



# Board of Regents of the University System of Georgia

*GASB 45 Actuarial Valuation Report as of July 1, 2015*

*September 2016*

*Submitted by:  
Aon Hewitt  
7650 West Courtney Campbell Causeway  
Suite 100  
Tampa, FL 33607*



September 13, 2016

Vikki L. Williamson  
Asst. Vice Chancellor, Fiscal Affairs – Accounting and Reporting  
Board of Regents of the University System of Georgia  
270 Washington Street  
Atlanta, GA 30334-1450

Dear Vikki:

We respectfully present in this report the results of our GASB 45 actuarial valuation for the fiscal year ending June 30, 2016.

For your convenience, we have summarized the highlights and essential results of the valuation in the Summary of Results found in Section 1. The Table of Contents following this letter outlines sections included in this report.

Sincerely,

A handwritten signature in black ink that reads "Stephen Lambert-Oswald".

Stephen Lambert-Oswald, F.S.A., E.A.

cc: Kristi Fuss  
Jarod Spessard  
Lei Zhang  
David Batten

# Table of Contents

<b>1. Summary of Results.....</b>	<b>1</b>
Financial Information.....	1
Liabilities and Normal Cost .....	1
Net OPEB Obligation at Fiscal Year End .....	2
Valuation Data.....	3
<b>2. Actuarial Certification .....</b>	<b>4</b>
<b>3. Actuarial Commentary .....</b>	<b>5</b>
<b>4. Forecast of Results .....</b>	<b>6</b>
<b>5. Assets .....</b>	<b>7</b>
<b>6. Liability Summary .....</b>	<b>8</b>
<b>7. Development of Annual Required Contribution .....</b>	<b>9</b>
<b>8. Unfunded Liability.....</b>	<b>10</b>
<b>9. Disclosure – Funding Progress .....</b>	<b>11</b>
<b>10. Disclosure – Annual Cost and Net Obligation.....</b>	<b>12</b>
<b>11. Projected Payouts .....</b>	<b>13</b>
<b>12. Valuation Data .....</b>	<b>14</b>
Age Distribution – Retirees, Widows and Disableds .....	14
Active Age – Service Distribution .....	15
<b>13. Summary of Principal Plan Provisions .....</b>	<b>16</b>
General Eligibility Rules .....	16
Medical and Drug Benefits Covered .....	16
Employee Costs .....	16
Spouse’s Covered.....	16
Life .....	16
<b>14. Valuation Methods and Assumptions .....</b>	<b>17</b>
Cost Method.....	17
Amortization Method .....	17
Asset Method .....	17
Employees Included in the Calculations .....	17
Future Medical Plan Election .....	17
Marital Status and Age of Spouse.....	17
Interest Discounting and Salary Growth.....	17
Claims .....	18
Trend Assumptions .....	18
Decrement Assumptions .....	19
Changes in assumptions since prior valuation.....	20

# 1. Summary of Results

## Financial Information

The following table illustrates key financial information for the fiscal year end.

	Fiscal Year Ending	
	06/30/2015	06/30/2016
(1) Net Claims		
(a) Total Claims	\$139,775,144	\$120,620,770
(b) Less Retiree Premiums	\$32,681,812	\$21,197,691
(c) Expected Net Claims	\$107,093,332	\$99,423,079
(2) Annual Required Contribution (ARC)	\$442,358,794	\$295,191,975
(3) Annual OPEB Cost (AOC)	\$450,122,250	\$304,304,605
(4) End of Year Net OPEB Obligation (NOO)	\$2,163,376,890	\$2,355,867,771

## Liabilities and Normal Cost

The following table illustrates the liabilities and normal cost used for the development of the foregoing financial information.

	Valuation Date	
	07/01/2014	07/01/2015
(1) Assets	\$81,519	\$280,596
(2) Present Value of Benefits		
(a) Active	\$4,731,713,160	\$2,945,093,297
(b) Inactive	\$2,061,832,448	\$1,212,921,420
(c) Total	\$6,793,545,608	\$4,158,014,717
(3) Accrued Liability		
(a) Active	\$2,216,612,958	\$1,444,174,487
(b) Inactive	\$2,061,832,448	\$1,212,921,420
(c) Total	\$4,278,445,406	\$2,657,095,907
(5) Normal Cost	\$214,557,181	\$132,559,478

## 1. Summary of Results (cont.)

### Net OPEB Obligation at Fiscal Year End

The chart below shows the development of the prior year's and current year's: Net OPEB Obligation (NOO):

	06/30/2015	06/30/2016
(1) Net OPEB Obligation as of the beginning of the fiscal year	\$1,843,077,235	\$2,163,376,890
(2) Adjustment for prior Year Contribution	\$0	\$0
(3) Adjusted Net OPEB Obligation at beginning of the fiscal year	\$1,843,077,235	\$2,163,376,890
(4) Annual OPEB Cost (AOC) for the fiscal year	\$450,122,250	\$304,304,605
(5) Contributions made during the fiscal year:		
(a) To Trust	\$129,822,595	\$111,813,724
(b) Outside Trust	\$0	\$0
(c) Total	\$129,822,595	\$111,813,724
(6) Net OPEB Obligation as of the end of the fiscal year	\$2,163,376,890	\$2,355,867,771

## 1. Summary of Results (cont.)

### Valuation Data

The following table summarizes key demographic statistics used in the valuation. The demographic data was collected as of July, 2016 and liabilities were rolled back to beginning of the fiscal year.

	07/01/2014	07/01/2015
(1) Number of Participants		
(a) Active Employees		
(i) Currently Receiving Medical	38,763	39,485
(ii) Currently Not Receiving Medical	8,571	7,785
(iii) Total	47,334	47,270
(b) Inactive	15,021	17,500
(c) Total	62,355	64,770
(6) Active Statistics		
(d) Average Age	45	45
(e) Average Service	9	9
(7) Inactive Statistics (In Pay Status)		
(f) Average Age	72	72
(g) Single Coverage	8,396	2,111
(h) Family Coverage	6,567	1,336
(i) HRA Contribution only	N/A	14,053

## 2. Actuarial Certification

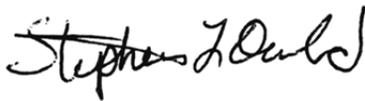
We have performed an actuarial valuation of Board of Regents of the University System of Georgia's postretirement medical program as of July 1, 2015. The employee data and claims information used in this valuation were submitted to us by the plan sponsor, or at the plan sponsor's direction. The demographic data was collected as of July 1, 2016. We did not audit any of the submitted data. On the basis of our review of the data, however, we believe that the information is sufficiently complete and reliable, and that it is appropriate for the purposes intended.

In our opinion, the assumptions and methodology underlying this valuation are consistent with the criteria outlined under GASB Statements 45.

The assumptions and methodology underlying this valuation conform to the Actuarial Standard of Practice No. 6, Measuring Retiree Group Benefit Obligations and Actuarial Compliance Guideline No. 3, published by the Actuarial Standards Board.

We have no relationship with the client which may impair or appear to impair the objectivity of our work.

**Aon Consulting**



---

Stephen Lambert-Oswald, F.S.A., E.A.  
Enrollment Number 14-0  
7650 West Courtney Campbell Causeway  
Suite 1000  
Tampa, Florida 33607  
(813) 636-3000

### 3. Actuarial Commentary

#### Sensitivity Analysis

The Board's true liability for postretirement benefits depends on future economic and demographic factors which are difficult to predict accurately. The calculations in this report are based on the actuarial assumptions that are outlined in the assumption section of this report. Different assumptions could yield significantly different results. For example, the following table illustrates the sensitivity of medical trend assumptions on the Liability, Normal Cost and AOC.

Medical Benefits	Liability	Normal Cost	AOC
Current Assumption	\$2,657,095,907	\$132,559,478	\$304,304,605
1% Increase in Trend	\$3,046,041,897 14.6%	\$163,973,170 23.7%	\$353,710,045 16.2%

#### Beginning Medical Claim Level

Medical claims costs were developed based on actual experience from the 24 month period ending June 30, 2016.

#### Medical Trend Rate

We assume the medical claims and retiree premiums will increase at an annual trend rate of 7.50% (Pre-Medicare) for the year ending June 30, 2016, grading down to an ultimate rate of 4.50% in 2030/2031 and 4.50% (Medicare) for the year ending June 30, 2017.

#### Health Care Reform

The excise tax on high cost plans effective in 2020 has a small impact on the results and is included in our calculations. Based on the following we concluded no other adjustments for Health Care Reform is required:

- We do not value lifetime or annual maximums in our calculations
- The employer already allows dependent children to stay on the plan until age 26
- We did not adjust plan participation rates due to the new requirement for individuals to maintain minimum essential health care coverage

#### Changes in Actuarial Assumptions

Expected claims costs were updated to reflect actual claims experience. Trend was reset based on current conditions.

#### Changes in Plan Provisions

Effective January 1, 2016, all post-65 Medicare eligible retirees will access medical coverage through an individual Healthcare Exchange marketplace. The Board will provide an annual fixed dollar HRA contribution for these retirees.

## 4. Forecast of Results

### 5 Year Forecast

The following table illustrates a 5-year forecast of Cash Outlay, Annual OPEB Cost (AOC) and Net OPEB Obligation (NOO).

Fiscal Year Ending	Cash Outlay <sup>1</sup>	Annual OPEB Cost (AOC)	End of Year Net OPEB Obligation (NOO)	
06/30/2016	\$91,768,050	\$304,304,605	\$2,355,867,771	
06/30/2017	\$99,213,102	\$323,646,943	\$2,587,746,664	
06/30/2018	\$108,869,356	N/A	\$2,974,925,990	New Rules
06/30/2019	\$117,739,898	N/A	\$3,158,755,081	New Rules
06/30/2020	\$126,577,686	N/A	\$3,347,790,218	New Rules
06/30/2021	\$136,139,145	N/A	\$3,543,375,391	New Rules

GASB has released statement 74 and 75 on how the accounting results are presented for fiscal years ending 2018 and later. This will be a major step toward getting the OPEB obligation into the financial statement. Until now, the unfunded liability was a footnote in the Comprehensive Annual Financial Report (CAFR) while the NOO was reported on the balance sheet. The NOO is equal to a running total of the AOC less employer contributions. In the future the NOO will be replaced by the unfunded liability, which is the difference in the actuarial liability and any assets. The unfunded liability will not just be footnoted, but will be disclosed in the face of the financial statement alongside other liabilities such as outstanding bonds and long-term leases emphasizing that the OPEB liability is another obligation that the government agency will be required to fulfill.

<sup>1</sup> Annual cash outlay for development of NOO assumed to be equal to payout projections (page 13).

## 5. Assets

### Asset Reconciliation

Below is the reconciliation of Assets.

	Valuation Date	
	07/01/2015	07/01/2016
(1) Assets as of Prior Valuation Date	\$81,519	\$280,596
(2) Income		
(a) Employer Contributions	\$129,822,595	\$111,813,724
(b) Employee Contributions	\$37,770,393	\$28,586,933
(c) Other	\$25,164	\$0
(3) Investment Earnings	\$77,675	\$31,907
(4) Benefit Payments	(\$154,104,034)	(\$129,449,829)
(5) Administrative Expenses	(\$13,392,716)	(\$8,364,829)
(6) Assets as of the Valuation Date	\$280,596	\$2,898,502

## 6. Liability Summary

### Liabilities and Normal Cost

The following table illustrates the liabilities and normal cost used for the development of the financial information.

	Valuation Date	
	July 1, 2014	July 1, 2015
(1) Present Value of Benefits		
(a) Active	\$4,731,713,160	\$2,945,093,297
(b) Inactive	\$2,061,832,448	\$1,212,921,420
(c) Total	<u>\$6,793,545,608</u>	<u>\$4,158,014,717</u>
(2) Accrued Liability		
(a) Active	\$2,216,612,958	\$1,444,174,487
(b) Inactive	\$2,061,832,448	\$1,212,921,420
(c) Total	<u>\$4,278,445,406</u>	<u>\$2,657,095,907</u>
(3) Normal Cost	\$214,557,181	\$132,559,478
(4) Expected Net Claims	<u>\$107,093,332</u>	<u>\$99,423,079</u>

## 7. Development of Annual Required Contribution

### Calculation Details

The following table illustrates the development of the Annual Required Contribution underlying the foregoing financial information.

	Fiscal Year End	
	June 30, 2015	June 30, 2016
(1) Unfunded Accrued Liability	\$4,278,363,887	\$2,656,815,312
(2) Annual Required Contribution (ARC)		
(a) Amortization Amount	\$208,752,670	\$149,920,881
(b) Normal Cost	\$214,557,181	\$132,559,478
(c) Interest	\$19,048,943	\$12,711,616
(d) Total	\$442,358,794	\$296,191,975
(3) Less Amortization of NOO	\$75,175,020	\$88,239,330
(4) Plus Interest on NOO	\$82,938,476	\$97,351,960
(5) Annual OPEB Costs (AOC)	\$450,122,250	\$304,304,605

## 8. Unfunded Liability

### Actuarial (Gain)/Loss

Below is the development of the Actuarial (gain)/loss.

	Valuation Date	
	July 1, 2014	July 1, 2015
(1) Unfunded Accrued Liability as of Prior Valuation Date	\$4,095,087,397	\$4,278,363,887
(2) Amortization Payment	\$194,656,943	\$208,752,670
(3) Prior Year Funding Rate	4.50%	4.50%
(4) Interest	\$175,519,370	\$183,132,505
(5) Expected Unfunded Accrued Liability as of Valuation Date: (1) – (2) + (4)	\$4,075,949,824	\$4,252,743,722
(6) Actual Unfunded Accrued Liability as of Valuation Date		
(a) Accrued Liability	\$4,278,445,406	\$2,657,095,907
(b) Asset Value	\$81,519	\$280,596
(c) Unfunded Accrued Liability: (a) - (b)	\$4,278,363,887	\$2,656,815,312
(7) Actuarial (Gain)/Loss: (6)(c) - (5)	\$202,414,063	(\$1,595,928,410)

### Amortization of Unfunded Liability

The table below lists the amortization bases included in the calculation of the ARC as of July 1, 2015.

Date Established	Type of Base	Period		Balance		Annual Payment
		Original	Remaining	Original	Remaining	
07/01/2007	Initial Unfunded	30	22	\$1,985,200,000	\$1,806,591,057	\$95,179,183
07/01/2008	Loss	29	22	\$1,305,250,480	\$1,207,611,299	\$63,622,287
07/01/2019	Gain	28	22	(\$82,232,746)	(\$77,429,743)	(\$4,079,340)
07/01/2010	Loss	27	22	\$322,800,737	\$309,682,344	\$16,315,431
07/01/2011	Loss	30	26	\$177,130,815	\$177,504,039	\$8,131,544
07/01/2012	Loss	30	27	\$273,532,189	\$274,496,121	\$12,191,302
07/01/2013	Loss	30	28	\$350,139,320	\$351,393,451	\$15,151,141
07/01/2014	Loss	30	29	\$202,414,063	\$202,895,154	\$8,503,700
07/01/2015	Gain	30	30	(\$1,595,928,410)	(\$1,595,928,410)	(\$65,094,367)
	Total Charges				\$2,656,815,312	\$149,920,879

## 9. Disclosure – Funding Progress

### Funding Progress

The following table illustrates the funding progress.

	Fiscal Year Ending	
	June 30, 2015	June 30, 2016
(1) Interest Rate	4.5%	4.5%
(2) Covered Payroll	\$2,608,756,645	\$3,087,013,265
(3) Assets	\$81,519	\$280,596
(4) Accrued Liability Begging of Fiscal Year		
(a) Active	\$2,216,612,958	\$1,444,174,487
(b) Inactive	\$2,061,832,448	\$1,212,921,420
(c) Total	\$4,278,445,406	\$2,657,095,907
(8) Unfunded Actuarial Accrued Liability	\$4,278,363,887	\$2,656,815,312
(9) Funded Ratio	0.0%	0.0%
(10) Unfunded as a Percent of Covered Payroll	164.0%	86.1%

### Funding Progress History

The following table illustrates the funding progress history.

Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability	Funded Ratio	Covered Payroll	Unfunded as a Percent of Covered Payroll
07/01/2007	\$0	\$1,985,200,000	\$1,985,200,000	0.0%	\$2,201,804,000	90.2%
07/01/2008	\$290,000	\$3,258,200,000	\$3,257,910,000	0.0%	\$2,372,385,000	137.3%
07/01/2009	\$10,566,000	\$3,129,508,000	\$3,118,942,000	0.3%	\$2,399,532,000	130.0%
07/01/2010	\$122,538	\$3,384,099,942	\$3,383,977,404	0.0%	\$2,432,366,796	139.1%
07/01/2011	\$123,230	\$3,494,501,238	\$3,494,378,008	0.0%	\$2,526,211,986	138.3%
07/01/2012	\$165,684	\$3,758,969,936	\$3,758,804,252	0.0%	\$2,466,313,700	152.4%
07/01/2013	\$216,775	\$4,095,304,172	\$4,095,087,397	0.0%	\$2,594,800,486	157.8%
07/01/2014	\$81,519	\$4,278,445,406	\$4,278,363,887	0.0%	\$2,608,756,645	164.0%
07/01/2015	\$280,596	\$2,657,095,907	\$2,656,815,312	0.0%	\$3,087,013,265	86.1%

## 10. Disclosure – Annual Cost and Net Obligation

### Annual OPEB Cost and Net OPEB Obligation

The following table illustrates the development of the Annual OPEB Cost and the fiscal year end Net OPEB Obligation required by GASB 45.

	Fiscal Year Ending	
	June 30, 2015	June 30, 2016
(1) Interest Rate	4.50%	4.50%
(2) Annual OPEB Cost (AOC)		
(a) Annual Required Contribution (ARC)	\$442,358,794	\$295,191,975
(b) Less Amortization of NOO	\$75,175,020	\$88,239,330
(c) Plus Interest on NOO	\$82,938,476	\$97,351,960
(d) Total AOC	\$450,122,250	\$304,304,605
(3) End of Year Net OPEB Obligation (NOO)		
(a) Actual Beginning of Year NOO	\$1,843,077,235	\$2,163,376,890
(b) Adjustment for Prior Year Contribution	\$0	\$0
(c) Adjusted Net OPEB Obligation	\$1,843,077,235	\$2,163,376,890
(d) Plus Actual AOC	\$450,122,250	\$304,304,605
(e) Minus Contributions	\$129,822,595	\$111,813,724
(f) End of Year NOO	\$2,163,376,890	\$2,355,867,771

# 11. Projected Payouts

## 10-Year Payout Projection

Annual payments expected based on assumptions and contributions detailed in the Methods and Assumptions Section.

Year Ending	Total (a)	Retiree Premium (b)	Employer Cost (c) = (a) – (b)
07/01/2016 - 06/30/2017	\$101,481,619	\$9,713,569	\$91,768,050
07/01/2017 - 06/30/2018	\$109,890,433	\$10,677,332	\$99,213,102
07/01/2018 - 06/30/2019	\$120,512,542	\$11,643,186	\$108,869,356
07/01/2019 - 06/30/2020	\$130,053,427	\$12,313,530	\$117,739,898
07/01/2020 - 06/30/2021	\$139,391,800	\$12,814,114	\$126,577,686
07/01/2021 - 06/30/2022	\$149,403,863	\$13,264,718	\$136,139,145
07/01/2022 - 06/30/2023	\$160,222,099	\$13,713,429	\$146,508,670
07/01/2023 - 06/30/2024	\$172,701,080	\$14,372,577	\$158,328,504
07/01/2024 - 06/30/2025	\$186,122,850	\$15,116,115	\$171,006,735
07/01/2025 - 06/30/2026	\$201,013,382	\$15,949,440	\$185,063,941

## 12. Valuation Data

### Summary Statistics – Actives

	Number of Employees Costed	Percentage of Total	Average Past Service	Average Attained Age
<b>Males</b>	21,857	46.2%	9.3	45.8
<b>Females</b>	25,413	53.8%	8.5	45.1
<b>TOTAL</b>	47,270	100.0%	8.9	45.4

### Age Distribution – Retirees, Widows and Disableds

Age	Medical		All Retirees
	Single	Family	
<50	44	22	66
50-54	156	151	307
55-59	434	378	812
60-64	1,478	763	2,241
65-69	4,175	7	4,182
70-74	3,849	7	3,856
75-79	2,780	4	2,784
80-84	1,754	3	1,757
85+	1,494	1	1,495
<b>Total</b>	16,164	1,336	17,500

## 12. Valuation Data (cont.)

### Active Age - Service Distribution

Shown below is the distribution of active participants based on age and service as of the valuation date.

Age	Years of Service As Of 7/1/2016									Total
	00-04	05-09	10-14	15-19	20-24	25-29	30-34	35-39	40+	
Under 25	1,188	48	0	0	0	0	0	0	0	1,236
25 - 29	3,646	642	34	0	0	0	0	0	0	4,322
30 - 34	4,032	1,415	436	33	0	0	0	0	0	5,916
35 - 39	3,341	1,586	747	325	21	1	0	0	0	6,021
40 - 44	2,377	1,632	943	586	163	8	1	1	0	5,711
45 - 49	2,046	1,392	1,044	848	492	185	7	0	0	6,014
50 - 54	1,812	1,219	911	928	615	455	133	3	0	6,076
55 - 59	1,437	1,087	877	876	684	550	241	53	1	5,806
60 - 64	824	806	597	587	459	401	224	77	12	3,987
65 - 69	259	336	278	218	189	172	96	58	13	1,619
70 & Up	78	82	87	105	65	55	22	27	41	562
<b>Totals</b>	<b>21,040</b>	<b>10,245</b>	<b>5,954</b>	<b>4,506</b>	<b>2,688</b>	<b>1,827</b>	<b>724</b>	<b>219</b>	<b>67</b>	<b>47,270</b>

The following table shows averages in total for active participants in this valuation.

Averages	Amount
Age:	45.41
Service:	8.87

## 13. Summary of Principal Plan Provisions

### General Eligibility Rules

Former employees and beneficiaries satisfy retirement under any one of the following conditions:

- (1) Disabled with at least 10 years of service,
- (2) Retire at age 60 with at least 10 years of service,
- (3) Retire with 25 years of service, regardless of age if hired before November 1, 2002, or
- (4) Retire with 30 years of service, regardless of age if hired after November 1, 2002.

### Medical and Drug Benefits Covered

Eligible pre-65 retirees are generally have a choice of a POS, HDHP, and two HMOs

Plan Type	POS		HDHP		BCBS HMO	Kaiser HMO
	In	Out	In	Out		
(1) Deductible	\$500	\$1,500	\$1,500	\$3,000	\$0	\$0
(2) Coinsurance	90%	60%	80%	60%	100%	100%
(3) Copayment	\$20	\$0	N/A	N/A	\$30	\$20
(4) Out-Of-Pocket Limit	\$2,350	\$4,850	\$3,500	\$7,000	\$6,600	\$6,350

### Employee Costs

The chart below shows the calendar year 2016 monthly retiree cost of medical and drug:

	POS	HDHP	BCBS HMO	Kaiser HMO
Pre Medicare				
(a) Individual	\$173.00	\$74.00	\$188.00	\$149.00
(b) Retiree Plus Spouse	\$362.00	\$153.00	\$393.00	\$312.00

### Spouse's Covered

Spouses' of retirees, spouses of active employees eligible for retirement, or surviving spouses' of retirees of the Board of Regents who meet the above conditions may elect medical coverage.

### Life

Retirees receive a \$25,000 life insurance benefit.

## 14. Valuation Methods and Assumptions

### Cost Method

Projected Unit Credit cost method was used.

### Amortization Method

Past service liability is amortized over a closed 30 year period, as a percent of payroll.

### Asset Method

Fair Value.

### Employees Included in the Calculations

All employees who meet retirement or disability eligibility may participate in the Board's medical plan. 80% of all employees (regardless of current medical coverage) are assumed to elect medical coverage, and 100% are assumed to elect life insurance coverage.

### Future Medical Plan Election

Future retirees who elect medical coverage are expected to elect between available options as follows.

	POS	HDHP	BCBS HMO	Kaiser HMO
Pre Medicare	63%	15%	16%	6%

### Marital Status and Age of Spouse

The following marriage, family coverage and spouse's age difference assumption have been made for active participants:

	Male	Female
(1) Elect Spouse Coverage	61%	61%
(2) Spouse Age Difference	3 years younger	3 years older

### Interest Discounting and Salary Growth

(1) Interest Rate	4.50%
(2) General Inflation	2.50%
(3) Salary Growth	3.00%
(4) Salary Scale	4.00%

## 14. Valuation Methods and Assumptions (cont.)

### Claims

The chart below shows the blended medical and drug claim level per person including retention costs used for the 12-month period beginning July 1, 2015. All Medicare eligible retirees now receive coverage through the exchange. A flat dollar subsidy of, \$2,736 per eligible member is valued for these retirees. In addition, the plan is assumed an annual holding amount of \$750,000 for catastrophic pharmacy claims.

(1) Individual Coverage	
(a) Age 52	\$7,181
(b) Age 57	\$8,781
(c) Age 62	\$10,669

### Trend Assumptions

The chart below shows the assumed trend of our base calculation. Sensitivity calculations add 1.00% to the rates below. The HRA contribution is assumed to stay flat in 2017 and increase at a rate of 4.5% annually thereafter.

	Pre 65 Claims
07/01/2016 – 06/30/2017	7.50%
07/01/2017 – 06/30/2018	7.30%
07/01/2018 – 06/30/2019	7.10%
07/01/2019 – 06/30/2020	6.90%
07/01/2020 – 06/30/2021	6.70%
07/01/2021 – 06/30/2022	6.40%
07/01/2022 – 06/30/2023	6.20%
07/01/2023 – 06/30/2024	6.10%
07/01/2024 – 06/30/2025	6.00%
07/01/2025 – 06/30/2026	5.60%
07/01/2026 – 06/30/2027	5.40%
07/01/2027 – 06/30/2028	5.30%
07/01/2028 – 06/30/2029	4.90%
07/01/2029 – 06/30/2030	4.70%
Ultimate	4.50%

## 14. Valuation Methods and Assumptions (cont.)

### Decrement Assumptions

Below is a summary of decrements used in this valuation. Sample Retirement, Disability, and Termination rates are illustrated in the tables below.

<b>Mortality Decrements</b>	<b>Description</b>
(1) Healthy	RP-2014 Mortality Table with Generational Improvements by Scale MP- 2014
(2) Disabled	1983 Group annuity Mortality Table for males and females, loaded 10%

<b>Retirement Rates</b>	
<b>Attained Age</b>	<b>Rate</b>
50 – 54	2.5%
55 – 59	5.0%
60	20.0%
61	15.0%
62	40.0%
63 – 64	20.0%
65	80.0%
66 – 74	10.0%
75+	100.0%

<b>Withdrawal Rates (based on year of Service)</b>				
<b>Attained Age</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3+</b>
20	0.5969	0.3582	0.2388	0.1194
25	0.5812	0.3487	0.2325	0.1162
30	0.5605	0.3363	0.2242	0.1121
35	0.5277	0.3166	0.2111	0.1055
40	0.4698	0.2819	0.1879	0.0940
45	0.3772	0.2263	0.1509	0.0754
50	0.2417	0.1450	0.0967	0.0483
55	0.0863	0.0518	0.0345	0.0173
60	0.0081	0.0048	0.0032	0.0016

## 14. Valuation Methods and Assumptions (cont.)

### Decrement Assumptions (cont.)

Disability Incidence		
Attained Age	Male	Female
20	0.0007	0.0008
25	0.0007	0.0008
30	0.0007	0.0008
35	0.0007	0.0008
40	0.0011	0.0018
45	0.0019	0.0027
50	0.0035	0.0036
55	0.0066	0.0053
60	0.0101	0.0072
65	0.0133	0.0090

### Changes in assumptions since prior valuation

Expected claims costs were updated to reflect actual claims experience. Trend was reset based on current conditions.

## 15. Glossary

### **Accrual Accounting**

An accounting method that recognizes the cost of benefits when they are earned.

### **Actuarial Accrued Liability**

The present value of benefits attributable to current service.

### **Amortization**

The gradual elimination of past liability in regular payments, which include principal and interest, over a period of time.

### **Annual OPEB Cost**

The employer's periodic expense on an accrual-basis.

### **Annual Required Contributions**

The sum of the past service amortization payment and the current annual normal cost that if contributed to the plan would result in no OPEB Obligation for that year.

### **Entry Age Actuarial Cost Method**

A method under which the present value of future benefit of each plan participant is distributed based on service or earnings between entry age and assumed exit age.

### **Net OPEB Obligation**

The cumulative difference between past Annual OPEB Cost and past employer contributions

### **Normal Cost**

The amount of plan benefits and expenses that is allocated to a valuation year, based on a cost method.

### **Pay As You Go Expensing**

An accounting method that recognizes the cost of benefits when they are paid.

### **Projected Unit Credit Actuarial Cost Method**

A method under which the present value of future benefit of each plan participant is distributed based on service or earnings between entry age and assumed exit age.