ 2,150,847	\$ 1,975,248
Interest on NOO to end of year	176,687	190,749
NOO amortization adjustment to the ARC	(340,448)	(385,404)
Annual OPEB cost	\$ 1,987,086	\$ 1,780,593
Annual employer contribution for pay-go cost	(1,705,844)	(1,375,686)
Annual employer contribution for pre-funding	0	0
Change in NOO	\$ 281,242	\$ 404,907
NOO as of beginning of year	3,533,731	3,814,973
<b>NOO as of end of year</b>	<b>\$ 3,814,973</b>	<b>\$ 4,219,880</b>

**Pay-as-you-go Cost** is the expected total employer cash cost for the coming period based on all explicit and implicit subsidies. It is also the amount recognized as expense on the Income Statement under pay-as-you-go accounting.

**Net OPEB Obligation** is the cumulative difference between the annual OPEB cost and employer contributions. This obligation will be created if cash contributions are less than the current year expense under GASB 45 accrual rules.

The net obligation is recorded as a liability on the employer's balance sheet which will reduce the net fund balance.

The value of implicit subsidies is considered as part of cash contributions for the current period. Other cash expenditures that meet certain conditions are also considered as contributions for GASB 45 purposes.

### Summary of GASB 45 Financial Results

Presented below is the summary of GASB 45 results for the fiscal year ending June 30, 2016 compared to the prior fiscal years. Prior years fiscal information is as shown in the School District's Notes to Financial Statement for fiscal year ending June 30, 2015.

### Schedule of Funding Progress

<i>As of</i>	<i>Actuarial Accrued Liability (AAL)</i>	<i>Actuarial Value of Assets (AVA)</i>	<i>Unfunded AAL (UAAL)</i>	<i>Funded Ratio</i>	<i>Covered Payroll</i>	<i>UAAL as % of Covered Payroll</i>
	<i>A</i>	<i>B</i>	<i>C = A + B</i>	<i>D = B / A</i>	<i>E</i>	<i>F = C / E</i>
July 1, 2015	\$ 18,453,793	\$ 0	\$ 18,453,793	0.0%	\$ 4,549,808	405.6%
July 1, 2014	\$ 21,002,157	\$ 0	\$ 21,002,157	0.0%	\$ 5,059,572	415.1%
July 1, 2013	\$ 22,072,077	\$ 0	\$ 22,072,077	0.0%	\$ 4,912,206	449.3%

### Schedule of Employer Contributions

<i>FYE</i>	<i>Employer Contributions</i>	<i>Annual Required Contribution (ARC)</i>	<i>% of ARC Contributed</i>
	<i>A</i>	<i>B</i>	<i>C = A / B</i>
June 30, 2016	\$ 1,375,686	\$ 1,975,248	69.6%
June 30, 2015	\$ 1,705,844	\$ 2,150,847	79.3%
June 30, 2014	\$ 1,564,996	\$ 2,160,629	72.4%

### Historical Annual OPEB Cost

<i>As of</i>	<i>Annual OPEB Cost</i>	<i>% of Annual OPEB Cost Contributed</i>	<i>Net OPEB Obligation</i>
June 30, 2016	\$ 1,780,593	77.3%	\$ 4,219,880
June 30, 2015	\$ 1,987,086	85.8%	\$ 3,814,973
June 30, 2014	\$ 2,030,955	77.1%	\$ 3,533,731

**Reconciliation of Actuarial Accrued Liability**

The Actuarial Accrued Liability (AAL) 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 AAL and whether they increase or decrease the liability.

Expected Events

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

Unexpected Events

- Increases in AAL when actual premium rates increase more than expected. A liability decrease occurs when premium rates increase less than expected.
- Increases in AAL 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 AAL depending on whether benefit provisions are improved or reduced.

	<i>FY 2014/15</i>	<i>FY 2015/16</i>
AAL as of beginning of year	\$ 21,002,157	\$ 18,453,793
Normal cost as of beginning of year	121,382	105,689
Expected benefit payments during the year	(1,705,844)	(1,375,686)
Interest adjustment to end of year	1,014,051	894,001
Expected AAL as of end of year†	\$ 20,431,746	\$ 18,077,797
(Gain) / loss due to experience	(2,525,112)	0
(Gain) / loss due to provisions / assumption	547,159	0
Actuarial Accrued Liability as of end of year	\$ 18,453,793	\$ 18,077,797

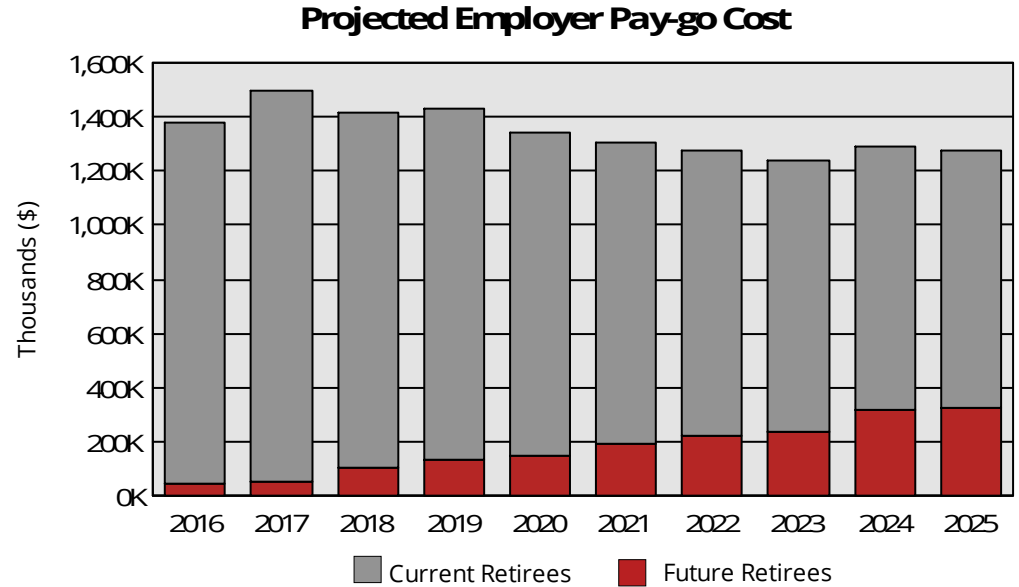
**Reconciliation of AAL** shows what the actuary expects the actuarial accrued liability to be at the beginning of the following fiscal year based on current assumptions and plan provisions. The expected end of year AAL will change as actual plan experience varies from assumptions. Generally, the AAL is expected to have a net increase each year.

Actuarial Accrued Liability (AAL) as of beginning of year was actuarially rolled-back from end of year AAL on a “no gain/loss” basis.

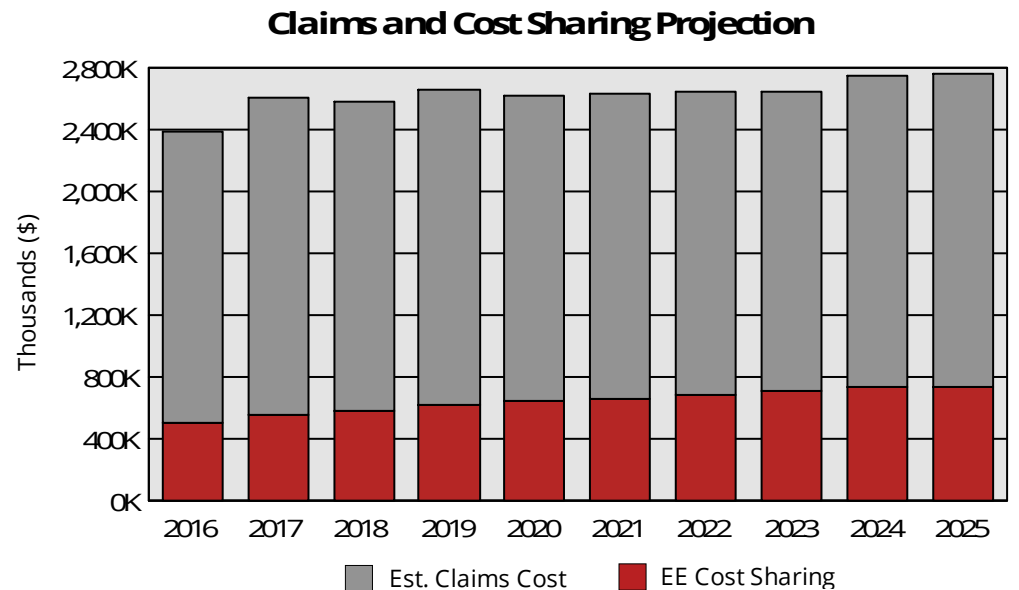
**Employer Contribution Cash Flow Projections**

The below projections show the actuarially estimated employer subsidized contribution for retiree benefits for the next 10 years. Results below are shown separately for current/future retirees and gross claims costs/contributions. The projections include explicit and implicit subsidies, and do not take into account future new hires.

FYE	Current Retirees	Future Retirees	Total
2016	\$ 1,328,543	\$ 47,143	\$ 1,375,686
2017	\$ 1,448,112	\$ 51,386	\$ 1,499,498
2018	\$ 1,313,513	\$ 99,619	\$ 1,413,132
2019	\$ 1,294,072	\$ 135,440	\$ 1,429,512
2020	\$ 1,193,844	\$ 149,317	\$ 1,343,161
2021	\$ 1,111,707	\$ 194,617	\$ 1,306,324
2022	\$ 1,058,197	\$ 218,574	\$ 1,276,771
2023	\$ 1,000,031	\$ 237,691	\$ 1,237,722
2024	\$ 976,771	\$ 315,677	\$ 1,292,448
2025	\$ 952,454	\$ 326,750	\$ 1,279,204



FYE	Estimated Claims Cost	Retiree Contributions	Net Employer-Paid Costs
2016	\$ 1,882,166	\$ 506,480	\$ 1,375,686
2017	\$ 2,051,561	\$ 552,063	\$ 1,499,498
2018	\$ 1,994,024	\$ 580,892	\$ 1,413,132
2019	\$ 2,043,950	\$ 614,438	\$ 1,429,512
2020	\$ 1,982,664	\$ 639,503	\$ 1,343,161
2021	\$ 1,968,297	\$ 661,973	\$ 1,306,324
2022	\$ 1,963,163	\$ 686,392	\$ 1,276,771
2023	\$ 1,942,147	\$ 704,425	\$ 1,237,722
2024	\$ 2,022,194	\$ 729,746	\$ 1,292,448
2025	\$ 2,020,941	\$ 741,737	\$ 1,279,204



**Eligible Groups**

Only the following groups of participants are eligible for retiree health care coverage:

1. Bristol and Warren Teachers hired prior to July 1, 1993
2. Bristol and Warren Certified Administrators hired prior to July 1, 1993
3. Bristol and Warren Non-Certified Administrators hired prior to July 1, 1994
4. Classified employees hired prior July 1, 1994
5. Current retirees with grandfathered coverage

**Eligibility**

Certified Teachers and administrators are entitled to retiree health care coverage after meeting Rhode Island Employees Retirement System (RI ERS) eligibility requirements. Other groups of participants must meet Rhode Island Municipal Employees Retirement System (RI MERS) eligibility requirements.

**Spouse Benefit**

Coverage continues to surviving spouse of retired teachers. The widowed spouse of a teacher hired before July 1, 1993 are eligible for a fully-paid individual coverage through age 65 while unmarried and not eligible for equivalent outside coverage. If a family coverage is needed, the widow or widower is required to contribute 25% of the cost of coverage.

There is no coverage for surviving spouse of administrators (certified and non-certified) and classified employees.

**MERS Eligibility Requirements**

Employees eligible to retire as of 7/1/2012 are not impacted by the new eligibility requirements described below. Prior to 7/1/2012, employees were eligible to retire at the earlier of: (i) age 58 with 10 years of service credit or (ii) 30 years of service (no age requirement).

For employees who are not eligible to retire as of 7/1/2012:

- a) Members with less than five years of contributing service credit on 6/30/2012 may retire at their Social Security normal retirement age.
- b) Members with at least five years of contributing service credit on 6/30/2012 may retire at an individually determined age, which is the result of interpolating the member's prior Retirement Date (described in previous paragraph) and the retirement age applicable to members hired after 6/30/2012 (described in item (a) above).
- c) Members with at least ten years of contributing service credit on 6/30/2012 may retire at their prior Retirement Date (described in previous paragraph) if they continue to work and contribute until that date.

All members who are within five years of reaching their retirement eligibility date (described in the paragraphs above) may retire at any time if they have at least 20 years of service.

**RI ERS Eligibility Requirements**

RI ERS eligibility requirements is the earlier of each employee’s (a) Article 7 or (b) RIRSA eligibility dates which vary by Schedules summarized below:

Schedules	Vested with 10 years of contributing service credit as of 7/1/2005	Eligible to retire as of 9/30/2009
A	Y	Y*
B	N	Y**
AB	Y	N
B1	N	N
B2	Employees that became a member of RI ERS after 9/30/2009	

\* Schedule A members were eligible to retire as of 9/30/2009 if they had (i) 28 years of service as of 9/30/2009 or (ii) had 10 years of contributing service and were age 60 as of 9/30/2009.

\*\* Schedule B members were eligible to retire as of 9/30/2009 if they had 10 years of contributing service and were age 65 as of 9/30/2009.

Article 7 Eligibility Date

There are no changes to Schedule A and Schedule B members retirement eligibility dates. These employees may retire at any time once they met the prior RI ERS eligibility rules. The prior RI ERS eligibility rules are:

- Schedule A – earlier of (i) 28 years of service or (ii) age 60 with 10 years of contributing service.
- Schedule B – earlier of (i) age 65 with 10 years of contributing service or (ii) age 59 with 29 years of contributing service.

Minimum retirement age under Article 7 for Schedule AB and B1 members is 62 with “proportional downward adjustment” toward an earlier retirement age based on years of service as of 9/30/2009 (referred to as “frozen service credit”).

Schedule B2 members minimum retirement age under Article 7 is age 62 without “proportional downward adjustment” toward an earlier retirement age.

**RI ERS Eligibility Requirements**

(Continued)

RIRSA Eligibility Date

Employees with less than five years of contributing service credit on 6/30/2012 may retire at the Social Security normal retirement age (not higher than 67).

For employees with at least five years of contributing service credit on 6/30/2012, minimum retirement age is 62 with “proportional downward adjustment” toward an earlier retirement date based on years of service prior to 7/1/2012, but not earlier than 59.

Employees with at least 10 years of contributing service credit on 6/30/2012 may retire at their Article 7 eligibility date if they continue to work and contribute until that date. If they are within five years of reaching RIRSA retirement eligibility date and have at least 20 years of service, they may retire at any time.

Effective on July 1, 2015, employees are now eligible to retire upon attainment of age 65 with 30 years of service, age 64 with 31 years of service, age 63 with 32 years of service, or age 62 with at least 33 years of service. These are additional eligibility requirements, which means that if employees are eligible to retire under the current eligibility requirements, they may do so.

**Retiree Contributions**

Retirees are required to contribute the cost of coverage not covered by the District’s explicit subsidy.

**District Explicit Subsidy**

Bristol Teachers and  
Certified Administrators

Retiring Bristol teachers and Certified administrators hired before July 1, 1993 shall receive until age 65, or eligibility for Medicare, Bristol-Warren School Department existing coverage for active employees. The School Committee will contribute 80% of the pre-65 cost of coverage if they enroll in non-HSA plan or 90% if they enroll in the HSA plan at retirement.

At age 65, retiring Bristol teachers and Certified administrators will receive an additional coverage necessary to provide the equivalent benefits received prior to age 65. If a retiring Bristol teacher or Certified administrator is not eligible for Medicare at age 65 they may remain in the active plan. The School Committee will contribute 50% of the post-65 cost of coverage.

**District Explicit Subsidy** (Continued)

Warren Teachers and  
Certified Administrators

Retiring Warren teachers and Certified administrators hired before July 1, 1993 shall receive until age 65, or eligibility for Medicare, Bristol-Warren School District existing coverage for active employees. The School Committee will contribute 80% of the pre-65 cost of coverage if they enroll in non-HSA plan or 90% if they enroll in the HSA plan at retirement.

There is no coverage upon Medicare eligibility.

Bristol Non-Certified Administrators  
and Classified Employees

Retiring Bristol Non-Certified administrators and Classified employees hired before July 1, 1994 shall receive until age 65, or eligibility for Medicare, Bristol-Warren School District existing coverage for active employees. The School Committee will contribute 85% of the pre-65 cost of coverage if they enroll in non-HSA plan or 95% if they enroll in the HSA plan at retirement.

At age 65, retiring Bristol Non-Certified administrators and Classified employees will receive an additional coverage necessary to provide the equivalent benefits received prior to age 65. If a retiring Bristol non-certified administrator or classified employee is not eligible for Medicare at age 65 they may remain in the active plan. The School Committee will contribute 50% of the post-65 cost of coverage.

Warren Non-Certified Administrators  
and Classified Employees

Retiring Warren Non-Certified administrators and Classified employees hired before July 1, 1994 shall receive until age 65, or eligibility for Medicare, Bristol-Warren School District existing coverage for active employees. The School Committee will contribute 85% of the pre-65 cost of coverage if they enroll in non-HSA plan or 95% if they enroll in the HSA plan at retirement.

There is no coverage upon Medicare eligibility.

Current retirees

Current retirees receive various amount of District explicit subsidy as provided by the School District.



**Medical Benefit**

Same benefit options are available to retirees as active employees. Bristol-Warren Regional School District participates in a multiple employer trust. Their premium rates are calculated based on their own experience. Pre-Medicare health plans are self-insured. At age 65, coverage is provided under the Healthmate Plan 65 or Blue Chip Medicare plans. These plans are community-rated.

The 2016/17 monthly premiums provided by Bristol-Warren School District by plan effective on July 1, 2016 are as shown below.

	<b>Individual</b>	<b>Family</b>
Classic (for non-certified employees)	\$ 767.57	\$ 1,991.44
Classic (for Bristol certified employees)	\$ 769.87	\$ 1,997.09
Classic (for Warren certified employees)	\$ 761.36	\$ 1,976.37
Healthmate	\$ 693.42	\$ 1,799.89
Healthmate HSA	\$ 480.04	\$ 1,255.39
Blue Chip	\$ 673.87	\$ 1,749.35
Healthmate Plan 65	\$ 163.33	N/A
Blue Chip Medicare	\$ 293.00	N/A

**Medicare Part B**

A closed group of existing retirees receive Medicare Part B reimbursement benefit where the School District contribute 50% of the Medicare Part B premium. The premium used for valuation purposes is \$104.90.

**Dental**

A closed group of existing retirees receive subsidized dental benefit.

The actuarial assumptions used in this report represent a reasonable long-term expectation of future OPEB outcomes. As national economic and School District 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, 2014. 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 health care trend rates and per capita costs again in the next full GASB valuation, which will be for the fiscal year ending June 30, 2018.

<b>Measurement Date</b>	June 30, 2016 with results actuarially rolled-back to July 1, 2015 on a "no loss/no gain" basis.
<b>Discount Rate</b>	5.0%
<b>Payroll Growth</b>	N/A (benefits are not payroll related)
<b>Inflation Rate</b>	3.0% per year
<b>Cost Method</b>	Projected Unit Credit with linear proration to decrement
<b>Amortization</b>	Level dollar amount over 20 years based on a closed group. The remaining amortization period for FYE June 30, 2016 is 14 years.
<b>Experience Study</b>	Best actuarial practices call for a periodic assumption review and Nyhart recommends the District to complete an actuarial assumption review (also referred to as an experience study) before transitioning to the new GASB 75 standard for fiscal year ending June 30, 2018. The actuarial assumptions have not been updated since at least the 2011 valuation.
<b>Health Care Coverage Election Rate</b>	Active employees with current coverage: 100% Active employees with no coverage: 0%  Inactive employees with current coverage: 100% Inactive employees with no coverage: 0%
<b>Spousal Coverage</b>	Spousal coverage for current retirees is based on actual data.  80% of employees are assumed to be married at retirement. Husbands are assumed to be three years older than wives.

**Employer Funding Policy**

Pay-as-you-go cash basis

**Census Data**

Census information was provided by the School District as of October 2016. We have reviewed it for reasonableness and made the following assumptions and/or modifications:

- Retirees who were assumed to be ineligible for Medicare in the prior full valuation are assumed to be ineligible in Medicare this year as well, except if they have switched health plan election to Plan 65 or Blue Chip Medicare.
- All retirees over the age of 65 who are enrolled in one of the active plans are assumed to be ineligible for Medicare.
- All retirees who turned 65 since the last full valuation are assumed to contribute 50% of premiums.
- All retirees who were assigned various contribution amounts in the last full valuation different than what's described in the substantive plan provision section are assumed to be grandfathered and they contribute the same amounts this year.
- All retirees indicated as receiving Medicare Part B premium reimbursement benefit and subsidized dental benefit in the last full valuation are assumed to continue receiving this benefit this year.

**Mortality**

RPH-2015 Total Dataset Mortality Table fully generational using MP-2015 (RPH-2015 mortality table is created from RPH-2014 mortality table with eight years of MP-2014 mortality improvement backed out and projected to 2015 using MP-2015 mortality improvement scale).

**Turnover Rate**

Assumption used to project terminations (voluntary and involuntary) prior to meeting minimum retirement eligibility for retiree health coverage. Withdrawal rates are based on Sarason Crocker T-3 table. Sample annual turnover rates are shown below:

Age	Rate
25	5.3%
30	4.8%
35	4.5%
40	3.8%
45	3.2%
50	1.5%
55	0.3%
60	0.0%

**Disability** None

**Retirement Rate** Annual rates of retirement as shown below:

Age	Years of Service			
	<10	10 - 27	28 - 34	35+
55	0.0%	0.0%	15.0%	100.0%
56 - 58	0.0%	0.0%	5.0%	100.0%
59	0.0%	0.0%	10.0%	100.0%
60	0.0%	25.0%	25.0%	100.0%
61	0.0%	10.0%	10.0%	100.0%
62	0.0%	20.0%	20.0%	100.0%
63 - 64	0.0%	15.0%	15.0%	100.0%
65	0.0%	100.0%	100.0%	100.0%

Health Care Trend Rates	FYE	Medical / Rx	Dental	Part B
	2017	9.00%	5.00%	3.00%
	2018	8.50%	4.75%	3.25%
	2019	8.00%	4.50%	3.50%
	2020	7.50%	4.25%	3.75%
	2021	7.00%	4.00%	4.00%
	2022	6.50%	3.75%	4.25%
	2023	6.00%	3.50%	4.50%
	2024	5.50%	3.50%	4.50%
	2025+	5.00%	3.50%	4.50%

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** Retiree contributions are assumed to increase according to health care trend rates.

**Per Capita Costs**

Annual per capita costs by plan were calculated based on the 2016/17 premium rates provided by the District actuarially increased using health index factors and current enrollment. Employees are assumed to elect at retirement the same plan as their current active health plan. The costs are assumed to increase with health care trend rates. Annual per capita costs by plan are as shown below:

Age	Classic		Blue Chip	
	Male	Female	Male	Female
<55	\$ 9,200	\$ 9,600	\$ 8,100	\$ 8,400
55 – 59	\$ 11,000	\$ 10,700	\$ 9,600	\$ 9,400
60 – 64	\$ 14,100	\$ 12,700	\$ 12,300	\$ 11,100
65 – 69 <sup>1</sup>	\$ 15,500	\$ 13,500	\$ 13,600	\$ 11,800
70 – 74 <sup>1</sup>	\$ 16,900	\$ 14,400	\$ 14,800	\$ 12,600
75+ <sup>1</sup>	\$ 18,300	\$ 15,300	\$ 16,000	\$ 13,400

Age	Healthmate		Healthmate HSA	
	Male	Female	Male	Female
<55	\$ 8,300	\$ 8,600	\$ 5,800	\$ 6,000
55 – 59	\$ 9,900	\$ 9,700	\$ 6,900	\$ 6,700
60 – 64	\$ 12,700	\$ 11,400	\$ 8,800	\$ 7,900
65 – 69 <sup>1</sup>	\$ 14,000	\$ 12,100	\$ 9,700	\$ 8,400
70 – 74 <sup>1</sup>	\$ 15,200	\$ 13,000	\$ 10,500	\$ 9,000
75+ <sup>1</sup>	\$ 16,400	\$ 13,900	\$ 11,300	\$ 9,600

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.

For Medicare-eligible participants, the annual per capita costs at age 65 and older are:

- \$1,960 for participants enrolled in Classic and Healthmate plans
- \$3,516 for participants enrolled in Blue Chip plan

Annual dental per capita cost for retirees eligible for subsidized coverage is \$385. This cost is assumed to increase with dental trend rates.

Annual Medicare Part B per capita costs for few retirees who are eligible for this benefit is \$1,259 and is assumed to increase with Part B trend rates.

<sup>1</sup> These annual per capita costs are applicable to participants who are not eligible for Medicare.

**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 Teacher who is enrolled in the Healthmate HSA plan.

	<b>Premium Rate</b>	<b>Retiree Contribution</b>	<b>Explicit Subsidy</b>
	<b>A</b>	<b>B = 10% x A</b>	<b>C = A - B</b>
Retiree	\$ 480.04	\$ 48.00	\$ 432.04
Spouse	\$ 775.35	\$ 77.54	\$ 697.81

**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 spouse of the same age enrolled in the Healthmate HSA plan.

	<b>Per Capita Cost</b>	<b>Premium Rate</b>	<b>Implicit Subsidy</b>
	<b>A</b>	<b>B</b>	<b>C = A - B</b>
Retiree	\$ 733.33	\$ 480.04	\$ 253.29
Spouse	\$ 658.33	\$ 775.35	\$ 0.00 <sup>2</sup>

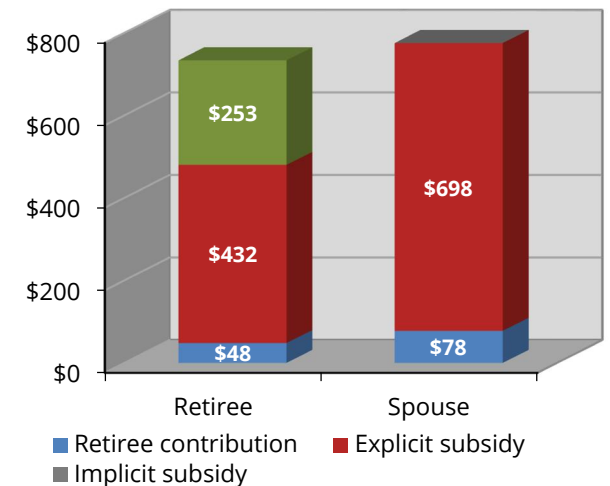
All employers that utilize premium rates based on blended active/retiree claims experience will have an implicit subsidy. There is an exception for Medicare plans using a true community-rated premium rate.

**GASB Subsidy Breakdown**

Below is a breakdown of the GASB 45 monthly total cost for a male 60 – 64 retiree and his spouse of the same age enrolled in the Healthmate HSA plan.

	<b>Retiree</b>	<b>Spouse</b>
Retiree contribution	\$ 48.00	\$ 77.54
Explicit subsidy	\$ 432.04	\$ 697.81
Implicit subsidy	\$ 253.29	\$ 0.00
<b>Total monthly cost</b>	<b>\$ 733.33</b>	<b>\$ 775.35</b>

**GASB Subsidy Breakdown**



<sup>2</sup> Limited to be no less than \$0.

Summary of Plan Participants

<i>Actives with coverage</i>	<i>Single</i>	<i>Family</i>	<i>Total</i>	<i>Avg. Age</i>	<i>Avg. Svc</i>	<i>Salary</i>
Healthmate	1	1	2	55.8	28.2	\$193,615
Healthmate HSA	11	44	55	56.4	26.4	\$3,942,293
<b>Total actives with coverage</b>	<b>12</b>	<b>45</b>	<b>57</b>	<b>56.4</b>	<b>26.5</b>	<b>\$4,135,908</b>

<i>Actives without coverage</i>	<i>Total</i>	<i>Avg. Age</i>	<i>Avg. Svc</i>	<i>Salary</i>
<b>Total actives without coverage</b>	<b>5</b>	<b>53.8</b>	<b>28.5</b>	<b>\$413,900</b>

There are additionally 362 active employees who will not be eligible for retiree health care benefits (276 with coverage and 86 without coverage). Their total salary is \$23,707,719. They have been excluded from the GASB valuation.

Active employees eligible for retiree health benefits who currently have no coverage are assumed not to elect coverage at retirement. They have been excluded in the GASB valuation.

Summary of Plan Participants

<i>Retirees with coverage</i>	<i>Single</i>	<i>Family</i>	<i>Total</i>	<i>Avg. Age</i>
Blue Chip	1	2	3	65.3
Blue Chip Medicare	47	27	74	71.4
Classic	33	21	54	81.9
Healthmate	40	33	73	73.3
Healthmate HSA	7	10	17	62.1
Plan 65	1		1	87.3
<b>Total retirees with coverage</b>	<b>129</b>	<b>93</b>	<b>222</b>	<b>73.9</b>

Retirees enrollment above includes surviving spouses who are currently receiving benefits from the School District.

In addition to the above, there are 166 retirees who currently have no coverage and have been excluded from the GASB valuation.



**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											0
25 to 29											0
30 to 34											0
35 to 39											0
40 to 44											0
45 to 49						5	5				10
50 to 54						4	10	1			15
55 to 59						4	14	2			20
60 to 64						4	9	3			16
65 to 69						1					1
70 & up											0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>18</b>	<b>38</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>62</b>

**APPENDIX**

**Appendix A – Comparison of Participant Demographic Information**

	<i>As of June 30, 2014</i>	<i>As of June 30, 2016</i>
Active Participants <sup>1</sup>	62	57
Retired Participants <sup>2</sup>	269	222
Averages for Active		
Age	55.6	56.4
Service	24.2	26.5
Averages for Inactive		
Age	71.7	73.9

<sup>1</sup> Figures shown above are only for active employees eligible for coverage. They exclude eligible active employees who currently have no health coverage.

<sup>2</sup> The retired participants enrollment figures exclude spouses and those who currently have no health coverage.

## Appendix B – Detailed Actuary’s Notes

There is one substantive plan provision change since the last full valuation, which was for the fiscal year ending June 30, 2014. The School District explicit subsidy for Non-Certified administrators and Classified employees of both Bristol and Warren was 87% of the pre-65 cost of coverage regardless of health plan election. In this year’s valuation, the District’s explicit subsidy is 85% of the pre-65 cost of coverage if they enroll in non-HSA plan and 95% if they enroll in the HSA plan at retirement. This change caused a slight increase in the School District’s liabilities.

Two actuarial assumptions have been updated since the last full valuation:

1. Mortality assumption has been updated from the RPH-2014 Total Dataset Mortality Table fully generational using scale MP-2014 to RPH-2015 Total Dataset Mortality Table fully generational using scale MP-2015. This caused a decrease in liabilities.
2. Health Care Trend Rates have been reset as follows, which caused an increase in liabilities:
  - a. Medical / rx: an initial rate of 9.00% decreasing by 0.50% annually to an ultimate rate of 5.00%.
  - b. Dental: an initial rate of 5.00% decreasing by 0.25% annually to an ultimate rate of 3.50%.
  - c. Medicare Part B: an initial rate of 3.00% increasing by 0.25% annually to an ultimate rate of 4.50%.

## GLOSSARY

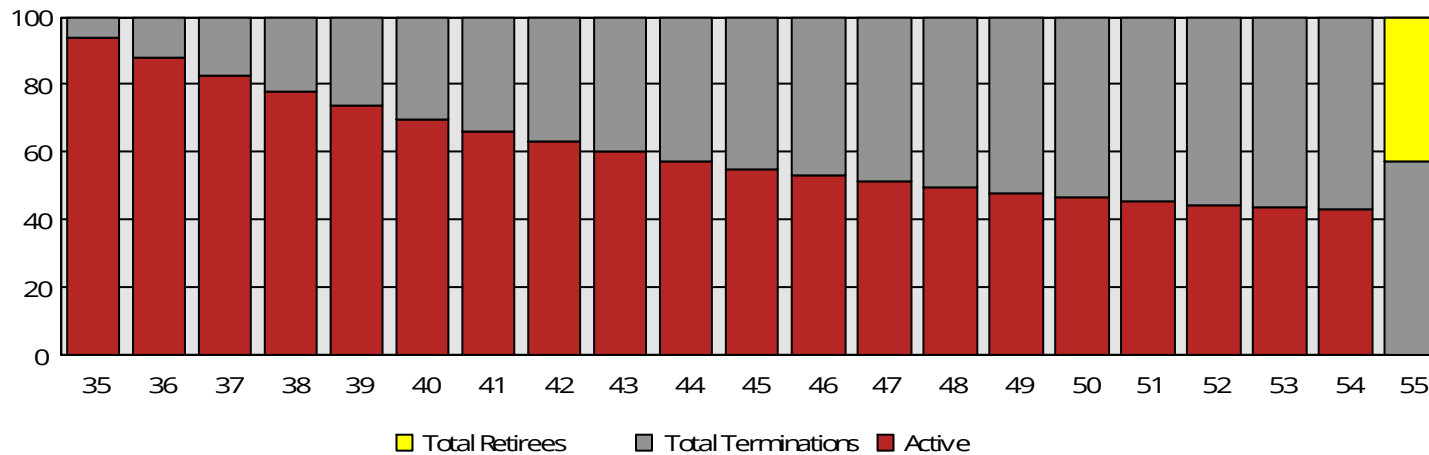
### Decrements Exhibit

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 42.949 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 *	# of Retirements per Year *	Total Decrements
35	100.000	6.353	0.000	6.353
36	93.647	5.751	0.000	5.751
37	87.896	5.206	0.000	5.206
38	82.690	4.716	0.000	4.716
39	77.974	4.274	0.000	4.274
40	73.700	3.876	0.000	3.876
41	69.824	3.516	0.000	3.516
42	66.308	3.190	0.000	3.190
43	63.118	2.893	0.000	2.893
44	60.225	2.623	0.000	2.623
45	57.602	2.377	0.000	2.377

Age	# Remaining Employees	# of Terminations per Year *	# of Retirements per Year *	Total Decrements
46	55.225	2.147	0.000	2.147
47	53.078	1.931	0.000	1.931
48	51.147	1.724	0.000	1.724
49	49.423	1.524	0.000	1.524
50	47.899	1.329	0.000	1.329
51	46.570	1.151	0.000	1.151
52	45.419	0.977	0.000	0.977
53	44.442	0.818	0.000	0.818
54	43.624	0.675	0.000	0.675
55	42.949	0.000	42.949	42.949

### Decrements Exhibit

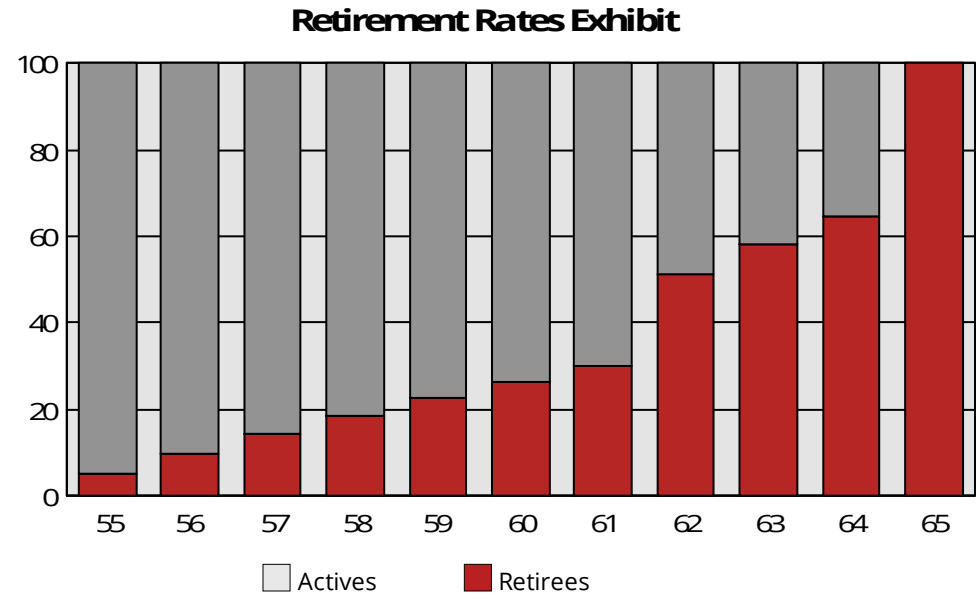


\* The above rates are illustrative and are not used in our GASB calculations.

### Retirement Rates Exhibit

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	5.00%	5.000	95.000
56	95.000	5.00%	4.750	90.250
57	90.250	5.00%	4.513	85.738
58	85.738	5.00%	4.287	81.451
59	81.451	5.00%	4.073	77.378
60	77.378	5.00%	3.869	73.509
61	73.509	5.00%	3.675	69.834
62	69.834	30.00%	20.950	48.884
63	48.884	15.00%	7.333	41.551
64	41.551	15.00%	6.233	35.318
65	35.318	100.00%	35.318	0.000



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

## Illustration of GASB Calculations

### I. Facts

- A. The employer provides subsidized retiree health coverage worth \$100,000 to employees retiring at age 55 with 25 years of service. The employer funds the retiree health coverage on a pay-as-you-go basis.
- B. Employee X is age 50 and has worked 20 years with the employer.
- C. Retiree health subsidies are paid from the general fund assets which are expected to earn 4.5% per year on a long-term basis.
- D. Based on Employee X's age and sex he has a 98.0% probability of living to age 55 and a 95.0% probability of continuing to work to age 55.

### II. Calculation of Present Value of Future Benefits

**Present Value of Future Benefits** represents the cost to finance benefits payable in the future to current and future retirees and beneficiaries, discounted to reflect the expected effects of the time value (present value) of money and the probabilities of payment.

	Value	Description
A.	\$100,000	Projected benefit at retirement
B.	80.2%	Interest discount for five years = $(1 / 1.045)^5$
C.	98.0%	Probability of living to retirement age
D.	95.0%	Probability of continuing to work to retirement age
E.	\$74,666	Present value of projected retirement benefit measured at employee's current age = $A \times B \times C \times D$



## Illustration of GASB Calculations (continued)

### III. Calculation of Actuarial Accrued Liability

**Actuarial Accrued Liability (AAL)** represents the portion of the Present Value of Future Benefits which has been accrued recognizing the employee's past service with the employer. The AAL is a required disclosure in the Required Supplementary Information section of the employer's financial statement.

	Value	Description
A.	\$74,666	Present value of projected retirement benefit measured at employee's current age
B.	20	Current years of service with employer
C.	25	Projected years of service with employer at retirement
D.	\$59,733	Actuarial accrued liability measured at employee's current age = $A \times B / C$

### IV. Calculation of Normal Cost

**Normal Cost** represents the portion of the Present Value of Future Benefits allocated to the current year.

	Value	Description
A.	\$74,666	Present value of projected retirement benefit measured at employee's current age
B.	25	Projected years of service with employer at retirement
C.	\$2,987	Normal cost measured at employee's current age = $A / B$

### V. Calculation of Annual Required Contribution

**Annual Required Contribution** is the total expense for the current year to be shown in the employer's income statement.

	Value	Description
A.	\$2,987	Normal Cost for the current year
B.	\$3,509	30-year amortization (level dollar method) of Unfunded AAL using a 4.5% interest rate discount factor
C.	\$292	Interest adjustment = $4.5\% \times (A + B)$
D.	\$6,788	Annual Required Contribution = $A + B + C$

## Definitions

GASB 45 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 Accrued Liability** - That portion, as determined by a particular Actuarial Cost Method, of the Actuarial Present Value of plan benefits and expenses which is not provided for by the future Normal Costs.
2. **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.
3. **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 Normal Cost and an Actuarial Accrued Liability.
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. **Annual OPEB Cost** - An accrual-basis measure of the periodic cost of an employer's participation in a defined benefit OPEB plan.
6. **Annual Required Contribution (ARC)** - The employer's periodic required contributions to a defined benefit OPEB plan, calculated in accordance with the parameters.
7. **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.
8. **Funded Ratio** - The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

**Definitions (continued)**

9. **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.
10. **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.
11. **Net OPEB Obligation** - The cumulative difference since the effective date of this Statement between annual OPEB cost and the employer's contributions to the plan, including the OPEB liability (asset) at transition, if any, and excluding (a) short-term differences and (b) unpaid contributions that have been converted to OPEB-related debt.
12. **Normal Cost** - The portion of the Actuarial Present Value of plan benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method.
13. **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.
14. **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.
15. **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.
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. **Substantive Plan** - The terms of an OPEB plan as understood by the employer(s) and plan members.