



# ***Town of Portsmouth***

*GASB 45 Actuarial Valuation*

*Fiscal Year Ending June 30, 2015*

***Prepared by:***

***Nyhart***

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September 10, 2015

**James Lathrop**  
**Town of Portsmouth**  
**2200 East Main Road**  
**Portsmouth, RI 02871**

This report summarizes the GASB actuarial valuation for the Town of Portsmouth 2014/15 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 and asset 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.

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.

Randy Gomez, FSA, MAAA  
Consulting Actuary

Evi Laksana, ASA, MAAA  
Valuation Actuary

DRAFT

## Summary of Results

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

	<i>As of July 1, 2013</i>		<i>As of July 1, 2014</i>	
<b>Actuarial Accrued Liability</b>	\$	12,827,546	\$	13,554,244
<b>Actuarial Value of Assets</b>	\$	(457,516)	\$	(544,427)
<b>Unfunded Actuarial Accrued Liability</b>	\$	12,370,030	\$	13,009,817
<b>Funded Ratio</b>		3.6%		4.0%

	<i>FY 2013/14</i>		<i>FY 2014/15</i>	
<b>Annual Required Contribution</b>	\$	1,254,874	\$	1,313,035
<b>Annual OPEB Cost</b>	\$	1,207,670	\$	1,259,494
<b>Annual Employer Contribution</b>	\$	768,926	\$	726,394

	<i>As of June 30, 2014</i>		<i>As of June 30, 2015</i>	
<b>Net OPEB Obligation</b>	\$	3,707,334	\$	4,240,434

	<i>As of June 30, 2015</i>	
<b>Total Active Participants</b>		109
<b>Total Retiree Participants</b>		43

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.

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

	<i>As of July 1, 2013</i>		<i>As of July 1, 2014</i>	
<b>Present Value of Future Benefits</b>	\$	<b>19,120,891</b>	\$	<b>19,405,578</b>
Active Employees		11,095,431		10,378,220
Retired Employees		8,025,460		9,027,358
<b>Actuarial Accrued Liability</b>	\$	<b>12,827,546</b>	\$	<b>13,554,244</b>
Active Employees		4,802,086		4,526,886
Retired Employees		8,025,460		9,027,358
<b>Normal Cost</b>	\$	<b>464,344</b>	\$	<b>481,310</b>
<b>Future Normal Cost</b>	\$	<b>5,829,001</b>	\$	<b>5,370,024</b>

**Present Value of Future Benefits** is the amount needed as of July 1, 2014 and 2013 to fully fund the Town's retiree health care subsidies for existing and future retirees and their dependents assuming all actuarial assumptions are met.

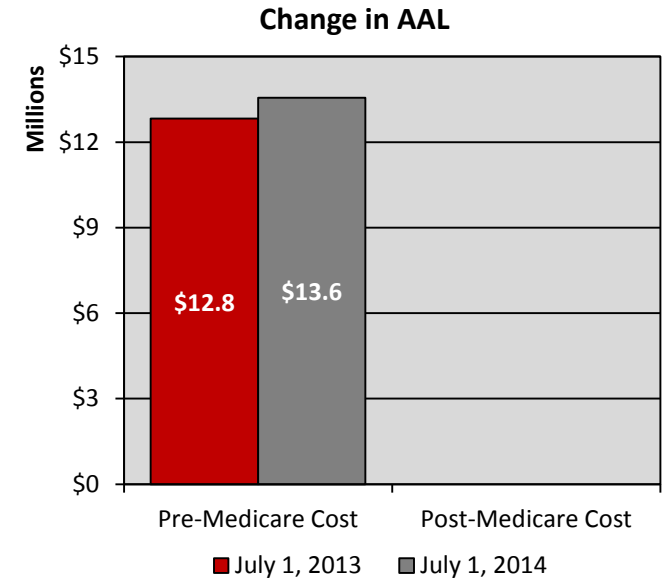
**Actuarial Accrued Liability** is the portion of PVFB considered to be accrued or earned as of July 1, 2014 and 2013. This amount is a required disclosure in the Required Supplementary Information section.

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

**Future Normal Cost** is the portion of the total liability amount that is attributed to the future employee service by the current year's valuation by the actuarial cost method.

Below is a breakdown of total GASB 45 Actuarial Accrued Liability (AAL) 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.

<b>Actuarial Accrued Liability (AAL)</b>	<b>As of July 1, 2013</b>		<b>As of July 1, 2014</b>	
Active Pre-Medicare	\$	4,802,086	\$	4,526,886
Active Post-Medicare		0		0
<b>Total Active AAL</b>	<b>\$</b>	<b>4,802,086</b>	<b>\$</b>	<b>4,526,886</b>
Retirees Pre-Medicare	\$	8,025,460	\$	9,027,358
Retirees Post-Medicare		0		0
<b>Total Retirees AAL</b>	<b>\$</b>	<b>8,025,460</b>	<b>\$</b>	<b>9,027,358</b>
<b>Total AAL</b>	<b>\$</b>	<b>12,827,546</b>	<b>\$</b>	<b>13,554,244</b>

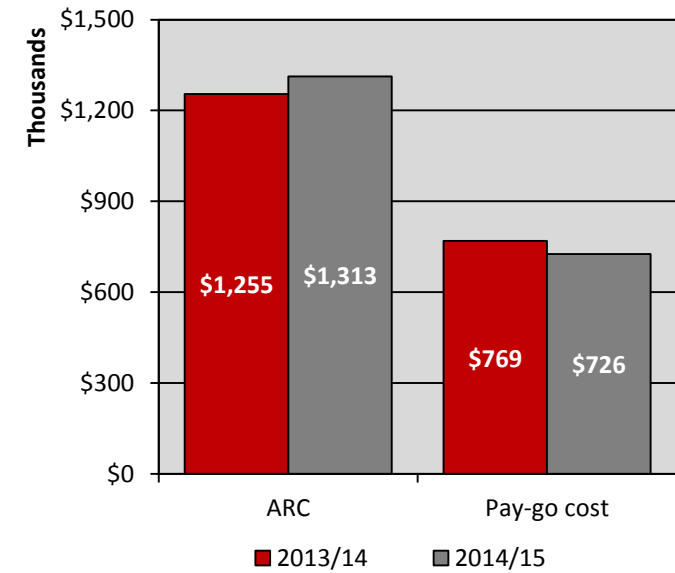


### Development of Annual Required Contribution (ARC)

Required Supplementary Information	FY 2013/14	FY 2014/15
Actuarial Accrued Liability as of beginning of year	\$ 12,827,546	\$ 13,554,244
Actuarial Value of Assets as of beginning of year	(457,516)	(544,427)
<b>Unfunded Actuarial Accrued Liability (UAAL)</b>	<b>\$ 12,370,030</b>	<b>\$ 13,009,817</b>
Funded Ratio	3.6%	4.0%
Covered payroll <sup>1</sup>	\$ 5,569,426	\$ 6,287,866
UAAL as a % of covered payroll	222.1%	206.9%

Annual Required Contribution	FY 2013/14	FY 2014/15
Normal cost as of beginning of year	\$ 464,344	\$ 481,310
Reduction for employee contributions	(57,618)	(59,954)
Net normal cost	\$ 406,726	\$ 421,356
Amortization of the UAAL	785,667	826,302
Total normal cost and amortization payment	\$ 1,192,393	\$ 1,247,658
Interest to end of year	62,481	65,377
<b>Total Annual Required Contribution (ARC)</b>	<b>\$ 1,254,874</b>	<b>\$ 1,313,035</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.

<sup>1</sup> 2013/14 covered payroll is based on 2012/13 covered payroll (\$5,407,210) increased by the payroll growth assumption (3.0%).



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

Net OPEB Obligation		FY 2013/14		FY 2014/15
ARC as of end of year	\$	1,254,874	\$	1,313,035
Interest on Net OPEB Obligation (NOO) to end of year		171,274		194,264
NOO amortization adjustment to the ARC		(218,478)		(247,805)
Annual OPEB cost	\$	1,207,670	\$	1,259,494
Annual employer contribution for pay-go cost		(737,586) <sup>2</sup>		(704,928) <sup>3</sup>
Annual employer contribution for pre-funding		(31,340)		(21,466)
Change in NOO	\$	438,744	\$	533,100
NOO as of beginning of year		3,268,590		3,707,334
<b>NOO as of end of year</b>	<b>\$</b>	<b>3,707,334</b>	<b>\$</b>	<b>4,240,434</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 OPB 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.

<sup>2</sup> FY 2013/14 annual employer contribution for pay-go cost is the sum of (a) \$653,791 in actual premium payments for retirees and (b) \$83,795 for the implicit portion of pay-go costs.

<sup>3</sup> FY 2014/15 annual employer contribution for pay-go cost is the sum of (a) \$618,716 in actual premium payments for retirees and (b) \$86,212 for the implicit portion of pay-go costs.

### Summary of GASB 45 Financial Results

Presented below is the summary of GASB 45 results for the fiscal year ending June 30, 2015 and prior fiscal years as shown in the Town’s Notes to Financial Statements.

#### Schedule of Funding Progress

<i>As of</i>	<i>Actuarial Accrued Liability (AAL)</i>	<i>Actuarial Value of Assets (AVA)</i>	<i>Unfunded Actuarial Accrued Liability (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, 2014	\$ 13,554,244	\$ 544,427	\$ 13,009,817	4.0%	\$ 6,287,866	206.9%
July 1, 2013	\$ 12,827,546	\$ 457,516	\$ 12,370,030	3.6%	\$ 5,569,426	222.1%
July 1, 2012	\$ 13,090,922	\$ 402,179	\$ 12,688,743	3.1%	\$ 5,407,210	234.7%

#### 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, 2015	\$ 726,394	\$ 1,313,035	55.3%
June 30, 2014	\$ 768,926	\$ 1,254,874	61.3%
June 30, 2013	\$ 800,908	\$ 1,297,531	61.7%

#### 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, 2015	\$ 1,259,494	57.7%	\$ 4,240,434
June 30, 2014	\$ 1,207,670	63.7%	\$ 3,707,334
June 30, 2013	\$ 1,256,912	63.7%	\$ 3,268,590

**Asset Information**

<i>Summary of Assets</i>	<i>Market Value as of June 30, 2014</i>	<i>Market Value as of June 30, 2015</i>
<b>General investments</b>		
Cash / cash equivalents	\$ 486,809	\$ 620,373
Fixed income	0	0
Equities	0	0
<b>Other assets</b>		
Employee contributions	57,618	0
Interest earned	0	100
<b>Net assets</b>	<b>\$ 544,427</b>	<b>\$ 620,473</b>

<i>Reconciliation of Assets</i>	<i>FY 2013/14</i>	<i>FY 2014/15</i>
<b>Income</b>		
<b>Contributions received</b>		
Employer	\$ 685,131	\$ 640,182
Employee	57,618	59,954
<b>Investment earnings</b>		
Interest income	953	1,126
Unrealized appreciation / depreciation		
<b>Total income</b>	<b>\$ 743,702</b>	<b>\$ 701,262</b>
<b>Disbursements</b>		
Benefit payments to retirees	\$ (653,791)	\$ (618,716)
Administrative expenses	(3,000)	(6,500)
<b>Total disbursements</b>	<b>\$ (656,791)</b>	<b>\$ (625,216)</b>
<b>Net income</b>	<b>\$ 86,911</b>	<b>\$ 76,046</b>
Net asset at beginning of year	457,516	544,427
<b>Net asset at end of year</b>	<b>\$ 544,427</b>	<b>\$ 620,473</b>

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.

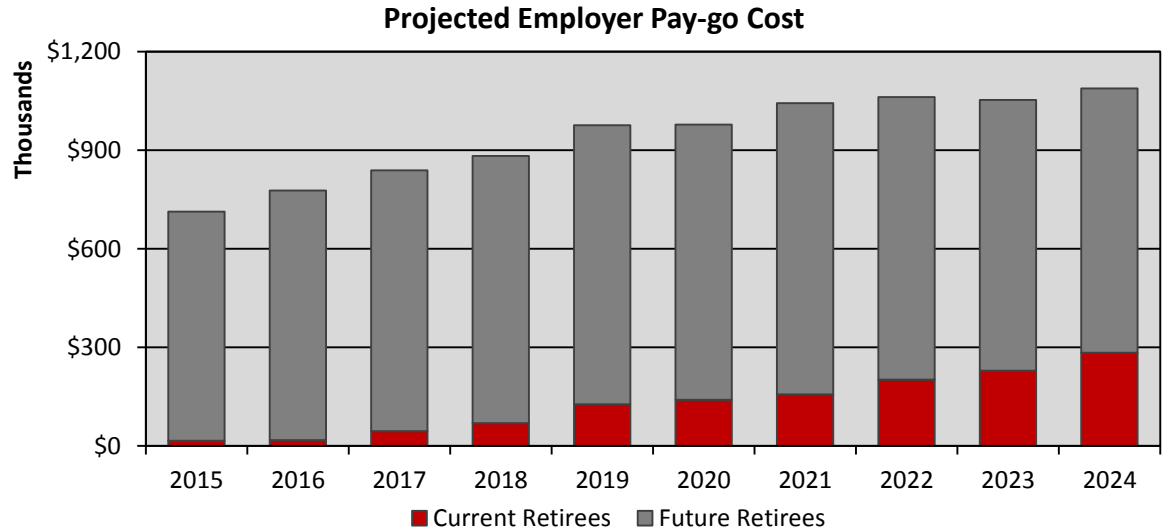
	FY 2013/14		FY 2014/15 <sup>4</sup>	
Actuarial Accrued Liability as of beginning of year	\$	12,827,546	\$	13,554,244
Normal cost as of beginning of year		464,344		481,310
Expected benefit payments during the year		(713,528)		(713,150)
Interest adjustment to end of year		678,039		717,017
Expected Actuarial Accrued Liability as of end of year	\$	13,256,401	\$	14,039,421
Actuarial (gain) / loss due to experience		(163,944)		0
Actuarial (gain) / loss due to provisions / assumptions changes		461,787		0
Actual Actuarial Accrued Liability as of end of year	\$	13,554,244	\$	14,039,421

**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.

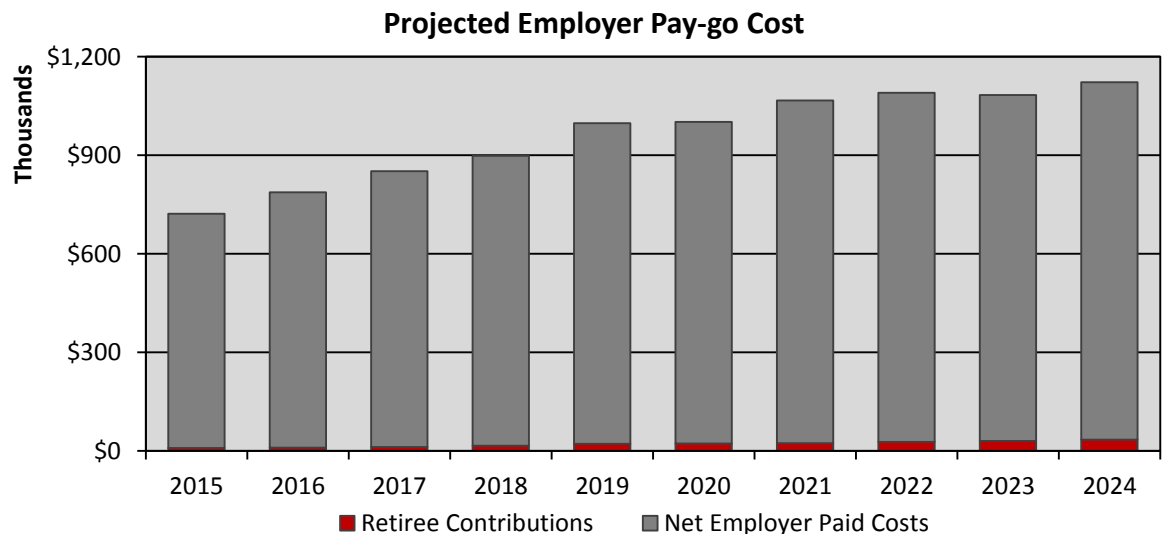
<sup>4</sup> Actuarial Accrued Liability (AAL) as of beginning of year was actuarially rolled-back from end of year AAL on a “no gain/loss” basis.

The below projections show the actuarially estimated employer-paid contributions for retiree health benefits for the next ten years. Results are shown separately for current /future retirees and gross claim costs/retiree contributions. These projections include explicit and implicit subsidies.

FYE	Current Retirees	Future Retirees <sup>5</sup>	Total
2015	\$ 16,356	\$ 696,794	\$ 713,150
2016	\$ 17,828	\$ 759,505	\$ 777,333
2017	\$ 45,182	\$ 794,132	\$ 839,314
2018	\$ 69,984	\$ 813,211	\$ 883,195
2019	\$ 126,608	\$ 849,422	\$ 976,030
2020	\$ 140,552	\$ 837,990	\$ 978,542
2021	\$ 157,647	\$ 885,565	\$ 1,043,212
2022	\$ 202,341	\$ 859,688	\$ 1,062,029
2023	\$ 228,843	\$ 824,306	\$ 1,053,149
2024	\$ 283,826	\$ 804,408	\$ 1,088,234



FYE	Estimated Claims Costs	Retiree Contributions	Net Employer-Paid Costs
2015	\$ 722,130	\$ 8,980	\$ 713,150
2016	\$ 787,121	\$ 9,788	\$ 777,333
2017	\$ 851,323	\$ 12,009	\$ 839,314
2018	\$ 898,746	\$ 15,551	\$ 883,195
2019	\$ 997,593	\$ 21,563	\$ 976,030
2020	\$ 1,001,753	\$ 23,211	\$ 978,542
2021	\$ 1,067,453	\$ 24,241	\$ 1,043,212
2022	\$ 1,089,956	\$ 27,927	\$ 1,062,029
2023	\$ 1,083,542	\$ 30,393	\$ 1,053,149
2024	\$ 1,122,423	\$ 34,189	\$ 1,088,234



<sup>5</sup> Projections for future retirees do not take into account future new hires.

**Retiree Health Care Eligibility**

- Police and Fire                      Police and Fire employees are eligible for retiree health care benefits until Medicare eligibility upon attainment of 20 years of service with the Town.
  
- General employees                General employees (PMEA, Public Works union groups and Non-Union groups) are eligible for retiree health care benefits until Medicare eligibility at the earlier of:
  - 1. Age 60 with 20 years of service (normal retirement)
  - 2. Age 55 with 25 years of service and within 5 years of normal retirement

**Disability Health Care Eligibility**

- Police                                  Police officers injured in the line of duty are eligible for disability health care until Medicare eligibility without any age or years of service requirement.  
  
Police officers injured not in the line of duty are eligible for disability health care until Medicare eligibility once they attain 10 years of service with the Town.
  
- Fire                                      Firefighters injured in the line of duty are eligible for disability health care until Medicare eligibility without any age or years of service requirement.  
  
Firefighters injured not in the line of duty are eligible for disability health care until Medicare eligibility once they attain 10 years of service with the Town.

**Spouse Benefit**

- Police and Fire                      Upon death of the retiree, health care coverage continues to unmarried surviving spouse and dependent children up to age 19.
  
- General employees                Retiree health care coverage is discontinued upon death of the retiree. Surviving spouse will be offered COBRA.

**Explicit Subsidy**

Fire	<p>Firefighters receive free retiree health care coverage (medical, dental, and vision) until Medicare eligibility.</p> <p>In addition to the free retiree health care coverage, for firefighters who retired between July 1, 2010 and December 31, 2012, the Town will contribute \$2,000 annually for single plan and \$4,000 annually for family plan for retired firefighters enrolled in the HDHP plan. This amount is reduced to \$1,000 annually for single coverage and \$2,000 annually for family coverage for firefighters who retire on/after January 1, 2013.</p>
Police and PMEA	<p>Employees hired prior to July 1, 2013 who retire on/after July 1, 2013 are required to contribute 10% of the cost of coverage for all benefits. Employees hired after July 1, 2013 are required to contribute 20% of the cost of coverage for all benefits.</p>
Public Works	<p>The Town will contribute 80% of the medical and dental costs for Public Works employees until Medicare eligibility. Vision coverage is free for retirees.</p> <p>At the current time, Public Works is the only group required to pay health contributions while in retirement status.</p>
Non-Union groups	<p>The Town will contribute 85% of the medical costs for Non-Union group employees until Medicare eligibility. Dental and Vision coverage remains free to this group of employees.</p>

**Retiree Cost Sharing**

Retirees are responsible for the portion of premium rates not covered by the Town.

**Active Cost Sharing**

Fire	<p>Active firefighters contribute 1.5% of gross earnings to OPEB Trust Fund that was set up to defray the cost of post-employment benefits. Gross earnings include base salary, longevity, EMT bonus, overtime, and holiday pay.</p>
Police	<p>Active police officers contribute 1% of salary to OPEB Trust Fund that was set up to defray the cost of post-employment benefits.</p>
Public Works	<p>Public works employees contribute 0.25% of salary and longevity to OPEB Trust Fund that was set up to defray the cost of post-employment benefits.</p>

**Medical Benefit**

Same benefit options are available to retirees as active employees. The Town and the School is in a collaborative pool with more than 30 entities in Rhode Island. All health plans are fully-insured and experience-rated. Each entity in the collaborative pool is viewed individually. Depending on its size the entity’s experience is blended with the community pool (the community used is all of the municipal accounts in Rhode Island, not just the collaborative pool that they are a part of). In the case of Portsmouth (both Town and School), their final rates are based on 80% of their own experience and 20% of the community average. There is no asset used to suppress premium rates increases. Premium rates are calculated to fund the expected costs (including claims and administrative costs).

The monthly premium rates by plan effective on July 1, 2015 are as shown below:

Health Plan	Group	Single	Family
HM 0001	Retired Fire (post – 4/08, pre – 7/10)	\$ 599.74	\$ 1,549.02
HM 0007 Ded	PMEA & NUG (active & retired post 7/13)		
HM 0002 Ded	DPW (active & retired post 7/14)	\$ 567.79	\$ 1,466.44
HM 0009 Ded	Retired Police (post 4/14)		
HM 0002	Retired Police (pre – 4/14)		
HM 0004	Retired DPW (pre – 7/14)	\$ 622.11	\$ 1,606.76
HM 0009	Retired Fire (pre – 4/08)		
HM 0005 HDHP	Fire (active)	\$ 550.79	\$ 1,202.76
HM 0006 HDHP	Retired Fire (post – 7/10) & Civilian Fire Dispatchers	\$ 411.89	\$ 1,063.86
Classic 0004	Retired Fire (pre – 4/08)	\$ 710.49	\$ 1,825.94
Classic 0007	NUG (pre – 7/14)	\$ 719.33	\$ 1,848.84
Classic 0009	Retired Police (pre – 4/14)	\$ 826.68	\$ 2,182.61
HM 0007	Retired PMEA (pre – 7/13)	\$ 599.93	\$ 1,549.45
HM 0008 Ded	Police (active)	\$ 656.25	\$ 1,554.90

For GASB valuation, we have assumed that active employees will enroll in the different health plans according to the table below:

Group	Plan at Retirement
Fire (including Dispatchers)	HM 0006 HDHP
PMEA, NUG, Police, and Public Works	HM 0002/7/9 Ded



**Dental Benefit**

Dental monthly premium rates effective on July 1, 2015 are as shown below:

<b>Group</b>	<b>Single</b>	<b>Family</b>
Police, Fire, and Public Works	\$ 32.96	\$ 88.78
PMEA and NUG	\$ 32.96	\$ 89.69

**Vision Benefit**

Vision benefit is funded annually through the budget based on the vision benefits agreed upon by the Town and the union groups. The annual budget for 2015/16 FY is \$2,750 for all active employees and retirees. The Town is responsible for any vision requests for reimbursement that exceed the budgeted amount.

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, 2013. For the current year GASB valuation, we have updated the per capita costs, mortality table, and health care trend rates. 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, 2017.

<b>Measurement Date</b>	June 30, 2015 with results actuarially rolled-back to July 1, 2014 on a “no loss/no gain” basis
<b>Census Data</b>	Census data was provided by the Town and it was collected as of July 2015. We have reviewed it for reasonableness and no material modifications were made.
<b>Discount Rate</b>	5.24% partially funded
<b>Payroll Growth</b>	3.0% per year (used for total covered payroll projection only)
<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 thirty years based on an open group
<b>Employer Funding Policy</b>	Partially pre-funded by active employees’ contributions
<b>Mortality</b>	Healthy: RPH-2014 Total Dataset Mortality Table fully generational using Scale MP-2014 (prior valuation used RP-2000 Combined Mortality Table fully generational using Scale AA) Disabled: RPH-2014 Disabled Retiree Mortality Table fully generational using Scale MP-2014 (prior valuation used IRS Revenue Ruling 96-7 Post 1994 Table (male/female))
<b>Disability</b>	Sample rates are as shown below:

Age	Annual Rate
25	0.1%
35	0.1%
45	0.4%

**Withdrawal Rate**

Assumption used to project terminations (voluntary and involuntary) prior to meeting minimum retirement eligibility for retiree health coverage.

Annual withdrawal rates are based on Saranson T-1 table. Sample annual rates are as shown below:

Age	Annual Rate
20	5.4%
25	4.9%
35	2.3%
45	0.3%
50	0.0%

**Retirement Rate**

Annual rates of retirement by group are as shown below:

Age	Public Works, NUG, PMEA	Police	Fire
40 – 44	0%	5%	2%
45	0%	5%	5%
46 – 47	0%	15%	5%
48 – 49	0%	10%	5%
50	0%	25%	25%
51 – 54	0%	10%	15%
55	15%	100%	100%
56 – 58	5%	100%	100%
59	10%	100%	100%
60	25%	100%	100%
61	10%	100%	100%
62	20%	100%	100%
63 – 64	10%	100%	100%
65	100%	100%	100%

Health Care Trend Rates	FYE	Medical / Rx	Dental	Vision
	2016	9.00%	5.00%	3.00%
	2017	8.50%	4.75%	3.00%
	2018	8.00%	4.50%	3.00%
	2019	7.50%	4.25%	3.00%
	2020	7.00%	4.00%	3.00%
	2021	6.50%	4.00%	3.00%
	2022	6.00%	4.00%	3.00%
	2023	5.50%	4.00%	3.00%
	2024+	5.00%	4.00%	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** Retiree contributions are assumed to increase with health care trend rates.

**Health Care Coverage Election Rate**

Active employees with current coverage: 100%  
Active employees with no coverage: 0%

Inactive employees with current coverage: 100%  
Inactive employees with no coverage: 0%

**Spousal Coverage** 80% of employees are assumed to be married at retirement. Husbands are assumed to be three years older than wives.

Spousal coverage and ages for current retirees is based on actual data.

**Per Capita Costs (Continued)**

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.

Annual per capita costs were calculated based on the Town’s monthly premium rates effective on July 1, 2015 actuarially increased using health index factors and current enrollment. The costs are assumed to increase with health care trend rates. Annual per capita costs by plan are as shown below:

Age	HM 0007 Ded, 0002 Ded, 0009 Ded, 0008 Ded		HM 0001, 0007		HM 0009, 0002, 0004	
	Male	Female	Male	Female	Male	Female
< 50	\$ 6,800	\$ 6,800	\$ 7,200	\$ 7,200	\$ 7,500	\$ 7,500
50 – 54	\$ 6,900	\$ 8,100	\$ 7,300	\$ 8,500	\$ 7,500	\$ 8,800
55 – 59	\$ 9,300	\$ 9,000	\$ 9,800	\$ 9,500	\$ 10,200	\$ 9,900
60 – 64	\$ 11,900	\$ 10,700	\$ 12,500	\$ 11,300	\$ 13,000	\$ 11,700

Age	HM 0005 HDHP, 0006 HDHP		Classic 0004	
	Male	Female	Male	Female
< 50	\$ 4,900	\$ 4,900	\$ 8,500	\$ 8,500
50 – 54	\$ 5,000	\$ 5,900	\$ 8,600	\$ 10,100
55 – 59	\$ 6,700	\$ 6,500	\$ 11,600	\$ 11,300
60 – 64	\$ 8,600	\$ 7,700	\$ 14,800	\$ 13,300

Age	Classic 0007		Classic 0009	
	Male	Female	Male	Female
< 50	\$ 8,600	\$ 8,600	\$ 9,900	\$ 9,900
50 – 54	\$ 8,700	\$ 10,200	\$ 10,000	\$ 11,800
55 – 59	\$ 11,700	\$ 11,400	\$ 13,500	\$ 13,100
60 – 64	\$ 15,000	\$ 13,500	\$ 17,300	\$ 15,500

Annual dental per capita cost is \$396. This cost is assumed to increase with dental trend rates.

Annual vision per capita cost is \$31. This cost is assumed to increase with vision 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 January 1, 2013 enrolled in the Healthmate 0006 HDHP plan with spousal coverage.

	Premium Rate	HSA Contribution	Retiree Contribution	Explicit Subsidy
	A	B	C	D = A + B - C
Retiree	\$ 411.89	\$ 83.33	\$ 0.00	\$ 495.22
Spouse	\$ 651.97	\$ 83.33	\$ 0.00	\$ 735.30

**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 and his spouse enrolled in the Healthmate 0006 HDHP plan.

	Per Capita Cost	Premium Rate	Implicit Subsidy
	A	B	C = A - B
Retiree	\$ 716.67	\$ 411.89	\$ 304.78
Spouse	\$ 641.67	\$ 651.97	\$ 0.00*

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

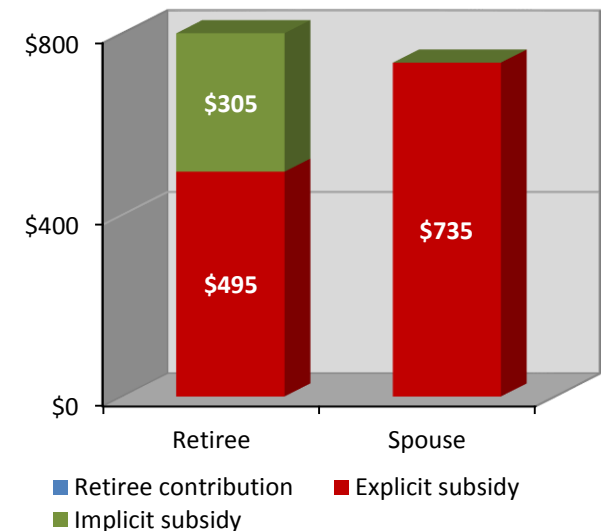
\* Limited to \$0

**GASB Subsidy Breakdown**

Below is a breakdown of the GASB 45 monthly total cost for a male 60 – 64 firefighter retiring after January 1, 2013 and his spouse of the same age enrolled in the Healthmate 0006 HDHP plan.

	Retiree	Spouse
Retiree contribution	\$ 0.00	\$ 0.00
Explicit subsidy	\$ 495.22	\$ 735.30
Implicit subsidy	\$ 304.78	\$ 0.00
Total monthly cost	\$ 800.00	\$ 735.30

**GASB Subsidy Breakdown**



<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 0002 Ded		14	14	46.7	7.8	\$ 682,988
Healthmate 0005 HDHP	10	19	29	38.1	9.6	\$ 1,653,568
Healthmate 0006 HDHP	2	1	3	29.7	2.0	\$ 97,406
Healthmate 0007 Ded	3	17	20	50.0	12.5	\$ 1,204,634
Healthmate 0008 Ded	12	18	30	37.8	9.6	\$ 1,877,303
<b>Total actives with coverage</b>	<b>27</b>	<b>69</b>	<b>96</b>	<b>41.5</b>	<b>9.7</b>	<b>\$ 5,515,899</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>13</b>	<b>48.8</b>	<b>10.2</b>	<b>\$ 771,967</b>

Active employees without coverage are assumed not to elect health care coverage at retirement. They have been excluded from the GASB valuation.

<i>Retirees with coverage</i>	<i>Single</i>	<i>Family</i>	<i>Total</i>	<i>Avg. Age</i>
Classic 0004	1	1	2	64.0
Classic 0007		1	1	60.1
Classic 0009		1	1	57.5
Healthmate 0001		3	3	56.0
Healthmate 0002	1		1	58.5
Healthmate 0004		7	7	55.6
Healthmate 0006 HDHP		9	9	53.6
Healthmate 0007		1	1	62.4
Healthmate 0009	4	14	18	54.3
<b>Total retirees with coverage</b>	<b>6</b>	<b>37</b>	<b>43</b>	<b>55.4</b>

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	1	1									2
25 to 29	3	8	3								14
30 to 34	2	4	6	1							13
35 to 39	2	3	5	3							13
40 to 44		6	4	7	5	1					23
45 to 49	2	1	4	7	4	2					20
50 to 54	1	3			4	2	2				12
55 to 59		2			2		3				7
60 to 64				2		2	1				5
65 to 69											0
70 & up											0
<b>Total</b>	<b>11</b>	<b>28</b>	<b>22</b>	<b>20</b>	<b>15</b>	<b>7</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>109</b>



**APPENDIX**

## 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.

	<i>As of June 30, 2013</i>	<i>As of June 30, 2015</i>
Active Participants	101	109
Retired Participants	43	43
Averages for Active		
Age	41.5	42.3
Service	10.0	9.8
Averages for Inactive		
Age	55.2	55.4

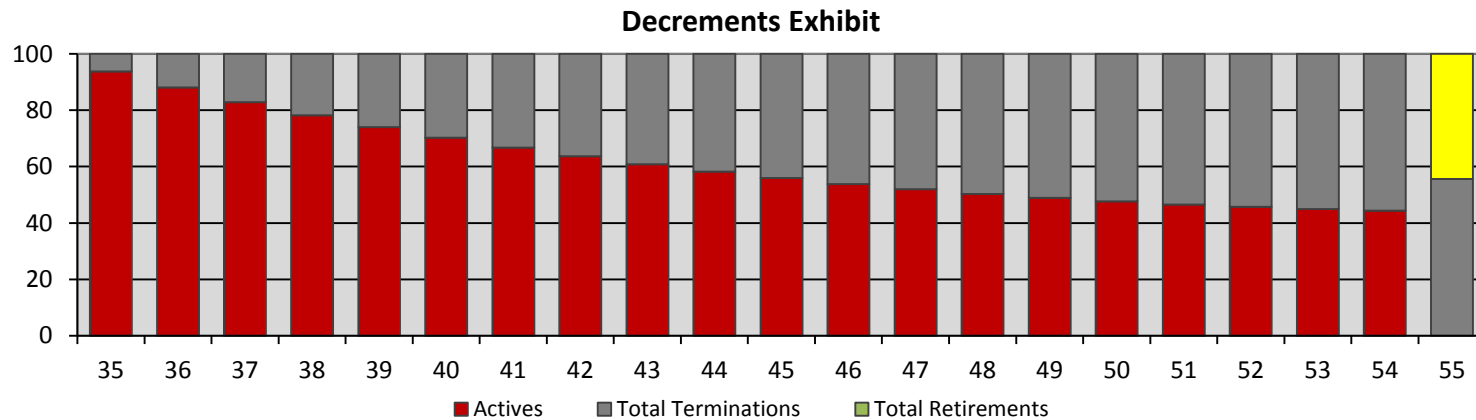
## Glossary

### 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 44.430 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	6.276	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

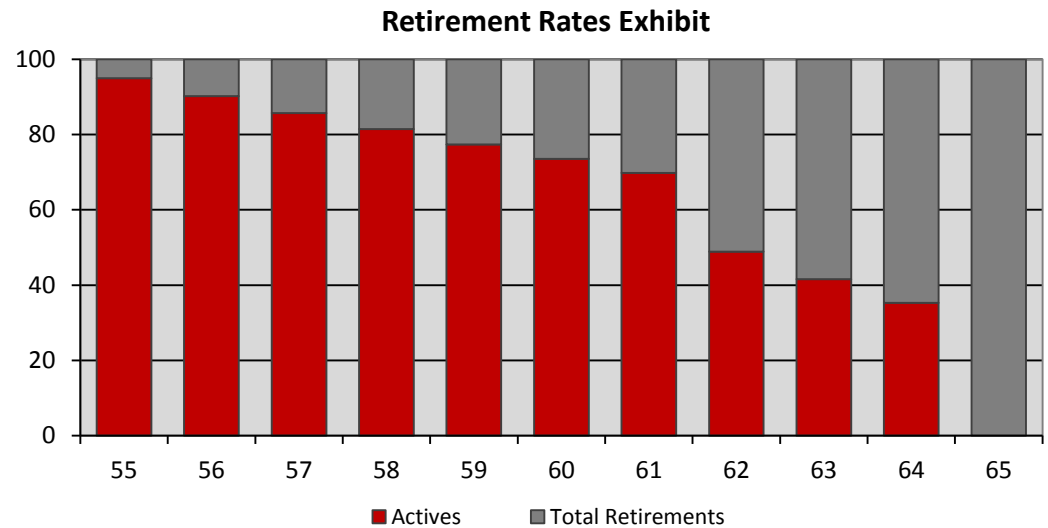


\* The above rates are illustrative rates and are not used in our GASB calculations.

### 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	5.0%	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.

## Illustration of GASB Calculations

The purpose of the illustration is to familiarize non-actuaries with the GASB 45 actuarial calculation process.

### I. Facts

1. The employer provides subsidized retiree health coverage worth \$100,000 to employees retiring at age 55 with 25 years of service. The employer funds for retiree health coverage on a pay-as-you-go basis.
2. Employee X is age 50 and has worked 20 years with the employer.
3. Retiree health subsidies are paid from the general fund assets which are expected to earn 4.5% per year on a long-term basis.
4. 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 x B x C x D

## Illustration of GASB Calculations (continued)

### III. Calculation of Actuarial Accrued Liability

**Actuarial Accrued Liability** represents the portion of the Present Value of Future Benefits which has been accrued recognizing the employee's past service with the employer. The Actuarial Accrued Liability 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 Actuarial Accrued Liability 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.
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.



**Definitions (continued)**

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.