



# ***City of East Providence***

***GASB 45 Actuarial Valuation***

***Fiscal Year Ending October 31, 2015***

***Prepared by:***

***Nyhart Actuary & Employee Benefits***

***8415 Allison Pointe Blvd., Suite 300***

***Indianapolis, IN 46250***

***Ph: (317) 845-3500***

***[www.nyhart.com](http://www.nyhart.com)***

## Table of Contents

	Page
Certification	1
Actuary's Notes	3
Executive Summary	4
GASB Disclosures	
Development of Annual Required Contribution (ARC)	7
Development of Annual OPEB Cost and Net OPEB Obligation	8
Schedule of Funding Progress	9
Schedule of Employer Contributions	9
Historical Annual OPEB Cost	9
Asset Information	10
Reconciliation of Actuarial Accrued Liability (AAL) and Asset	11
Employer Contribution Cash Flow Projections	12
Substantive Plan Provisions	13
Actuarial Methods and Assumptions	16
Summary of Plan Participants	21
Appendix	23
Comparison of Participant Demographic Information	24
Glossary	25
Decrements Exhibit	26
Retirement Rates Exhibit	27
Illustrations of GASB Calculations	28
Definitions	30



**August 30, 2016**

**Malcolm Moore  
City of East Providence  
145 Taunton Avenue  
East Providence, RI 02914**

This report summarizes the GASB actuarial valuation for the City of East Providence 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 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:

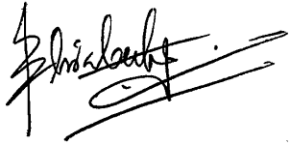
- plan experience differing from that anticipated by the economic or demographic assumptions;
- changes in economic or demographic assumptions;
- increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); 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.

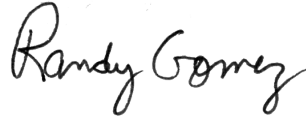
To our knowledge, there have been no significant events prior to the current year's measurement date or as of the date of this report that could materially affect the results contained herein.

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.

A handwritten signature in black ink, appearing to read 'Evi Laksana', with a stylized flourish at the end.

Evi Laksana, ASA, MAAA  
Valuation Actuary

A handwritten signature in black ink, appearing to read 'Randy Gomez', with a stylized flourish at the end.

Randy Gomez, FSA, MAAA  
Consulting Actuary

Two plan provisions have been updated since the last full valuation for the fiscal year ending October 31, 2013.

1. Police officers hired on/after November 1, 2014 and Firefighters hired on/after January 1, 2014 are now eligible to retire upon attaining age 55 with 25 years of service. In prior valuation, Police officers and Firefighters are eligible to retire at the earlier of age 60 with 10 years of service or 20 years of service. This change caused a minor decrease in the City's liabilities.
2. Police officers and firefighters hired on/after January 1, 2015 no longer have free retiree health benefits. They are now required to contribute 20% of the cost of retiree health coverage. This change caused a minor decrease in the City's liabilities.

Several actuarial assumptions have been updated since the last full valuation for the fiscal year ending October 31, 2013.

1. Discount rate used in this year's valuation has been updated from 4.5% to a fully-funded 7.5%. The City recently established a secure OPEB Trust in which they made contributions in August 2015, and plan on fully funding the ARC on an annual basis. This change caused a decrease in the City's liabilities.
2. Mortality table has been updated as noted in the table below. This creates a slight decrease in the City's liabilities.

	Prior Valuation		Current Valuation
	General Employees	Police and Fire	All Groups
Pre-retirement	75% of RP-2000 Combined Healthy Table with White Collar adjustments	RP-2000 Combined Healthy Table with Blue Collar adjustments fully generational using scale AA	Healthy retirees: RPH-2006 Total Dataset Mortality Table fully generational using scale MP-2015
Post-retirement	RP-2000 Combined Healthy Table with White Collar adjustments fully generational using scale AA, adjusted by 115% for male and 95% for female	RP-2000 Combined Healthy Table with Blue Collar adjustments fully generational using scale AA	Disabled Retirees: RPH-2006 Disabled Mortality Table fully generational using scale MP-2015

3. Retirement, termination, and disability rates for General employees have been updated to be consistent with the most recent assumption used in the Rhode Island Municipal Employees Retirement System (RI MERS) actuarial valuation as of June 30, 2014. The net impact of these changes is an increase in the City's liabilities.
4. Health care trend rates have been reset to an initial rate of 9.0% decreasing by 0.5% annually to an ultimate rate of 5.0%. This caused an increase in the City's liabilities.

## Summary of Results

Presented below is the summary of GASB 45 results for the fiscal year ending October 31, 2015 compared to the prior fiscal years as shown in the City's Notes to Financial Statement.

	<i>As of November 1, 2013<sup>1</sup></i>		<i>As of November 1, 2014</i>	
Actuarial Accrued Liability	\$	66,851,556	\$	35,639,171
Actuarial Value of Assets	\$	0	\$	0
Unfunded Actuarial Accrued Liability	\$	66,851,556	\$	35,639,171
Funded Ratio		0.0%		0.0%

	<i>FY 2013/14</i>		<i>FY 2014/15</i>	
Annual Required Contribution	\$	4,330,882	\$	2,981,057
Annual OPEB Cost	\$	4,416,172	\$	3,195,704
Annual Employer Contribution	\$	3,732,176	\$	7,321,571

	<i>As of October 31, 2014</i>		<i>As of October 31, 2015</i>	
Net OPEB Obligation	\$	10,220,586	\$	6,094,719

	<i>As of October 31, 2015</i>	
Total Active Participants		389
Total Retiree Participants		123

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.

<sup>1</sup> An interim report was not prepared for FYE October 31, 2014. The City opted to repeat GASB results as shown in the FYE October 31, 2013 report for the FY 2013/14 financial disclosure as permitted by GASB.

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

	<i>As of November 1, 2013<sup>2</sup></i>		<i>As of November 1, 2014</i>	
<b>Present Value of Future Benefits</b>	<b>\$</b>	<b>78,748,303</b>	<b>\$</b>	<b>42,000,634</b>
Active Employees		48,737,901		28,057,200
Retired Employees		30,010,402		13,943,434
<b>Actuarial Accrued Liability</b>	<b>\$</b>	<b>66,851,556</b>	<b>\$</b>	<b>35,639,171</b>
Active Employees		36,841,154		21,695,737
Retired Employees		30,010,402		13,943,434
<b>Normal Cost</b>	<b>\$</b>	<b>1,837,743</b>	<b>\$</b>	<b>982,875</b>
<b>Future Normal Cost</b>	<b>\$</b>	<b>10,059,004</b>	<b>\$</b>	<b>5,378,588</b>

**Present Value of Future Benefits (PVFB)** is the amount needed as of November 1, 2013 and 2014 to fully fund the City'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 November 1, 2013 and 2014. This amount is a required disclosure in the Required Supplementary Information section.

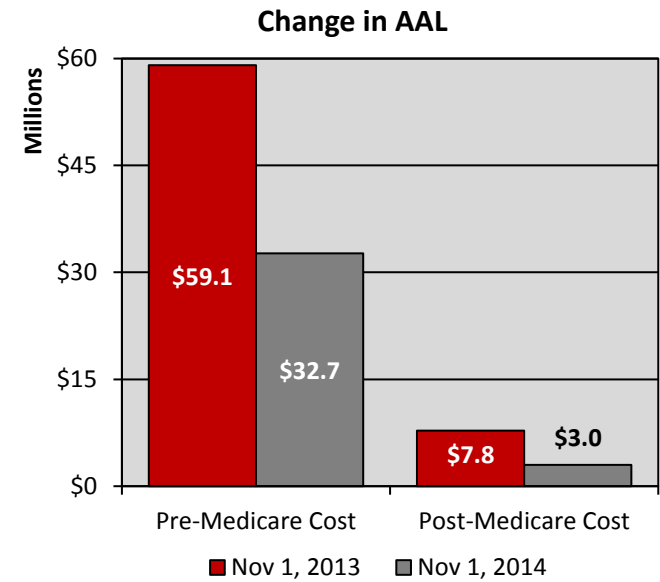
**Normal Cost** is the portion of the total liability amount that is attributed and accrued for current year's active employee service by the actuarial cost method.

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

<sup>2</sup> Prior year information above is as shown in the FYE October 31, 2013 GASB actuarial valuation report.

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.

Actuarial Accrued Liability (AAL)	As of November 1, 2013 <sup>3</sup>	As of November 1, 2014
Active Pre-Medicare	\$ 34,168,529	\$ 20,842,627
Active Post-Medicare	2,672,625	853,110
<b>Total Active AAL</b>	<b>\$ 36,841,154</b>	<b>\$ 21,695,737</b>
Retirees Pre-Medicare	\$ 24,888,566	\$ 11,813,657
Retirees Post-Medicare	5,121,836	2,129,777
<b>Total Retirees AAL</b>	<b>\$ 30,010,402</b>	<b>\$ 13,943,434</b>
<b>Total AAL</b>	<b>\$ 66,851,556</b>	<b>\$ 35,639,171</b>



<sup>3</sup> Prior year information above is as shown in the FYE October 31, 2013 GASB 45 actuarial valuation report.

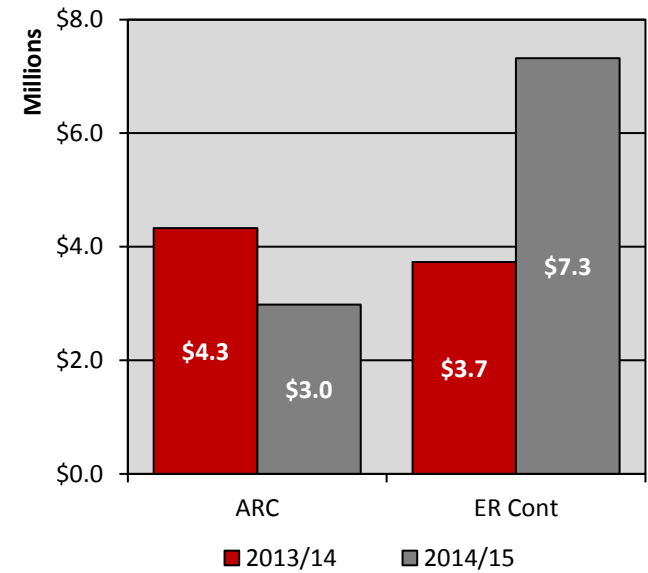


## Development of Annual Required Contribution (ARC)

Required Supplementary Information	FY 2013/14 <sup>4</sup>		FY 2014/15	
Actuarial Accrued Liability as of beginning of year	\$	66,851,556	\$	35,639,171
Actuarial Value of Assets as of beginning of year		0		0
<b>Unfunded Actuarial Accrued Liability (UAAL)</b>	<b>\$</b>	<b>66,851,556</b>	<b>\$</b>	<b>35,639,171</b>
Covered payroll	\$	20,204,097	\$	22,427,960
UAAL as a % of covered payroll		330.9%		158.9%

Annual Required Contribution	FY 2013/14 <sup>4</sup>		FY 2014/15	
Normal cost as of beginning of year	\$	1,837,743	\$	982,875
Amortization of the UAAL		2,306,642		1,790,201
Total normal cost and amortization payment	\$	4,144,385	\$	2,773,076
Interest to end of year		186,497		207,981
<b>Total Annual Required Contribution (ARC)</b>	<b>\$</b>	<b>4,330,882</b>	<b>\$</b>	<b>2,981,057</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>4</sup> The City opted to repeat GASB results as shown in the FYE October 31, 2013 report for the FY 2013/14 financial disclosure as permitted by GASB.

## Development of Annual OPEB Cost and Net OPEB Obligation

Annual employer contribution for pay-go costs are estimated for FY 2013/14 and 2014/15.

Net OPEB Obligation	FY 2013/14 <sup>5</sup>		FY 2014/15	
ARC as of end of year	\$	4,330,882	\$	2,981,057
Interest on Net OPEB Obligation (NOO) to end of year		429,147		766,544
NOO amortization adjustment to the ARC		(343,857)		(551,897)
Annual OPEB cost	\$	4,416,172	\$	3,195,704
Annual employer contribution for pay-go cost		(3,732,176)		(2,016,384)
Annual employer contribution for pre-funding		0		(5,305,187)
Change in NOO	\$	683,996	\$	(4,125,867)
NOO as of beginning of year		9,536,590		10,220,586
<b>NOO as of end of year</b>	<b>\$</b>	<b>10,220,586</b>	<b>\$</b>	<b>6,094,719</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.

<sup>5</sup> FY 2013/14 Net OPEB Obligation development above is projected from the FY 2012/13 NOO calculations (and they are different from what is disclosed in the FY 2013/14 audited financials).

## Summary of GASB 45 Financial Results

Presented below is the summary of GASB 45 results for the fiscal year ending October 31, 2015 and prior fiscal years as shown in the City'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>
November 1, 2014	\$ 35,639,171	\$ -	\$ 35,639,171	0.0%	\$ 22,427,960	158.9%
November 1, 2013	\$ 66,851,556	\$ -	\$ 66,851,556	0.0%	\$ 20,204,098	330.9%
November 1, 2012	\$ 66,851,556	\$ -	\$ 66,851,556	0.0%	\$ 20,204,098	330.9%

### 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>
October 31, 2015	\$ 7,321,571	\$ 2,981,057	245.6%
October 31, 2014	\$ 3,732,176	\$ 4,330,882	86.2%
October 31, 2013	\$ 3,424,015	\$ 4,330,882	79.1%

### 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>
October 31, 2015	\$ 3,195,704	229.1%	\$ 6,094,719
October 31, 2014	\$ 4,416,172	84.5%	\$ 10,220,586
October 31, 2013	\$ 4,407,377	77.7%	\$ 9,536,590

<i>Summary of Assets</i>		<i>Market Value as of October 31, 2015</i>
General investments		
Interest-bearing cash	\$	N/A
Fixed income		N/A
Common corporate stocks		N/A
Receivables		
Employer contributions		N/A
Other		N/A
<b>Net assets</b>	<b>\$</b>	<b>5,214,153</b>
<i>Reconciliation of Assets</i>		<i>2014/15</i>
Income		
Contributions received		
Employer	\$	5,305,187
Investment earnings		
Realized appreciation / depreciation		(89,904)
Unrealized appreciation / depreciation		(2,261)
Other income		0
Total income	\$	5,213,022
Disbursements		
Benefit payments to participants / beneficiaries	\$	0
Administrative expenses		(1,131)
Total disbursements	\$	(1,131)
Net income	\$	5,214,153
Net asset at beginning of year		0
Net asset at end of year	\$	5,214,153
Asset return for the year		-3.4%

The 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 (the opposite will decrease AAL).
- Increases in AAL when more new retirements occur than expected or fewer terminations occur than anticipated (AAL decreases if the opposite occurs).
- Increases or decreases in AAL depending on whether benefit provisions are improved or reduced.

Actuarial Accrued Liabilities Reconciliation		FY 2014/15 <sup>6</sup>
Actuarial Accrued Liability as of November 1	\$	35,639,171
Normal cost as of beginning of year		982,875
Expected benefit payments during the year		(2,016,384)
Interest adjustment to end of year		2,672,406
Expected Actuarial Accrued Liability as of October 31	\$	37,278,068
Actuarial (gain) / loss due to experience		0
Actuarial (gain) / loss due to provisions / assumptions changes		0
Actual Actuarial Accrued Liability as of October 31	\$	37,278,068
Actuarial Value of Asset Reconciliation		FY 2014/15
Actuarial Value of Assets as of November 1	\$	0
Expected pre-funding contributions made during the fiscal year		2,981,057
Expected pay-go contributions made during the fiscal year		2,016,384
Expected benefit payments made during the fiscal year		(2,016,384)
Interest adjustment to end of year		0
Expected Actuarial Value of Assets as of October 31	\$	3,090,826
Actuarial asset gain / (loss)		2,123,327
Actual Actuarial Value of Assets as of October 31	\$	5,214,153

**Reconciliation of AAL and AVA** show 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 and AVA will change as actual plan experience varies from assumptions. Generally, both the AAL and AVA is expected to have a net increase each year.

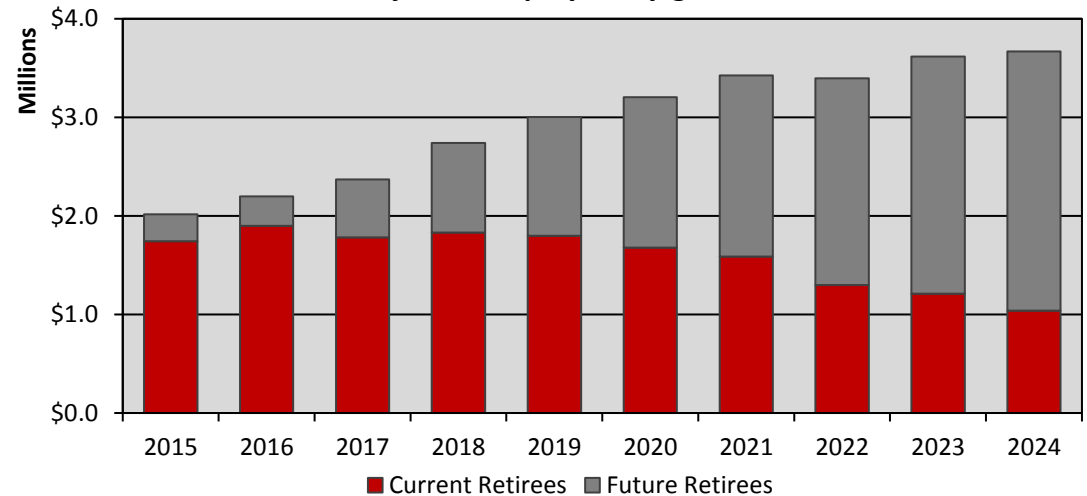
<sup>6</sup> Actuarial Accrued Liability (AAL) as of beginning of year was actuarially rolled-back from end of year AAL on a "no gain/loss" basis.

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.

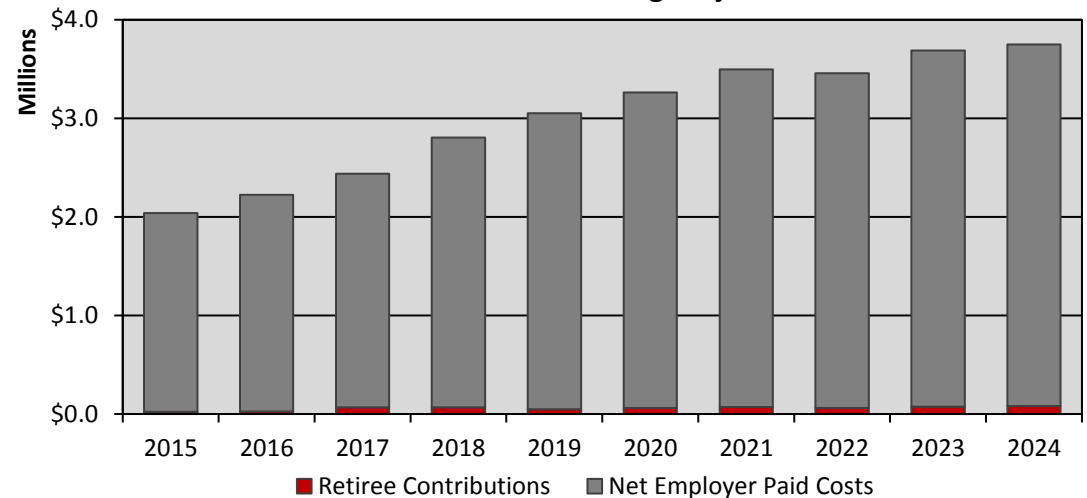
FYE	Current Retirees	Future Retirees <sup>7</sup>	Total
2015	\$ 1,743,401	\$ 272,983	\$ 2,016,384
2016	\$ 1,900,308	\$ 297,553	\$ 2,197,861
2017	\$ 1,781,002	\$ 590,397	\$ 2,371,399
2018	\$ 1,831,485	\$ 908,137	\$ 2,739,622
2019	\$ 1,797,311	\$ 1,206,612	\$ 3,003,923
2020	\$ 1,678,350	\$ 1,524,496	\$ 3,202,846
2021	\$ 1,587,891	\$ 1,837,875	\$ 3,425,766
2022	\$ 1,298,828	\$ 2,097,167	\$ 3,395,995
2023	\$ 1,209,983	\$ 2,405,755	\$ 3,615,738
2024	\$ 1,038,485	\$ 2,630,427	\$ 3,668,912

FYE	Estimated Claims Costs	Retiree Contributions	Net Employer-Paid Costs
2015	\$ 2,039,851	\$ 23,467	\$ 2,016,384
2016	\$ 2,223,439	\$ 25,578	\$ 2,197,861
2017	\$ 2,438,771	\$ 67,372	\$ 2,371,399
2018	\$ 2,806,039	\$ 66,417	\$ 2,739,622
2019	\$ 3,050,996	\$ 47,073	\$ 3,003,923
2020	\$ 3,263,448	\$ 60,602	\$ 3,202,846
2021	\$ 3,497,937	\$ 72,171	\$ 3,425,766
2022	\$ 3,456,231	\$ 60,236	\$ 3,395,995
2023	\$ 3,689,440	\$ 73,702	\$ 3,615,738
2024	\$ 3,751,092	\$ 82,180	\$ 3,668,912

Projected Employer Pay-go Cost



Claims and Cost Sharing Projections



<sup>7</sup> Projections for future retirees do not take into account future new hires.

**Eligibility**

General employees are eligible for retiree health benefits once they meet RI MERS pension eligibility requirements.

Police officers and Firefighters are eligible for retiree health benefits once they meet the City of East Providence Police and Fire Retirement System pension eligibility requirements:

1. Police officers hired before November 1, 2014 and Firefighters hired before January 1, 2014 – at the earlier of:
  - a. Age 60 with 10 years of service
  - b. 20 years of service (no age requirement)
2. Police officers hired on/after November 1, 2014 and Firefighters hired on/after January 1, 2014:
  - a. Age 55 with 25 years of service

**MERS Eligibility Requirements**

Employees eligible to retire as of July 1, 2012 are not impacted by the new eligibility requirements described below. Prior to July 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 July 1, 2012:

- a) Members with less than five years of contributing service credit on June 30, 2012 may retire at their Social Security normal retirement age.
- b) Members with at least five years of contributing service credit on June 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 June 30, 2012 (described in item (a) above).
- c) Members with at least ten years of contributing service credit on June 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.

Effective on July 1, 2015, employees are also 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.

**Spouse Benefit**

Surviving spouse receives COBRA coverage upon death of the retiree and must pay the required COBRA rate. Upon death of an active employee:

- Surviving spouses of Police officers and Firefighters receive three years of free coverage paid by the City and then must elect COBRA coverage and pay the required COBRA rate.
- Surviving spouses of General employees receive one year of subsidized coverage paid by the City and then must elect COBRA coverage and pay the required COBRA rate. City's subsidy will be at the same level as existing active employees' subsidy.

**Benefit Duration****Police and Fire**

Retiree health benefits cease at the later of: (a) the retiree attaining age 65 or (b) 3 years after retirement.

**General**

For employees who retired prior to November 1, 2012

Retiree health benefits cease at the later of: (a) the retiree attaining age 65 or (b) 3 years after retirement.

For employees who retired on/after November 1, 2012

General employees retiree health benefits will cease after one year after retirement plus 18 month of COBRA coverage, except for the following:

- Retiree health benefits for EPPMTEA employees with 25 years of service as of November 1, 2012 will terminate upon Medicare eligibility.
- Retiree health benefits for 15509 and 15509A employees who retire with 30 years of service on/before October 31, 2017 will terminate upon Medicare eligibility.

**Disability Benefit**

General employees are eligible for disability health benefit from their date of hire. The disabled employee will be treated as a regular retiree. The City will pay for the full cost of coverage for both retiree and spouse until the retiree is eligible for Medicare. Spouse's disability health benefit coverage will terminate upon death of the retiree.

Police officers and Firefighters are eligible for non-line of duty disability health benefit after ten years of service. There is no age or service requirement for line of duty disability health benefit. The City will pay for the full cost of coverage for the disabled retiree for their lifetime (subject to annual medical documentation) while spouse coverage will be paid for by the City until the retiree is eligible for Medicare. Spouse's disability health benefit coverage will terminate upon death of the retiree.

**Life Insurance**

The City provides group life insurance of \$7,500.



**Retiree Cost Sharing****Police and Fire**

Hired prior to January 1, 2015: None

Hired on/after January 1, 2015: Employees contribute 20% of the cost of retiree health benefits

**General Employees**

Retired prior to November 1, 2012: None

Retired on/after November 1, 2012: Retiree contribution requirements follow active employees, which is a percentage of premium contribution based on the employees' base pay:

- 10% of premium if base pay is less than \$30,000
- 15% of premium if base pay is less than \$46,000 but more than \$30,000
- 20% of premium if base pay is less than \$95,000 but more than \$46,000
- 25% of premium if base pay is more than \$95,000

**Medical Benefit**

Same benefit options are available to retirees as active employees. City of East Providence is a member of the WB Community Health and all health plans in this group are considered self-insured. The table below shows the assumed plan election at retirement for GASB 45 valuation purposes.

Employee group	Active plans	Retiree plans
Public works	0007/8/21	0031
Municipal employees	0007/8/18/19/21/22	0005/19/31
Police	0008/17/18	0019/31
Fire	0028	0028

The monthly premiums by plan effective on July 1, 2015 are as shown below.

Retiree Plan	Single	Family
0019 Healthmate	\$ 576.48	\$ 1,420.53
0031 Healthmate	\$ 510.72	\$ 1,252.70
0005 Healthmate	\$ 603.96	\$ 1,488.31
0028 Blue Solutions HSA	\$ 434.39	\$ 1,070.39
Classic	\$ 710.19	\$ 1,749.97

**Dental**

Retirees may elect dental coverage at their own cost.

The actuarial assumptions used in this report represent a reasonable long-term expectation of future OPEB outcomes. As national economic and City's 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 October 31, 2013. 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 October 31, 2017.

<b>Measurement Date</b>	October 31, 2015 with results actuarially rolled-back to November 1, 2014 on a "no loss/no gain" basis.
<b>Discount Rate</b>	7.50% fully funded
<b>Payroll Growth</b>	4.25% per year (used for amortization purposes only)
<b>Inflation Rate</b>	3.00% per year
<b>Cost Method</b>	Projected Unit Credit with linear proration to full eligibility
<b>Asset Valuation Method</b>	Market Value
<b>Amortization</b>	Level % of pay over thirty years based on an open group
<b>Census Data</b>	<p>Census information was provided by the City in February 2016. We have reviewed it for reasonableness and no material modifications were made to the census data except for the following:</p> <ul style="list-style-type: none"><li>• Census data provided for this year's valuation excludes disabled retirees who have medical coverage. We have included 13 disabled retirees from the last full valuation in this year's valuation.</li></ul>
<b>Employer Funding Policy</b>	<p>City of East Providence funding policy consists of two contribution levels:</p> <ol style="list-style-type: none"><li>1. Contributions to fund the annual pay-go costs for current retirees;</li><li>2. Additional contributions for pre-funding to the Trust</li></ol> <p>The combination of the above contribution levels will cover the full Annual Required Contribution annually.</p> <p>Trust assets are expected to earn at least 7.5% annual return (net of expense) in the long term.</p>

**Mortality**

Healthy retirees: RPH-2006 Total Dataset Mortality Table fully generational using scale MP-2015  
 Disabled retirees: RPH-2006 Disabled Mortality Table fully generational using scale MP-2015

**Disability**

Annual disability rates are based on the 2012 City of East Providence Police and Firefighters Retirement System 2012 experience study for police and fire and RI MERS actuarial valuation for fiscal year ending June 30, 2014 for general employees. Sample annual disability rates are as shown below:

Age	Police / Fire	General	
	Unisex	Male	Female
25	0.50%	0.08%	0.03%
35	0.90%	0.13%	0.06%
45	1.73%	0.31%	0.13%
55	3.00%	0.86%	0.37%

100% of disabilities are assumed to be a line of duty disability for all employee groups.

**Turnover Rate**

Assumption used to project terminations (voluntary and involuntary) prior to meeting minimum retirement eligibility for retiree health coverage. For general employees, the rates are based on RI MERS actuarial valuation for the fiscal year ending June 30, 2014. For police officers and firefighters, the rates are based on the City of East Providence Police and Firefighters Retirement System 2012 experience study.

YOS	Police / Fire	General
0	4.00%	17.50%
5	3.00%	6.15%
10	2.00%	2.71%
15	1.00%	1.75%
20	0.00%	1.49%
25+	0.00%	0.00%

**Retirement Rate****Police and Fire**

Annual rates of retirement are based on the 2012 City of East Providence Police and Firefighters Retirement System 2012 experience study. The rates below are applicable after age 40 and 100% retirement is assumed at age 60.

YOS	Unisex
20	12%
21 – 23	14%
24 – 26	16%
27 – 29	18%
30+	20%

**General Employees**

Retirement rates are based on the assumptions used in the RI MERS actuarial valuation report as of June 30, 2014, which is a flat 25% per year retirement probability for members eligible for unreduced retirement. A 50% retirement probability at first eligibility will be applied if they have reached age 65 or with at least 25 years of service. 100% retirement is assumed at age 66.

**Health Care Trend Rates**

FYE	Medical/Rx	FYE	Medical/Rx
2016	9.0%	2021	6.5%
2017	8.5%	2022	6.0%
2018	8.0%	2023	5.5%
2019	7.5%	2024+	5.0%
2020	7.0%		

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.

**Health Care Coverage Election Rate**

Active General employees (regardless of current health coverage election): 50%  
Active Police/Fire employees (regardless of current health coverage election): 100%

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

**Spousal Coverage**

Spousal coverage for current retirees is based on actual data. 85% of employees are assumed to be married at retirement. Husbands are assumed to be three years older than wives

**Per Capita Costs**

Annual per capita costs were calculated based on the City's monthly working 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	Classic		0005 Healthmate		0019 Healthmate	
	Male	Female	Male	Female	Male	Female
50 – 54	\$ 9,800	\$ 11,500	\$ 8,300	\$ 9,800	\$ 8,000	\$ 9,300
55 – 59	\$ 13,200	\$ 12,800	\$ 11,200	\$ 10,900	\$ 10,700	\$ 10,400
60 – 64	\$ 16,900	\$ 15,200	\$ 14,400	\$ 12,900	\$ 13,700	\$ 12,300

Age	0028 Blue Solutions		0031 Healthmate	
	Male	Female	Male	Female
50 – 54	\$ 6,000	\$ 7,000	\$ 7,100	\$ 8,300
55 – 59	\$ 8,000	\$ 7,800	\$ 9,500	\$ 9,300
60 – 64	\$ 10,200	\$ 9,200	\$ 12,100	\$ 10,900

For Future Retirees*					
Age	Classic	0005	0019	0028	0031
65 – 69	\$ 6,500	\$ 5,500	\$ 5,300	\$ 4,000	\$ 4,700
70 – 74	\$ 7,700	\$ 6,600	\$ 6,300	\$ 4,700	\$ 5,600
75 – 79	\$ 8,900	\$ 7,600	\$ 7,300	\$ 5,400	\$ 6,400
80+	\$ 10,300	\$ 8,800	\$ 8,400	\$ 6,300	\$ 7,400

For Existing Retirees**					
Age	Classic	0005	0019	0028	0031
65 – 69	\$ 8,100	\$ 6,900	\$ 6,600	\$ 4,900	\$ 5,900
70 – 74	\$ 9,600	\$ 8,200	\$ 7,800	\$ 5,800	\$ 6,900
75 – 79	\$ 11,100	\$ 9,500	\$ 9,100	\$ 6,800	\$ 8,000
80+	\$ 12,900	\$ 11,000	\$ 10,500	\$ 7,800	\$ 9,300

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.

\* Future retirees post-65 PCs are calculated using a 50% Medicare reduction.

\*\* Existing retirees post-65 PCs are calculated using a 37.5% Medicare reduction.

**Life Insurance**

100% of future retirees with medical coverage are assumed to have life insurance coverage at retirement.

**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 future retired general employee and his spouse enrolled in the 0031 Healthmate Plan with a base pay of \$95,000 immediately prior to retirement.

	Premium Rate	Retiree Contribution	Explicit Subsidy
	A	B = 25% x A	C = A – B
Retiree	\$ 510.72	\$ 127.68	\$ 383.04
Spouse	\$ 741.98	\$ 185.50	\$ 556.48

**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 retired general employee with spouse of the same age enrolled in the 0031 Healthmate Plan.

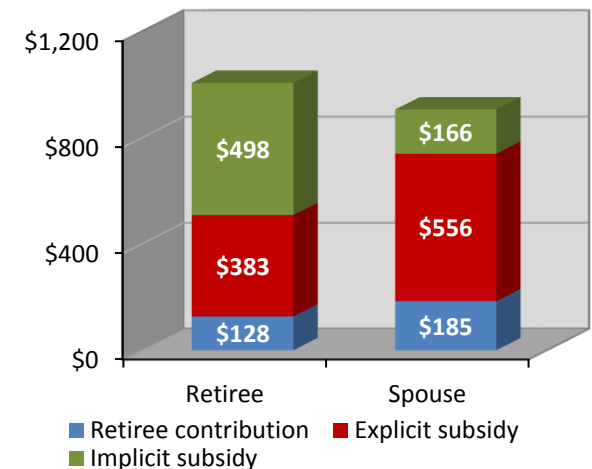
	Per Capita Cost	Premium Rate	Implicit Subsidy
	A	B	C = A – B
Retiree	\$ 1,008.33	\$ 510.72	\$ 497.61
Spouse	\$ 908.33	\$ 741.98	\$ 166.35

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 future retired general employee and his spouse enrolled in the 0031 Healthmate Plan with a base pay of \$95,000 immediately prior to retirement.

	Retiree	Spouse
Retiree contribution	\$ 127.68	\$ 185.50
Explicit subsidy	\$ 383.04	\$ 556.48
Implicit subsidy	\$ 497.61	\$ 166.35
Total monthly cost	\$ 1,008.33	\$ 908.33

**GASB Subsidy Breakdown**

<i>Actives with coverage<sup>8</sup></i>	<i>Single</i>	<i>Family</i>	<i>Total</i>	<i>Avg. Age</i>	<i>Avg. Svc</i>	<i>Salary</i>
HM 0005	1		1	47.9	28.2	\$ 50,248
HM 0019	29	90	119	42.8	12.9	\$ 7,810,487
BS 0028	17	74	91	43.1	15.2	\$ 5,698,514
HM 0031	42	122	164	49.9	15.0	\$ 8,153,264
<b>Total actives with coverage</b>	<b>89</b>	<b>286</b>	<b>375</b>	<b>46.0</b>	<b>14.4</b>	<b>\$ 21,712,513</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>14</b>	<b>26.2</b>	<b>0.4</b>	<b>\$ 715,447</b>

Active employees who currently have no coverage are assumed to elect coverage at retirement based on the health care coverage election assumption shown in the Actuarial Methods and Assumptions section. They have been included in the GASB valuation.

<i>Disabled with coverage</i>	<i>Single</i>	<i>Family</i>	<i>Total</i>	<i>Avg. Age</i>
<b>Total disableds with coverage</b>	<b>13</b>		<b>13</b>	<b>74.8</b>

<i>Retirees with coverage</i>	<i>Single</i>	<i>Family</i>	<i>Total</i>	<i>Avg. Age</i>
HM 0005	4	27	31	58.0
HM 0019	6	63	69	57.4
HM 0031		3	3	60.0
Classic	1	2	3	56.1
<b>Total retirees with coverage</b>	<b>11</b>	<b>95</b>	<b>106</b>	<b>57.6</b>

In addition to the above retirees with health coverage, there are four retirees without health coverage who are receiving life insurance benefits. They have been included in the GASB valuation.

<sup>8</sup> Health plan mapping shown in this table is based on the assumed plan election at retirement as described on page 14 of this report.

## 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	11	3									14
25 to 29	19	15									34
30 to 34	9	10	8	3	2						32
35 to 39	6	6	7	9	4						32
40 to 44	1	1	10	15	15	8	5				55
45 to 49	3	4	7	7	23	21	14				79
50 to 54	5	5	4	8	9	17	19	1			68
55 to 59			6	8	9	12	12	3	1		51
60 to 64		1	2	3	5	6	2	1			20
65 to 69		1	1	1							3
70 & up							1				1
<b>Total</b>	<b>54</b>	<b>46</b>	<b>45</b>	<b>54</b>	<b>67</b>	<b>64</b>	<b>53</b>	<b>5</b>	<b>1</b>	<b>0</b>	<b>389</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 October 31, 2013</i>	<i>As of October 31, 2015</i>
Active Participants	360	389
Retired Participants	214	123
Averages for Active		
Age	46.5	45.3
Service	15.0	13.9
Averages for Inactive		
Age	62.3	59.3

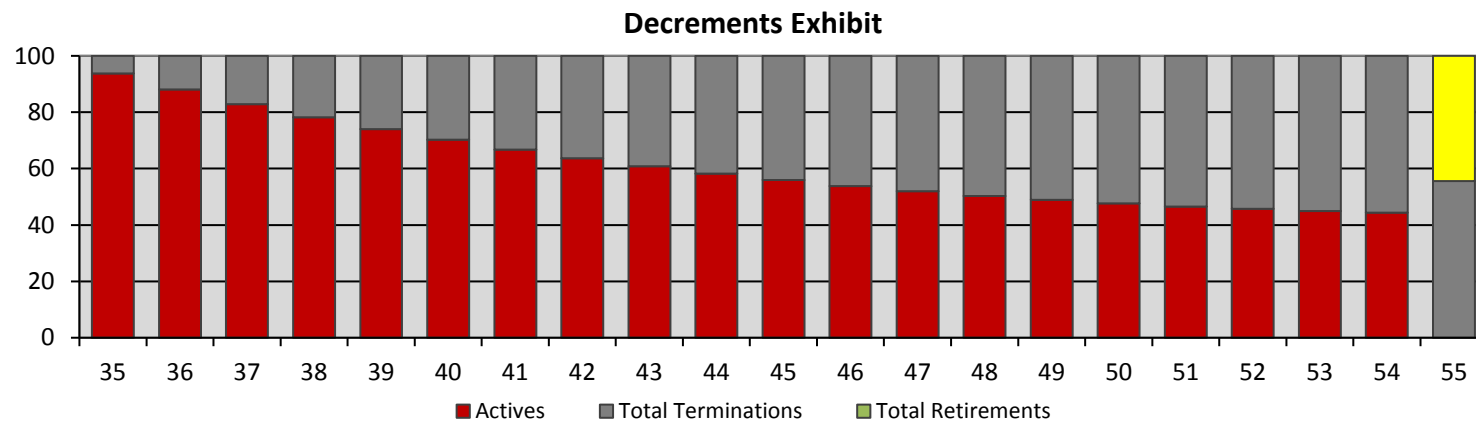
Glossary

## Decrement 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

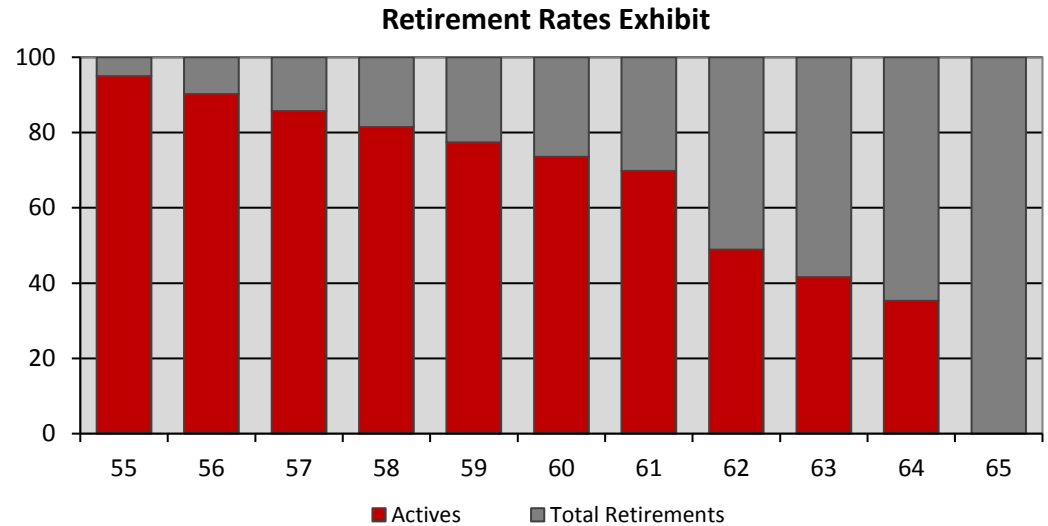


\* The above rates are illustrative rates and are not used in our GASB calculations.

## 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 = $A \times B \times C \times D$

## 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.