



**Cavanaugh Macdonald**  
CONSULTING, LLC

*The experience and dedication you deserve*



**Alabama Public Education Employees'  
Health Insurance Plan  
Report of Actuary on the Retiree Health Care  
Valuation**

**Prepared as of September 30, 2016**





# Cavanaugh Macdonald

CONSULTING, LLC

*The experience and dedication you deserve*

August 28, 2017

Retirement Systems of Alabama  
P.O. Box 302150  
Montgomery, AL 36130-2150

Members of the Board:

We have submitted the results of the annual actuarial valuation of the Alabama Public Education Employees' Health Insurance Plan (PEEHIP) prepared as of September 30, 2016. While not verifying the data at source, the actuary performed tests for consistency and reasonability. The valuation indicates that an actuarially determined contribution of \$566,236,711 or 8.80% of active payroll payable for the fiscal year ending September 30, 2019 is required to fund the benefits of the PEEHIP. Although separate reports will be prepared to provide accounting information under Governmental Accounting Standards Board Statements No. 74 and 75 when applicable, the actuarial cost method used to determine the actuarially determined contribution has been changed to the entry age normal method to comply with GASB 74 and 75 parameters.

Since the previous valuation, various assumptions have been revised to reflect the results of the TRS experience investigation for the five-year period ending September 30, 2015. In addition, the spouse participation rate and the tobacco use rate have been updated.

On June 2, 2015, GASB Statement No. 74 and GASB Statement No. 75 (GASB 74 and 75) were unanimously adopted by the GASB Board. The disclosure requirements of GASB 74 and 75 will be similar to the disclosure requirements for pension benefits under GASB Statement No. 67 and GASB Statement No. 68. GASB 74 relates to accounting disclosures for plan sponsors and, as such, replaces GASB 43 beginning with fiscal years ending September 30, 2017. GASB 75 relates to accounting disclosures for contributing employers and, as such, replaces GASB 45 beginning with fiscal years ending September 30, 2018. GASB 74 and 75 will require applicable OPEB plan sponsors and contributing employers to disclose the net OPEB liability on the statement of financial position and book an accounting expense based upon the entry age normal actuarial cost method. Beyond the use of a specified actuarial cost method, GASB's new disclosure standards will also require the discount rate used to calculate liabilities to be based upon the yield of 20-year, tax-exempt municipal bonds and the expected rate of return on plan assets, to the extent plan assets are projected to be available for the payment of future benefits. Additionally, GASB 74 and 75 will bring about many other changes in the liability valuation and accounting disclosure processes currently in place which are expected to significantly impact data collection, timing, and effort. As details for the new GASB OPEB disclosure standards emerge, planning and coordination between plan sponsors, contributing employers, actuaries, and auditors is recommended.

The promised medical and drug benefits of the Plan, as well as the Optional Plans, are included in the actuarially determined contribution rates which are developed using the entry age normal actuarial cost method. The discount rate used to value a plan is based on the likely return of the assets held in trust to pay benefits. The Alabama Retired Education Employees' Health Care Trust had \$1,240,200,000 in assets as of the valuation date. The discount rate used in the valuation remains 5.00%. To determine the Single Equivalent Interest Rate (SEIR) to be used in GASB 74 and 75 disclosures, we will determine the single rate that will generate a present value of benefit payments equal to the sum of the present value determined by discounting all projected benefit payments through the date of projected asset depletion by the long term expected rate of return, and the present value determined by discounting those benefits after the date of projected asset depletion by a 20-year tax-exempt municipal bond (rating AA/Aa or higher) rate. The 20-year tax-exempt municipal bond rate will not be known until the financial disclosure date.



August 28, 2017  
Members of the Board  
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Gains and losses are reflected in the unfunded accrued liability that is assumed amortized by regular annual contributions as a level percentage of payroll within a 25-year closed period, on the assumption that payroll will increase by 3.125% annually. The assumptions recommended by the actuary are, in the aggregate, reasonably related to the experience under the Plan and to reasonable expectations of anticipated experience under the Plan.

The impact of the Affordable Care Act (ACA) was addressed in this valuation. Review of the information currently available did not identify any specific provisions of the ACA that are anticipated to significantly impact results. While the impact of certain provisions such as the excise tax on high-value health insurance plans beginning in 2020 (if applicable), mandated benefits and participation changes due to the individual mandate should be recognized in the determination of liabilities, overall future plan costs and the resulting liabilities are driven by amounts employers and retirees can afford (i.e., trend). The trend assumption forecasts the anticipated increase to initial per capita costs, taking into account health care cost inflation, increases in benefit utilization, plan changes, government-mandated benefits, and technological advances. Given the uncertainty regarding the ACA's implementation (e.g., the impact of excise tax on high-value health insurance plans, changes in participation resulting from the implementation of state-based health insurance exchanges), continued monitoring of the ACA's impact on the Plan's liability will be required. Plan design changes mandated by the ACA and incorporated in the 2016 plan designs are included in the current baseline claims costs.

This is to certify that the independent consulting actuaries are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. We certify that we have experience in performing valuations for public retirement systems, that the valuation was prepared in accordance with principles of practice prescribed by the Actuarial Standards Board, and that the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the medical plans and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the Plan.

Future actuarial results may differ significantly from the current results 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 or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

In our opinion, if the required contributions to the Trust Fund are made by the employer from year to year in the future at the levels required on the basis of the successive actuarial valuations, the current assets and future anticipated contributions are in our opinion sufficient to meet all the benefit obligations of the Plan for current active and retired members.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read 'Alisa Bennett'.

Alisa Bennett, FSA, EA, MAAA, FCA  
Principal and Consulting Actuary

A handwritten signature in blue ink, appearing to read 'Edward Macdonald'.

Edward A. Macdonald, ASA, FCA, MAAA  
President



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**ALABAMA PUBLIC EDUCATION EMPLOYEES'  
HEALTH INSURANCE PLAN (PEEHIP)  
REPORT OF ACTUARY ON THE RETIREE HEALTH CARE VALUATION  
PREPARED AS OF SEPTEMBER 30, 2016**

**SECTION I - SUMMARY OF PRINCIPAL RESULTS**

1. For convenience of reference, the principal results of the valuation are summarized below, along with the previous year's results.

Valuation Date	September 30, 2016	September 30, 2015
Number of active members*	136,731	135,986
Number of DROP participants	0	699
Number of retired members**	83,626	80,892
Number electing family coverage**	25,692	25,116
Number of survivors**	1,842	1,864
Total	247,891	244,557
Annual salaries	\$ 6,430,999,445	\$ 6,350,785,964
Assets:		
Market value	\$ 1,240,200,000	\$ 1,154,392,000
Unfunded actuarial accrued liability	\$ 6,679,552,285	\$ 6,308,541,874
Actuarial Cost Method	Entry Age Normal	Entry Age Normal
Amortization period (years)	25	26
<b>Contribution for fiscal year ending:</b>	<b>September 30, 2019</b>	<b>September 30, 2018</b>
Actuarially Determined Contribution (ADC):		
Normal	\$ 237,346,035	\$ 219,346,336
Accrued Liability	328,890,676	296,996,449
Total	\$ 566,236,711	\$ 516,342,785
Actuarially Determined Contribution as a Percent of Payroll	8.80%	8.13%
Discount Rate	5.00%	5.00%
Payroll Growth	3.125%	3.25%

\* Number matches pension report for active participants and is before the application of the participation assumption and removal of members in units not eligible for PEEHIP.

\*\* Based on actual health care census data provided by PEEHIP.

2. The valuation indicates contributions of \$566,236,711 or 8.80% of active payroll are sufficient to support the current benefits of the Plan. Comments on the valuation results as of September 30, 2016 are given in Section IV and further discussion of the contribution levels is set out in Sections V and VI.



3. As of September 30, 2016, the assets of the Plan in the Alabama Retired Education Employees' Health Care Trust totals \$1,240,200,000. The discount rate used in the valuation remains 5.00%. The assumed rate of payroll growth is 3.125%.
4. This valuation reflects the changes to various assumptions based on the results of the TRS experience investigation for the five-year period ending September 30, 2015, changes to surviving spouse premiums, an update to the spouse participation rate, and an update to the tobacco usage rate. The table below outlines the changes due to the experience investigation. Other assumption changes are shown in Schedule C.

Summary of Recommended Assumptions	
<b>Economic Assumptions</b>	
<b>Price Inflation</b>	Changed from 3.00% to 2.875% on September 30, 2016. Change to 2.75% on September 30, 2017.
<b>Wage Inflation</b>	Changed from 3.25% to 3.125% on September 30, 2016. Change to 3.00% on September 30, 2017.
<b>Payroll Growth</b>	Changed from 3.25% to 3.125% on September 30, 2016. Change to 3.00% on September 30, 2017.
<b>Demographic Assumptions</b>	
<b>Withdrawal</b>	Changed assumed rates.
<b>Retirement</b>	Changed assumed rates.
<b>Mortality</b>	Changed assumed rates.
<b>Disability</b>	Changed assumed rates.
<b>Merit/Promotion Scale</b>	Changed assumed rates.

5. Schedule A provides an example of the decrease in the liabilities that could be accomplished if the Plan is fully pre-funded. Results at a 7.00% discount rate are shown for illustrative purposes.
6. Schedule C details the actuarial assumptions and methods employed. Schedule D provides a summary of the benefit and contribution provisions of the plan.
7. Claims were updated to reflect the most recent claims information available for pre-65 retirees. Claims for post-65 medical and prescription drug benefits are based on the MAPD plan, with an assumption for the Health Insurer Fee in 2018. See Schedule C of the report.
8. The Health Plan was changed in 2017 to reflect the ACA maximum annual out-of-pocket amounts.



## SECTION II - MEMBERSHIP DATA

Data regarding the membership and recent claims and enrollment experience of the Plan for use as a basis of the valuation were furnished by the Retirement System office. Pension data was used for active participants with a post-employment health plan participation assumption applied. Data for current retired members with their medical, dental, cancer, indemnity and vision elections were supplied separately from the pension data.

### Active members as of September 30, 2016\*

Age/Svc	<1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35+	Total
<25	1,120	1,331	4							2,455
25-29	1,417	7,997	1,501	11						10,926
30-34	1,082	5,404	5,541	1,947	14					13,988
35-39	1,113	4,616	3,688	6,336	1,365	8				17,126
40-44	741	3,923	3,301	4,234	5,168	1,150	6			18,523
45-49	625	3,490	3,280	4,060	4,073	4,658	868	15		21,069
50-54	468	2,554	2,596	3,627	3,495	3,012	2,385	412	12	18,561
55-59	330	2,013	2,134	3,013	3,329	3,055	1,904	1,023	393	17,194
60-64	195	1,707	1,468	1,882	1,940	1,960	1,380	366	245	11,143
65-69	77	693	840	756	542	532	385	101	46	3,972
70+	30	287	407	384	254	185	147	41	39	1,774
<b>Total</b>	<b>7,198</b>	<b>34,015</b>	<b>24,760</b>	<b>26,250</b>	<b>20,180</b>	<b>14,560</b>	<b>7,075</b>	<b>1,958</b>	<b>735</b>	<b>136,731</b>

\* Numbers match pension report for active participants and is before the application of the participation assumption and removal of members in units not eligible for PEEHIP.

### Retirees, Spouses and Survivors

Category	Retirees	Spouses*	Survivors	Total
No Coverage	7,780	0	0	7,780
Optional Plan Only	8,730	0	377	9,107
Medical Plan Under Age 65	18,413	9,058	116	27,587
Medical Plan Age 65 & Older	<u>48,703</u>	<u>16,634</u>	<u>1,349</u>	<u>66,686</u>
<b>Total</b>	<b>83,626</b>	<b>25,692</b>	<b>1,842</b>	<b>111,160</b>

\* In addition, 870 retirees elected family coverage but have no spouse.



### **SECTION III - ASSETS**

Schedule B shows information regarding assets for valuation purposes. As of September 30, 2016, plan assets held in trust solely to provide benefits to retirees and their beneficiaries in accordance with the terms of the plan totaled \$1,240,200,000. This valuation was based on an assumed discount rate of 5.00%. Schedule A provides an example of the decrease in the liabilities that could be accomplished if the Plan is fully pre-funded. Results at a 7.00% discount rate are shown for illustrative purposes.

### **SECTION IV - COMMENTS ON VALUATION**

1. Schedule A of this report outlines the results of the actuarial valuation. The results are shown based on a discount rate of 5.00% and also at 7.00%. The valuation was prepared in accordance with the actuarial assumptions and the actuarial cost method, which are described in Schedule C. The Summary of Main Plan Provisions is presented in Schedule D.
2. The valuation shows that the Plan has an actuarial accrued liability of \$4,504,854,213 for benefits expected to be paid on account of the present active membership, based on service to the valuation date. The liability on account of benefits payable to retirees, covered spouses and survivors amounts to \$3,414,898,072. The total actuarial accrued liability of the Plan amounts to \$7,919,752,285. Against these liabilities, the Plan has present assets for valuation purposes of \$1,240,200,000. Therefore, the unfunded actuarial accrued liability is equal to \$6,679,552,285.
3. The normal contribution is equal to the actuarial present value of benefits accruing during the current year. The normal contribution is determined to be \$237,346,035.





**SECTION V - CONTRIBUTIONS PAYABLE UNDER THE PLAN**

**ACTUARIALLY DETERMINED CONTRIBUTION  
For Fiscal Year Ending September 30, 2019**

<b>Actuarially Determined Contribution (ADC)</b>	
Normal	\$ 237,346,035
Accrued Liability	<u>328,890,676</u>
Total	\$ 566,236,711

1. The valuation indicates that a normal contribution of \$237,346,035 is required to meet the cost of benefits currently accruing.
2. The unfunded actuarial accrued liability amounts to \$6,679,552,285 as of the valuation date. An accrued liability contribution of \$328,890,676 is sufficient to amortize the unfunded actuarial accrued liability over a 25-year period, based on a 5.00% investment rate of return and the assumption that the payroll will increase by 3.125% annually.
3. The total actuarially determined contribution is, therefore, \$566,236,711 or 8.80% of total active payroll.



## **SECTION VI - COMMENTS ON LEVEL OF FUNDING**

1. The monthly contribution for retirees to opt into the medical plan is based on plan election, dependent coverage, Medicare eligibility and election, tobacco use, wellness credit and spousal surcharge. Plan costs are determined for valuation purposes considering claims costs net of member premiums paid. For members retiring October 1, 2005 or after, a Retiree Sliding Scale premium based on years of service is applicable. For members retiring on or after January 1, 2012, Act 2011-704 establishes changes to the sliding scale premium calculation.
2. The valuation indicates that an increase in the recommended employer contribution rate from last valuation's recommended rate of 8.13% of payroll to 8.80% is required to fund the plan. This corresponds to a state contribution of \$566,236,711 required to meet the cost of benefits currently accruing and provide for the amortization of the unfunded actuarial accrued liability over a period of 25 years. The major cause of the increase is the updated assumptions from the TRS experience investigation. Claims experience was analyzed using actual fiscal year 2016 data together with the Medicare Advantage with Prescription Drug (MAPD) plan premiums.



**SECTION VII - ACCOUNTING INFORMATION**

GASB 43 and 45, and 74 and 75 when applicable, set forth certain items of required supplementary information to be disclosed in the financial statements of the System and the employer. The information presented in the required supplementary schedules was determined as part of the actuarial valuation at September 30, 2016. Additional information as of the latest actuarial valuation follows.

Valuation Date	9/30/2016
Actuarial Cost Method	Entry Age Normal
Amortization Method	Level Percent of Payroll
Remaining Amortization Period	25 years, closed
Asset Valuation Method	Market Value of Assets
Actuarial Assumptions	
Investment Rate of Return*	5.00%
Medical Cost Trend Rate*	
Pre-Medicare	7.75%
Medicare Eligible	5.00%
Ultimate Trend Rate*	
Pre-Medicare	5.00% in 2022
Medicare Eligible	5.00% in 2018
Optional Plans Trend Rate	2.00%

*\*Includes price inflation at 2.875%*

The assumed investment rate of return used to calculate the actuarially determined contribution reflects the fact that as of September 30, 2016 the Plan has \$1,240,200,000 in the Alabama Retired Education Employees' Health Care Trust solely to provide benefits to retirees and their beneficiaries. If the Plan starts fully pre-funding benefits, this discount rate may be increased to reflect equity investment the fund may have after full pre-funding begins. GASB's new disclosure standards No. 74 and 75 will require the discount rate used to calculate liabilities to be based upon the yield of 20-year, tax-exempt municipal bonds and the expected rate of return on plan assets, to the extent plan assets are projected to be available for the payment of future benefits.



**SCHEDULE OF FUNDING PROGRESS**

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as a Percentage Covered Payroll ((b - a) / c)
9/30/2010	\$750,384,000	\$11,584,965,113	\$10,834,581,113	6.5%	\$6,183,204,075	175.2%
9/30/2011	777,933,000	9,081,334,485	8,303,401,485	8.6%	6,159,562,266	134.8%
9/30/2012	930,278,000	8,957,153,960	8,026,875,960	10.4%	6,222,316,020	129.0%
9/30/2013	1,074,940,000	8,993,966,963	7,919,026,963	12.0%	6,263,364,496	126.4%
9/30/2014	1,208,401,000	9,523,791,853	8,315,390,853	12.7%	6,335,160,505	131.3%
9/30/2015	1,154,392,000	7,462,933,874	6,308,541,874	15.5%	6,350,785,964	99.3%
9/30/2016	1,240,200,000	7,919,752,285	6,679,552,285	15.7%	6,430,999,445	103.9%

*These measures do not indicate whether or not the Plan would have sufficient assets if it were terminated, nor do they indicate what level of future contributions will be required.*

*The actuarial accrued liability was determined using the projected unit credit cost method prior to the 9/30/2015 valuation and the entry age normal cost method beginning with the 9/30/2015 valuation.*

*The 9/30/2016 valuation reflects the updated assumptions from the TRS experience investigation.*

**SCHEDULE OF EMPLOYER CONTRIBUTIONS  
(Amounts in Thousands)**

Valuation Date	Fiscal Year	Actuarially Determined Contribution	Percent Contributed
09/30/2008	2011	\$1,006,034	29.9%
09/30/2009	2012	864,503	38.6%
09/30/2010	2013	814,622	42.0%
09/30/2011	2014	689,427	48.5%
09/30/2012	2015	678,314	40.1%
09/30/2013	2016	669,569	45.7%

**SCHEDULE A****RESULTS OF THE VALUATION  
AND THE BENEFITS OF ADVANCE FUNDING  
PREPARED AS OF SEPTEMBER 30, 2016**

	<b>5.00% Discount Rate (Current Funding Level)</b>	<b>7.00% Discount Rate (Contribute Full ADC Annually)</b>
<b>1. PAYROLL</b>	\$ 6,430,999,445	\$ 6,430,999,445
<b>2. ACTUARIAL ACCRUED LIABILITY</b> Present value of prospective benefits payable in respect of:		
(a) Present active members:	\$ 4,504,854,213	\$ 3,170,392,155
(b) Present retired members and surviving spouses:	<u>3,414,898,072</u>	<u>2,772,350,763</u>
(c) Total actuarial accrued liability	\$ 7,919,752,285	\$ 5,942,742,918
<b>3. PRESENT ASSETS FOR VALUATION PURPOSES</b>	\$ 1,240,200,000	\$ 1,240,200,000
<b>4. UNFUNDED ACTUARIAL ACCRUED LIABILITY [(2)(C) minus (3)]</b>	\$6,679,552,285	\$ 4,702,542,918
<b>5. AMORTIZATION PERIOD</b>	25	25
<b>6. NORMAL CONTRIBUTION</b>	\$ 237,346,035	\$ 137,355,359
<b>7. ACCRUED LIABILITY CONTRIBUTION</b>	<u>328,890,676</u>	<u>282,731,479</u>
<b>8. TOTAL CONTRIBUTION (6) + (7)</b>	\$ 566,236,711	\$ 420,086,838
<b>9. TOTAL CONTRIBUTION AS A PERCENT OF PAYROLL (8) ÷ (1)</b>	8.80%	6.53%



### GAIN/LOSS

Actual experience will never (except by coincidence) coincide exactly with assumed experience. It is assumed that gains and losses will be in balance over a period of years, but sizable year to year fluctuations are common. Detail on the derivation of the gain (loss) for the year ended September 30, 2016 is shown below.

Gain/Loss		
1.	<b>UNFUNDED ACCRUED LIABILITY (UAL) 9/30/2015</b>	\$ 6,308,541,874
2.	<b>NORMAL COST 9/30/2015</b>	219,346,336
3.	<b>ACTUAL EMPLOYER CONTRIBUTIONS</b>	305,865,000
4.	<b>INTEREST ACCRUAL</b> (1) X .05 + [(2) - (3)] X .025	<u>313,264,127</u>
5.	<b>EXPECTED UAL 9/30/2016</b> (1) + (2) - (3) + (4)	\$ 6,535,287,337
6.	<b>CHANGE DUE CLAIMS AND RETIREE PREMIUM EXPERIENCE AND TREND</b>	58,555,701
7.	<b>CHANGE DUE TO DECREMENTAL CHANGES</b>	246,461,850
8.	<b>CHANGE DUE TO SPOUSE PARTICIPATION CHANGE</b>	(71,745,892)
9.	<b>CHANGE DUE TO TOBACCO USAGE CHANGE</b>	<u>39,336,694</u>
10.	<b>EXPECTED UAL 9/30/2016 AFTER CHANGES</b> (5) + (6) + (7) + (8) + (9)	\$ 6,807,895,690
11.	<b>ACTUAL UAL AS OF 9/30/2016</b>	\$ 6,679,552,285
12.	<b>EXPERIENCE (GAIN)/LOSS</b> (10) - (11)	\$ (128,343,405)
13.	<b>(GAIN)/LOSS AS % OF ACCRUED LIABILITY AT 9/30/2015</b>	(1.72)%



**EXPERIENCE (GAIN)/ LOSS BY SOURCE  
FOR THE YEAR ENDING SEPTEMBER 30, 2016**  
(Dollar amounts in thousands)

<b>SOURCE</b>	<b>Total</b>	<b>% of 9/30/2015 Actuarial Accrued Liability</b>
<b>Age and Service Retirements.</b> Generally, earlier retirements cause losses and later retirements cause gains.	\$ 6,157	0.08%
<b>Withdrawal.</b> More withdrawals than expected usually cause gains and less withdrawals than expected cause losses.	13,607	0.18%
<b>Disability Retirements.</b> More disabilities receiving health benefits than expected generally cause losses and less disabilities receiving health benefits than expected cause gains.	(3,818)	(0.05)%
<b>Death-In-Service Benefits.</b> If survivor claims are less than assumed, there is a gain. If claims are more than assumed, there is a loss.	3,691	0.05%
<b>New Members/Rehires.</b> Any past service causes losses, however pre-Medicare retirees returning to active service can cause a gain.	1,564	0.02%
<b>Retiree Mortality.</b> More deaths than expected cause gains, less than expected cause losses.	(2,127)	(0.03)%
<b>DROP members.</b> Fewer DROP members electing medical coverage than expected cause gains.	(16,420)	(0.22)%
<b>Retirees dropping coverage.</b> Retirees are expected to continue their coverage. When retirees drop their medical coverage, gains occur.	(27,882)	(0.37)%
<b>Spouses dropping coverage.</b> Retirees who cover their spouses are expected to continue this coverage. When retirees drop their spouse's medical coverage, gains occur.	(29,616)	(0.40)%
<b>Investment Return.</b> Investment income greater than expected causes gains while investment income less than expected cause losses.	(62,435)	(0.84)%
<b>Other.</b> Miscellaneous gains and losses resulting from data corrections, timing of financial transactions, actual benefit payments and premiums different from expected, rounding of age and service for sliding scale calculations, changes in valuation software, etc.	(11,064)	(0.14)%
<b>Total (Gain)/Loss</b>	\$ (128,343)	(1.72)%



## SCHEDULE B

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### PLAN ASSETS

Plan assets are resources, usually in the form of stocks, bonds, and other classes of investments, that have been segregated and restricted in a trust, or equivalent arrangement, in which (a) employer contributions to the plan are irrevocable, (b) assets are dedicated to providing benefits to retirees and their beneficiaries, and (c) assets are legally protected from creditors of the employers or plan administrator, for the payment of benefits in accordance with the terms of the plan. The Alabama Retired Education Employees' Health Care Trust has been established and, as of the valuation date, the market value of assets amounted to \$1,240,200,000. The development of the market value of assets is shown in the following table.

#### Market Value of Assets as of September 30, 2016

(Amounts in Thousands)

Asset Summary Based on Market Value	
Market Value September 30, 2015	\$ 1,154,392
Contributions	486,431
Benefits, Fees and Assessments	<u>(519,940)</u>
Cash flow	\$ (33,509)
Investment Income	<u>119,317</u>
Market Value September 30, 2016	\$ 1,240,200





**SCHEDULE C**

**OUTLINE OF ACTUARIAL ASSUMPTIONS AND METHODS**

The decremental assumptions used in the valuation were selected based on the actuarial experience study prepared as of September 30, 2015, submitted to and adopted by the Teachers' Retirement System of Alabama Board on September 13, 2016, and are reasonable expectations of anticipated experience under the Plan. The assumptions were used in the retiree health care valuation for consistency and are under PEEHIP Board jurisdiction.

**VALUATION DATE:** September 30, 2016

**DISCOUNT RATE:** 5.00% per annum, compounded annually.

**PAYROLL GROWTH:** 3.125% per annum, compounded annually. Will be 3.0% starting with the September 30, 2017 valuation.

**HEALTH CARE COST TREND RATES:** Health care cost trend rates reflect the change in per capita health costs over time due to factors such as inflation, utilization, plan design, and technology improvements which are detailed in the "Annual Increase in Medical/Prescription Drug/Optional Plan Costs" below.

Annual Increase in Medical/Prescription Drug/Optional Plan Costs			
Year	Pre-Medicare Medical Trend*	Medicare-Eligible Medical Trend*	Optional Plans Trend
2016	7.75%	**	2.0%
2017	7.00%	**	2.0%
2018	6.50%	5.00%	2.0%
2019	6.00%	5.00%	2.0%
2020	5.50%	5.00%	2.0%
2021	5.25%	5.00%	2.0%
2022	5.00%	5.00%	2.0%

\* Also applies to sliding scale age and years of service premium to be contributed by retirees, surviving dependent contributions, University Contributions and the PEEHIP Supplemental Plan cost.

\*\* No trend is applied to the MAPD until 2018 because the rates are guaranteed through 2018.

The "Annual Increase in Base Contributions Received from Covered Members" details how the expected increase in the amounts contributed from covered retirees and dependents will increase over time. The trend rates are detailed below and apply to the base rate retiree premiums only. The sliding scale premiums are assumed to increase with health care trend. The premiums for surviving dependents are assumed to approximate the assumed claims cost over time.

Annual Increase in Base Contributions Received from Covered Members	
Retiree Share of Premium	Retiree Optional Plans Premium
2.0%	2.0%



**AGE RELATED MORBIDITY:** Per capita costs are adjusted to reflect expected cost changes related to age. The increase to the net incurred claims was assumed to be:

Participant Age	Annual Increase*
< 40	0.0%
40 – 44	2.6%
45 – 49	2.6%
50 – 54	3.2%
55 – 59	3.4%
60 - 64	3.7%
65 – 69	3.2%
70 – 74	2.4%
75 – 79	1.8%
80 – 84	1.3%
85 and over	0.0%

*\*Optional and Supplemental Plan costs are not age adjusted.*

**ANTICIPATED PLAN PARTICIPATION:** The assumed annual rates of plan participation and spouse coverage are as follows:

Medical	Under 65	Over 65
Disabled Retirement*	100%	n/a
Service Retirement	80%	80%
Spouse Coverage	50%	50%

*\* 100% of current disabled retirees and future disabled retirees who are not also eligible for service retirement are assumed to qualify for Social Security Disability benefits and thus would be exempt from sliding scale contributions.*

Optional Plans	
Plan	Participation
Hospital Indemnity	10%
Dental	40%
Cancer	10%
Vision	10%

Wives are assumed to be three years younger than husbands.

We assume 15% of males and 10% of females pay the \$50 monthly tobacco surcharge. This applies to both retirees and spouses.

We assume 100% of the spouses of current and future will pay the spouse surcharge.

We assume 100% of pre-Medicare eligible retirees and covered spouses will qualify for the wellness credit.



**ANNUAL EXPECTED MEDICAL/PRESCRIPTION DRUGS CLAIMS (AGE 65):** Following is a chart detailing expected per member per year medical/prescription drugs claims for pre-65 members for the year following the valuation date. Post-65 claims are based on the adjusted premium rate for the MAPD plan. Claims are age-adjusted to age 65.

Medical/Prescription Drugs	
Pre-65	\$11,056
Post-65	\$2,208

**ANNUAL EXPECTED OPTIONAL PLAN CLAIMS:** Following is a chart detailing expected Optional Plan claims for the year following the valuation date. Optional Plan claims are not age-adjusted.

Dental Plan	Vision Plan	Cancer Plan	Hospital Indemnity Plan
\$514	\$97	\$159	\$255

**ACTUARIAL METHOD:** Costs were determined using the Entry Age Normal Cost Method. Under this method, the normal cost is determined as a level percentage of payroll which, if applied for the average new member during the entire period of his/her anticipated covered service from hire date through full retirement eligibility date, would be required to meet the cost of all benefits payable on behalf of the member. The unfunded accrued liability is determined by subtracting the present value of future normal costs together with the actuarial value of assets from the present value of expected benefits to be paid by the Plan.

**ASSET VALUATION METHOD:** Market value.



The following decremental assumptions used in the valuation were selected based on the actuarial experience study prepared as of September 30, 2015, submitted to and adopted by the Teachers' Retirement System of Alabama Board on September 13, 2016.

**SEPARATIONS BEFORE SERVICE RETIREMENT:** Representative values of the assumed annual rates of death, disability, and withdrawal are as follows:

Age	Annual Rate of						
	Death*	Disability**			Withdrawal***		
		Tier I Years of Service	Tier II Years of Service	Tier II Years of Service	Years of Service		
	10-24	25+	10+	0-4	5-9	10-19	20+
<b>Male</b>							
20	0.0293%	0.0008%		0.0008%	25.00%		
25	0.0319	0.0250		0.0250	14.80	11.00%	
30	0.0376	0.0425		0.0425	13.80	5.40	3.50%
35	0.0655	0.1300		0.1300	13.50	5.40	2.50
40	0.0914	0.1700		0.1700	13.00	5.40	2.25
45	0.1278	0.2700	0.2000%	0.2700	13.00	5.40	2.25
50	0.1812	0.6000	0.2000	0.6000	12.00	5.00	2.50
55	0.2567	0.9000	0.2000	0.9000	11.50	5.00	2.50
60	0.3815	0.5000	0.5000	1.3000	12.00	4.50	2.50
65	0.5353	0.5000	0.5000	0.5000	12.00	6.00	
69	0.6326	0.5000	0.5000	0.5000	12.00	6.25	
<b>Female</b>							
20	0.0108%	0.0100%		0.0100%	25.00%		
25	0.0117	0.0275		0.0275	12.75	9.00%	
30	0.0149	0.0425		0.0425	13.50	5.80	4.30%
35	0.0268	0.1000		0.1000	13.50	5.00	2.60
40	0.0399	0.2000		0.2000	11.50	4.75	2.00
45	0.0635	0.3500	0.2000%	0.3500	10.75	4.10	2.00
50	0.0947	0.6500	0.2000	0.6500	10.75	3.90	2.20
55	0.1371	1.0500	0.2000	1.0500	11.00	4.20	2.40
60	0.1929	0.5000	0.5000	1.4000	12.00	4.50	2.70
65	0.2743	0.5000	0.5000	0.5000	15.00	6.75	
69	0.3435	0.5000	0.5000	0.5000	15.00	7.25	

\*Rates of pre-retirement mortality are according to the sex distinct RP-2000 Employee Mortality Table (with the sex distinct RP-2000 Combined Mortality Table used for ages over 70) projected with Scale BB to 2020 with an adjustment factor of 90% for males and 60% for females.

\*\*No rates of disability are assumed for members with less than 10 years of service.

\*\*\*No rates of withdrawal are assumed after eligibility for service retirement.



**SERVICE RETIREMENT:**

The assumed annual rates of service retirement for **Tier I** members are as follows:

For Tier I members upon attaining 25 years of service, rates are as follows:

<u>Age Group</u>	<u>Annual Rate</u>	
	<u>Male*</u>	<u>Female**</u>
47 & Under	25.0%	28.0%
48	25.0	20.0
49	20.0	17.0
50	16.5	13.0
51 to 53	16.0	15.0
54	16.0	17.0
55	16.0	18.0
56-57	16.0	19.0
58	16.0	21.0
59	20.0	22.0
60	20.0	30.0
61	20.0	27.5
62	35.0	45.0
63	30.0	35.0
64	23.0	32.0
65	28.0	38.0
66	27.0	40.0
67	22.0	35.0
68	22.0	37.0
69 to 70	22.0	30.0
71-74	20.0	30.0
75	100.0	100.0

*\*For males, retirement rates are increased by 5% in the year first attaining 25 years of service from age 51 through age 60.*

*\*\*For females, retirement rates are increased by 9% in the year first attaining 25 years of service from age 50 through age 59.*



For Tier I members first eligible for unreduced benefits before attaining 25 years of service, the rates are as follows:

<u>Age Group</u>	<u>Annual Rate</u>	
	<u>Male</u>	<u>Female</u>
60	12.5%	17.0%
61	11.0	13.5
62	25.0	23.5
63	18.5	18.0
64	15.0	17.0
65	28.0	28.0
66	27.0	28.0
67	22.0	23.0
68	22.0	27.0
69	22.0	22.0
70	22.0	26.0
71 to 74	20.0	24.0
75 & Above	100.0	100.0

The assumed annual rates of service retirement for **Tier II** members are as follows:

<u>Age Group</u>	<u>Annual Rate</u>			
	<u>Male*</u>		<u>Female**</u>	
	<u>Less than 25 years of service</u>	<u>25 or more years of service</u>	<u>Less than 25 years of service</u>	<u>25 or more years of service</u>
62	50.0%	60.0%	50.0%	70.0%
63	18.5	30.0	18.0	35.0
64	15.0	23.0	17.0	32.0
65	28.0	28.0	28.0	38.0
66	27.0	27.0	28.0	40.0
67	22.0	22.0	23.0	35.0
68	22.0	22.0	27.0	37.0
69	22.0	22.0	22.0	30.0
70	22.0	22.0	26.0	30.0
71 to 74	20.0	20.0	24.0	30.0
75 & above	100.0	100.0	100.0	100.0

\* For FLC Tier II members, rates on or after age 60 are the same as those for Tier I, while rates from ages 56 to 59 are equal to 0.20 for service less than 25 years and 0.30 for service greater than or equal to 25 years.

\*\* For FLC Tier II members, rates on or after age 60 are the same as those for Tier I, while rates from ages 56 to 59 are equal to 0.20 for service less than 25 years and 0.40 for service greater than or equal to 25 years.



**DEATHS AFTER RETIREMENT:** Rates of mortality for the period after service retirement are according to the RP-2000 White Collar Mortality Table projected to 2020 using scale BB and adjusted 115% for all ages for males and 112% for ages 78 and over for females. The rates of disabled mortality were based on the RP-2000 Disabled Mortality Table projected to 2020 using scale BB and adjusted 105% for males and 120% for females. Representative values of assumed mortality are as follows:

<u>Age</u>	<u>Service Retirement</u>		<u>Disability Retirement</u>	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
55	0.3575%	0.2339%	3.5044%	1.7959%
60	0.5579	0.3825	3.8359	2.1434
65	0.9991	0.6795	4.1382	2.6417
70	1.6384	1.1928	4.8570	3.5474
75	2.8589	2.0200	6.3692	4.9231
80	5.0501	3.7900	8.4883	6.8160
85	8.8966	6.5271	10.9897	9.4450
90	16.4327	11.3249	15.4359	13.4706

**SALARY INCREASES:** Representative values of the assumed annual rates of future salary increases are as follows:

<b>Service</b>	<b>Annual Rate</b>	
	2016 Valuation*	2017 Valuation and later**
0	5.125 %	5.000 %
1-5	4.125	4.000
6-10	3.875	3.750
11-15	3.625	3.500
16 & Over	3.375	3.250

\*Includes wage inflation at 3.125% per annum.

\*\*Includes wage inflation at 3.000% per annum.



## SCHEDULE D

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### SUMMARY OF MAIN PLAN PROVISIONS AS INTERPRETED FOR VALUATION PURPOSES

**ELIGIBILITY:** Retiree medical eligibility is attained when an employee retires, and is immediately eligible to draw a retirement annuity from the Teachers' Retirement System of Alabama.

**RETIREE CONTRIBUTIONS:** Retiree contributions vary based on plan election, dependent coverage, Medicare eligibility and election, tobacco usage, spousal surcharge applicability and, for non-Medicare eligible retirees and spouses, wellness credits.

In November 2004, the Alabama Legislature enacted legislation (Act 2004-649) that required the Public Education Employees' Insurance Board to implement a sliding scale premium for all employees retiring after September 30, 2005, based on their years of service at retirement.

The premium for retiree coverage is broken down into the employer share (what PEEHIP pays) and the retiree share. Under the sliding scale, the retiree will still be responsible for the retiree share, however, the employer share will increase or decrease based upon a retiree's years of service. For those employees retiring with 25 years of service, the employer would pay 100% of the employer share of the premium. For each year less than 25, the employer share would be reduced by 2% and the retiree share will be increased accordingly. For each year over 25, the employer share would be increased by 2% and the retiree share is reduced accordingly.

The sliding scale premium will not apply to disability retirements for twenty-four (24) months from the member's date of retirement, provided the member submits to PEEHIP proof of application for Social Security Disability benefits. The exemption from the sliding scale premium can be extended beyond twenty-four (24) months from the member's date of retirement if the member qualifies for Social Security Disability benefits during the twenty-four (24) months following the member's date of retirement.

For members retiring on or after January 1, 2012, Act 2011-704 establishes changes to the sliding scale premium calculation. Under the law there are three major changes to the retiree sliding scale premium. These changes are related to a retiree's years of service (Service Premium Component), age at the time of retirement (Age Component) and subsidy premium (Subsidy Component).

- **Service Premium Component:** An employee who retires with less than 25 years of service will contribute 4% of the employer share for each year under 25 years of service instead of 2% under the current law. The Service Premium Component continues for the retiree's lifetime.
- **Age Component:** An employee who retires before becoming Medicare eligible will contribute 1% of the employer share for each year less than 65. Upon Medicare entitlement, the age component will be removed.
- **Subsidy Component:** An employee will contribute the net difference between the active employee subsidy and the non-Medicare eligible retiree subsidy (subsidy premium). The Fiscal Year 2018 subsidy premium amount is \$172.81 per month. Upon Medicare entitlement, the subsidy component will be removed.

The additional premium amounts for members retiring on or after January 1, 2012 will be phased in over the period ending October 1, 2016. Members retiring after attaining age 65 will be subject to the full 4% of the employer share for each year of service under 25 years of service and will not be eligible for the five-year phase-in.





## Retired Members

The following health insurance premiums are the base rates set by the PEEHIP Board. Base rates are before the wellness premiums, tobacco premiums, or the retiree sliding scale adjustments are applied, if applicable. The monthly premiums for members who retired prior to October 1, 2005, or members who retired on or after October 1, 2005, and before January 1, 2012, with 25 years of service are listed in the chart below and show a retiree's out-of-pocket cost after subtracting the retiree insurance contribution..

Sample Premium Rates 2017-2018 Plan Year			
Type of Contract	*Retiree Monthly Out-of-Pocket Premium	Family Premium with Covered ME Spouse	Family Premium with Covered NME Spouse
Individual Coverage / NME Retired Member	\$166	N/A	N/A
Family Coverage / NME Retired Member & More Than 1 Dependent or Only Dependent NME	\$421	\$451	\$521
Family Coverage/ NME Retired Members & Only Dependent ME	\$280	\$310	N/A
Individual Coverage / ME Retired Member	\$25	N/A	N/A
Family Coverage / ME Retired Member & More Than 1 Dependent or Only Dependent NME	\$280	\$310	\$380
Family Coverage / ME Retired Member & Only Dependent ME	\$139	\$169	N/A

*\* This rate applies to the PEEHIP Hospital Medical or the VIVA Health Plan and is the monthly amount that will be deducted from a retiree's check. The VIVA Health Plan is not available to retired members who are Medicare eligible or retired members who have dependents who are Medicare eligible.*

The premium rates above do not include the \$50 monthly tobacco surcharge for both retirees and their spouses.

Beginning October 1, 2015, a monthly spousal surcharge was added. Effective October 1, 2016, the monthly spousal surcharge was fully phased in and amounts to \$100 for spouses on active contracts and non-Medicare eligible spouses on retired contracts, and \$30 surcharge for Medicare primary spouses on retired contracts. The premiums above include the spousal surcharge.

Retirees participating in the PEEHIP Supplemental Plan were assumed to cost \$145 monthly effective October 1, 2017.

The University System makes a contribution to PEEHIP for every University retiree participating in PEEHIP plans regardless of age or plan tier election. For Fiscal Year 2018, the monthly amount is \$341 per retiree.



The State per member per month funding can be used to purchase the PEEHIP Supplemental Plan or two optional plans at no cost to the retiree if the retiree is not purchasing one of the hospital medical plans. Additional optional plans can be purchased for \$38.00 per month per plan.

**Optional Coverage: Active and Retired Members**

Cancer	\$38.00/month Individual or Family Coverage
Indemnity	\$38.00/month Individual or Family Coverage
Dental	\$38.00/month Individual Coverage \$50.00/month Family Coverage
Vision	\$38.00/month Individual or Family Coverage

Retiree premiums for the four optional plans, Hospital Indemnity, Dental, Cancer and Vision, are \$38 per retiree per month. Since these plans can be purchased for \$0 in lieu of taking the hospital medical coverage, it is assumed that 75% of participants in the Dental plan and 50% of participants in the other optional plans are making the \$38 per month (\$50 for Family Dental) contributions.

**Surviving Dependent**

The following health insurance premiums are the base rates set by law and approved by the PEEHIP Board. Base rates are before wellness and tobacco premiums are applied, if applicable. These rates begin the first of the month following the member's date of death.

Premium Rates 2017-2018 Plan Year	
Type of Contract	Monthly Premium for PEEHIP Hospital Medical or VIVA Health Plan
Individual Coverage/Non-Medicare-eligible (NME) Survivor	\$823
Family Coverage/NME Survivor & More Than 1 Dependent or Only Dependent NME	\$1,066
Family Coverage/NME Survivor & Only Dependent Medicare-eligible (ME)	\$999
Individual Coverage/ME Survivor	\$355
Family Coverage/ME Survivor & More Than 1 Dependent or Only Dependent NME	\$676
Family Coverage/Medicare-eligible Survivor & Only Dependent ME	\$609
Supplemental Medical Plan (Single or Family)	\$145
Optional (Each) – Cancer, Indemnity, Vision, and Single Dental	\$38
Optional – Family Dental Premium	\$50
Tobacco Premium for Survivor Enrolling in Hospital Medical	\$50
Wellness Premium/NME Survivor	\$50



## **NOTABLE PEEHIP CHANGES EFFECTIVE OCTOBER 1, 2017 (unless otherwise noted):**

### **Medical Plan Changes**

- **Administered by Blue Cross Blue Shield of Alabama**
- **Maximum Annual Out-of-Pocket Amounts:** Beginning 1/1/18, the combined medical and prescription drug in-network maximum annual out-of-pocket amounts will increase to \$7,350 per individual and \$14,700 per family per calendar year.

### **Premium Rate Changes for Surviving Spouses**

- **Increase medical premium \$7** per month for individual coverage/NME survivor
- **Increase medical premium \$38** per month for family coverage/NME survivor & More Than 1 dependent or only dependent NME
- **Decrease medical premium \$68** per month for family coverage NME survivor & only dependent Medicare-eligible (ME)
- **Decrease medical premium \$75** per month for individual coverage/ME survivor
- **Decrease medical premium \$44** per month for family coverage/ME survivor & more than 1 dependent or only dependent NME
- **Decrease medical premium \$150** per month for family coverage/ME survivor & only dependent ME

### **Pharmacy Plan Changes**

- Due to the fast-moving nature of both new drugs becoming available and price changes amongst existing drugs, PEEHIP implements various utilization management programs throughout the plan year to the commercial plan formulary, including prior authorizations, step therapy, quantity limits and the exclusion of some drugs to drive utilization to lower cost therapeutic alternative medications. This is to ensure the PEEHIP formulary covers the most effective drugs at the most reasonable prices. No changes were made to the drug copay tiers.

### **Supplemental Medical Plan Changes**

- **Maximum Annual Out-of-Pocket Amounts:** Beginning 1/1/18, the combined medical and prescription drug in-network maximum annual out-of-pocket amounts will increase to \$7,350 per individual and \$14,700 per family per calendar year.

### **Medicare Advantage with Prescription Drug Coverage for Medicare eligible Retirees**

- Beginning 1/1/2017, Medicare eligible retirees and their Medicare eligible dependents will be enrolled in the new UnitedHealthcare® Group Medicare Advantage plan for PEEHIP retirees. The plan will be fully insured and will have all Medicare Part A, Part B and Part D in one plan.