



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

Prepared as of September 30, 2018





Cavanaugh Macdonald

CONSULTING, LLC

The experience and dedication you deserve

April 30, 2019

Public Education Employees' Health Insurance Plan
Board of Control
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, 2018. While not verifying the data at source, the actuary performed tests for consistency and reasonability. The valuation indicates that an actuarially determined contribution of \$642,140,613 or 9.50% of active payroll payable for the fiscal year ending September 30, 2021 is required to fund the benefits of the PEEHIP.

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 are 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 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 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 brought about many other changes in the liability valuation and accounting disclosure processes currently in place which significantly impacted data collection, timing, and effort. The information required under GASB 74 and 75 will be issued in separate reports.

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 \$1,428,803,000 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 determined 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 SEIR as of September 30, 2018 was determined to be 4.44%.



April 30, 2019
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 23-year closed period, on the assumption that payroll will increase by 3.00% 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 future provisions such as the excise tax on high-value health insurance plans (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 fees, 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.

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.

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, 2018**

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, 2018	September 30, 2017
Number of active members*	137,161	136,941
Number of DROP participants	0	0
Number of retired members**	87,457	85,548
Number electing family coverage**	25,831	25,190
Number of survivors**	1,954	1,882
Total	252,403	249,561
Annual salaries	\$ 6,756,474,151	\$ 6,698,834,819
Assets:		
Market value	\$ 1,428,803,000	\$ 1,348,563,000
Unfunded actuarial accrued liability	\$ 7,238,168,500	\$ 7,133,280,503
Actuarial Cost Method	Entry Age Normal	Entry Age Normal
Amortization period (years)	23	24
Contribution for fiscal year ending:	September 30, 2021	September 30, 2020
Actuarially Determined Contribution (ADC):		
Normal	\$ 256,444,070	\$ 258,538,092
Accrued Liability	385,696,543	367,523,832
Total	\$ 642,140,613	\$ 626,061,924
Actuarially Determined Contribution as a Percent of Payroll	9.50%	9.35%
Discount Rate	5.00%	5.00%
Payroll Growth	3.00%	3.00%

* 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 \$642,140,613 or 9.50% of active payroll are sufficient to support the current benefits of the Plan. Comments on the valuation results as of September 30, 2018 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, 2018, the assets of the Plan in the Alabama Retired Education Employees' Health Care Trust totals \$1,428,803,000. The discount rate used in the valuation remains 5.00%. The assumed rate of payroll growth is 3.00%.
4. 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.
5. Schedule C details the actuarial assumptions and methods employed. Schedule D provides a summary of the benefit and contribution provisions of the plan.
6. 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. Future healthcare trend for the MAPD plan took into consideration actual preliminary premium projections, including the potential reinstatement of the Health Insurer Fee. See Schedule C of the report.



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, 2018*

Age/Svc	<1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35+	Total
<25	1,276	1,510	5							2,791
25-29	1,307	7,749	1,659	6						10,721
30-34	978	5,564	5,732	1,583	11					13,868
35-39	1,140	5,083	3,787	5,951	1,450	10				17,421
40-44	670	4,055	3,273	4,103	5,036	1,362	12			18,511
45-49	647	3,612	3,093	3,895	3,675	5,029	967	13		20,931
50-54	465	2,644	2,448	3,429	3,126	3,356	2,444	527	8	18,447
55-59	347	2,196	2,044	2,858	3,084	3,231	1,809	1,121	270	16,960
60-64	183	1,469	1,461	1,876	1,830	2,118	1,301	718	456	11,412
65-69	76	660	808	772	573	572	422	199	64	4,146
70+	34	282	422	433	272	222	162	84	42	1,953
Total	7,123	34,824	24,732	24,906	19,057	15,900	7,117	2,662	840	137,161

* Numbers match pension report for active participants and are 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	10,326	0	0	10,326
Optional Plan Only	10,223	0	432	10,655
Medical Plan, non-Medicare	14,124	7,312	109	21,545
Medical Plan, Medicare Advantage	<u>52,784</u>	<u>17,261</u>	<u>1,413</u>	<u>71,458</u>
Total	87,457	24,573	1,954	113,984

* In addition, 808 retirees elected family coverage but have no spouse.



SECTION III - ASSETS

Schedule B shows information regarding assets for valuation purposes. As of September 30, 2018, plan assets held in trust solely to provide benefits to retirees and their beneficiaries in accordance with the terms of the plan totaled \$1,428,803,000. 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 \$4,864,022,877 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 \$3,802,948,623. The total actuarial accrued liability of the Plan amounts to \$8,666,971,500. Against these liabilities, the Plan has present assets for valuation purposes of \$1,428,803,000. Therefore, the unfunded actuarial accrued liability is equal to \$7,238,168,500.
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 \$256,444,070.



SECTION V - CONTRIBUTIONS PAYABLE UNDER THE PLAN

**ACTUARIALLY DETERMINED CONTRIBUTION
For Fiscal Year Ending September 30, 2020**

Actuarially Determined Contribution (ADC)	
Normal	\$ 256,444,070
Accrued Liability	<u>385,696,543</u>
Total	\$ 642,140,613

1. The valuation indicates that a normal contribution of \$256,444,070 is required to meet the cost of benefits currently accruing.
2. The unfunded actuarial accrued liability amounts to \$7,238,168,500 as of the valuation date. An accrued liability contribution of \$385,696,543 is sufficient to amortize the unfunded actuarial accrued liability over a 23-year period, based on a 5.00% investment rate of return and the assumption that the payroll will increase by 3.00% annually.
3. The total actuarially determined contribution is, therefore, \$642,140,613 or 9.50% 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, and wellness credits. 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 9.35% of payroll to 9.50% is required to fund the plan. This corresponds to a state contribution of \$642,140,613 required to meet the cost of benefits currently accruing and provide for the amortization of the unfunded actuarial accrued liability over a period of 23 years. The major cause of the increase were employer contributions less than the actuarially determined contribution. The actuarially determined contribution for fiscal year 2018, as calculated in the actuarial valuation as of September 30, 2015, was \$516,342,785, while actual fiscal year 2018 employer contributions were \$245,545,000. If the actuarially determined contribution had been made for fiscal year 2018, the recommended employer contribution rate would have decreased from last valuation's recommended rate of 9.35% of payroll to 9.29% of payroll.



SECTION VII - ACCOUNTING INFORMATION

The information required under Governmental Accounting Standards Board (GASB) Statements No. 74 and 75 will be issued in separate reports. The following information is provided for informational purposes only.

Valuation Date	9/30/2018
Actuarial Cost Method	Entry Age Normal
Amortization Method	Level Percent of Payroll
Remaining Amortization Period	23 years, closed
Asset Valuation Method	Market Value of Assets
Actuarial Assumptions	
Investment Rate of Return*	5.00%
Medical Cost Trend Rate*	
Pre-Medicare	6.75%
Medicare Eligible	5.00% starting in 2019
Ultimate Trend Rate*	
Pre-Medicare	4.75% in 2026
Medicare Eligible	4.75% in 2024
Optional Plans Trend Rate	2.00%

**Includes price inflation at 2.75%*

The assumed investment rate of return used to calculate the actuarially determined contribution reflects the fact that as of September 30, 2018 the Plan has \$1,428,803,000 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 Statements No. 74 and 75 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%
9/30/2017	1,348,563,000	8,481,843,503	7,133,280,503	15.9%	6,698,834,819	106.5%
9/30/2018	1,428,803,000	8,666,971,500	7,238,168,500	16.5%	6,756,474,151	107.1%

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 9/30/2011 actuarial accrued liability reflects a change from the Retiree Drug Subsidy (RDS) to an Employer Group Waiver Plan (EGWP).

The 9/30/2015 actuarial accrued liability reflects a change from the Employer Group Waiver Plan (EGWP) to a Medicare Advantage Plan with Prescription Drugs (MAPD).

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 A****RESULTS OF THE VALUATION
AND THE BENEFITS OF ADVANCE FUNDING
PREPARED AS OF SEPTEMBER 30, 2018**

	5.00% Discount Rate (Current Funding Level)	7.00% Discount Rate (Contribute Full ADC Annually)
1. PAYROLL	\$ 6,756,474,151	\$ 6,756,474,151
2. ACTUARIAL ACCRUED LIABILITY Present value of prospective benefits payable in respect of:		
(a) Present active members:	\$ 4,864,022,877	\$ 3,454,187,624
(b) Present retired members and surviving spouses:	<u>3,802,948,623</u>	<u>3,130,390,923</u>
(c) Total actuarial accrued liability	\$ 8,666,971,500	\$ 6,584,578,547
3. PRESENT ASSETS FOR VALUATION PURPOSES	\$ 1,428,803,000	\$ 1,428,803,000
4. UNFUNDED ACTUARIAL ACCRUED LIABILITY [(2)(C) minus (3)]	\$7,238,168,500	\$ 5,155,775,547
5. AMORTIZATION PERIOD	23	23
6. NORMAL CONTRIBUTION	\$ 256,444,070	\$ 150,313,826
7. ACCRUED LIABILITY CONTRIBUTION	<u>385,696,543</u>	<u>330,215,029</u>
8. TOTAL CONTRIBUTION (6) + (7)	\$ 642,140,613	\$ 480,528,855
9. TOTAL CONTRIBUTION AS A PERCENT OF PAYROLL (8) ÷ (1)	9.50%	7.11%



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, 2018 is shown below.

Gain/Loss		
1.	UNFUNDED ACCRUED LIABILITY (UAL) 9/30/2017	\$ 7,133,280,503
2.	NORMAL COST 9/30/2017	258,538,092
3.	ACTUAL EMPLOYER CONTRIBUTIONS	245,545,000
4.	INTEREST ACCRUAL [(1) + (2)] X .05 – [(3) X .025]	<u>363,452,305</u>
5.	EXPECTED UAL 9/30/2018 (1) + (2) - (3) + (4)	\$ 7,509,725,900
6.	GAIN DUE TO CLAIMS AND PREMIUM EXPERIENCE	<u>(256,096,483)</u>
7.	EXPECTED UAL 9/30/2018 AFTER CHANGES (5) + (6) + (7)	\$ 7,253,629,417
8.	ACTUAL UAL AS OF 9/30/2018	\$ 7,238,168,500
9.	EXPERIENCE (GAIN)/LOSS (9) - (8)	\$ (15,460,917)
10.	EXPERIENCE (GAIN)/LOSS AS % OF ACTUARIAL ACCRUED LIABILITY AT 9/30/2018	(0.18%)



**EXPERIENCE (GAIN)/ LOSS BY SOURCE
FOR THE YEAR ENDING SEPTEMBER 30, 2018**
(Dollar amounts in millions)

SOURCE	Total	% of 9/30/2018 Actuarial Accrued Liability
Age and Service Retirements. Generally, earlier retirements cause losses and later retirements cause gains.	\$ (3.8)	(0.05)%
Withdrawal. More withdrawals than expected usually cause gains and less withdrawals than expected cause losses.	5.7	0.07%
Disability Retirements. More disabilities receiving health benefits than expected generally cause losses and less disabilities receiving health benefits than expected cause gains.	(4.4)	(0.05)%
Death-In-Service Benefits. If survivor claims are less than assumed, there is a gain. If claims are more than assumed, there is a loss.	8.6	0.10%
New Members/Rehires. Any past service causes losses, however pre-Medicare retirees returning to active service can cause a gain.	24.3	0.28%
Retiree Mortality. More deaths than expected cause gains, less than expected cause losses.	(5.0)	(0.06)%
Investment Return. Investment income greater than expected causes gains while investment income less than expected cause losses.	(47.9)	(0.55)%
Other. 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.	7.0	0.08%
Total (Gain)/Loss	\$ (15.5)	(0.18)%



SCHEDULE B

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 \$1,428,803,000. The development of the market value of assets is shown in the following table.

Market Value of Assets as of September 30, 2018

(Amounts in Thousands)

Asset Summary Based on Market Value	
Market Value September 30, 2017	\$ 1,348,563
Contributions	245,545
Benefits, administrative fees and other disbursements	<u>(279,806)</u>
Cash flow	\$ (34,261)
Investment Income	<u>114,501</u>
Market Value September 30, 2018	\$ 1,428,803



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, 2018

DISCOUNT RATE: 5.00% per annum, compounded annually.

PAYROLL GROWTH: 3.00% per annum, compounded annually.

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
2018	6.75%	**	2.0%
2019	6.50%	5.00%	2.0%
2020	6.25%	5.00%	2.0%
2021	6.00%	5.00%	2.0%
2022	5.75%	5.00%	2.0%
2023	5.50%	5.00%	2.0%
2024	5.25%	4.75%	2.0%
2025	5.00%	4.75%	2.0%
2026	4.75%	4.75%	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 2019 because the rates are guaranteed through 2019.

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 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	\$11,440
Post-65	\$2,185

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
\$526	\$80	\$155	\$219

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+
Male							
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	
Female							
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 pension 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</u> <u>years of service</u>	<u>25 or more years</u> <u>of service</u>	<u>Less than 25</u> <u>years of service</u>	<u>25 or more years</u> <u>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:

Service	Annual Rate
	2017 Valuation and later*
0	5.000 %
1-5	4.000
6-10	3.750
11-15	3.500
16 & Over	3.250

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



SCHEDULE D

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 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 2019 subsidy premium amount is \$162.93 per month. Upon Medicare entitlement, the subsidy component will be removed.



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 2018-2019 Plan Year			
Type of Contract	*Retiree Monthly Out-of-Pocket Premium	Premium if One Covered Dependent is ME Spouse	Premium if One Covered Dependent is 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/NME Retired Member with Only 1 Dependent who is their Spouse	N/A	\$305	\$496
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/ME Retired Member with Only 1 Dependent who is their Spouse	N/A	\$164	\$355
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.

Retirees participating in the PEEHIP Supplemental Plan were assumed to cost \$149 monthly effective October 1, 2018.

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 2019, the monthly amount is \$338 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 future participants in the Dental plan and 50% of future participants in the other optional plans will make 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 2018-2019 Plan Year	
Type of Contract	Monthly Premium for PEEHIP Hospital Medical or VIVA Health Plan
Individual Coverage/Non-Medicare-eligible (NME) Survivor	\$826
Family Coverage/NME Survivor & More Than 1 Dependent or Only Dependent NME	\$1,098
Family Coverage/NME Survivor & Only Dependent Medicare-eligible (ME)	\$1,002
Individual Coverage/ME Survivor	\$355
Family Coverage/ME Survivor & More Than 1 Dependent or Only Dependent NME	\$705
Family Coverage/Medicare-eligible Survivor & Only Dependent ME	\$609
Supplemental Medical Plan (Single or Family)	\$149
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



Benefit Policy and Premium Changes

Effective October 1, 2018

(Unless otherwise notated)

Teladoc[®]

- ◆ All members who are enrolled in the PEEHIP Hospital Medical Plan Group #14000 have access to Teladoc[®], which provides consultations with board-certified doctors via phone or video 24 hours a day/7 days a week. This service is available at zero copay and can be used to speak with a doctor about a variety of issues such as cold, flu, allergies, infections, and more. Plus, when necessary, the doctor can even prescribe the appropriate medication needed for treatment. This exciting new benefit can be used in place of the emergency room or urgent care for non-emergency situations.

Applied Behavior Analysis (ABA) Therapy Copay Reduction

- ◆ PEEHIP covers Applied Behavior Analysis (ABA) Therapy for children ages 0 through 18 at 100% of the Blue Cross Blue Shield of Alabama allowance, subject to a **\$15** copay per visit and the annual dollar maximum limits of \$40,000 for ages 0 through 9, \$30,000 for ages 10 through 13, and \$20,000 for ages 14 through 18, for in-network and out-of-network enrolled providers, **effective retroactively to January 1, 2018.**

Flexible Spending Account (FSA) Plan Changes

- ◆ The Flex debit card will be allowed for all eligible expenses for medical, dental, vision as well as pharmacy claims; the automatic bump reimbursement option will be eliminated.
- ◆ The annual maximum Health FSA contribution amount increased to **\$2,650** beginning fiscal year October 1, 2018. This is a benefit enhancement.
- ◆ The Dependent Care Reimbursement Account (DCRA) annual maximum contribution remains unchanged at \$5,000 (\$2,500 each if married filing separately).

VIVA Health Plan Benefit Changes

- ◆ PEEHIP members covered by the VIVA Health Plan have access to teleconsultation through Teladoc[®] just like members covered under the PEEHIP Hospital Medical Plan Group #14000 administered by Blue Cross Blue Shield of Alabama. The copay for VIVA members is increasing to **\$45** per consult effective October 1, 2018.
- ◆ The combined medical and prescription drug in-network maximum annual out-of-pocket amounts will increase to **\$7,350** for individual and **\$14,700** per family for the 2018-2019 benefits. Maximum out-of-pocket amounts are a benefit to members because they limit the total amount members will pay out-of-pocket for their in-network healthcare expenses.
- ◆ VIVA will also begin covering ABA therapy effective October 1, 2018, and coverage will be at 80% of the allowed amount after members meet the deductible. The calendar year deductible remains unchanged at \$500 for individual and \$1,500 per family contract for the 2019 fiscal year. ABA therapy will be available to those members with a diagnosis of autism, autism spectrum disorder, or pervasive developmental delay.
- ◆ VIVA benefits have always included Diabetic Self-Management Education (DSME) with no limit. This benefit was previously billed by a hospital as an outpatient claim, causing the applicable member cost-sharing and deductible. DSME will not be a new benefit category, which is a benefit enhancement because the deductible no longer applies.



Maximum Annual Out-of-Pocket Amounts

- ◆ The combined medical and prescription drug in-network maximum annual out-of-pocket amounts will increase to **\$7,900** per individual and **\$15,800** per family per calendar year effective January 1, 2019.

Supplemental Medical Changes

- ◆ The annual maximum amount of claims paid under Group #61000 will increase to **\$7,900** per individual and per calendar year effective January 1, 2019. This is a benefit enhancement.

Blue Distinction Centers for Bariatric Surgery

- ◆ Since both quality of care and cost of care vary significantly among the broad choice of providers in Alabama, Blue Cross Blue Shield of Alabama has established Blue Distinction Centers as facilities within the state that are proven to show the best healthcare outcomes for certain procedures. To ensure members covered under the PEEHIP Hospital Medical Plan Group receive the safest and highest level of care when seeking treatment for surgery for morbid obesity or related bariatric procedures, coverage for these procedures is available only at Alabama Blue Distinction Center facilities effective January 1, 2018. No coverage is available for these procedures when done at a non-Alabama Blue Distinction Center. By using these facilities with proven results of better outcomes, members will experience less avoidable complications and re-admissions. Higher quality care and less complications equates to lower costs for the plan.
- ◆ Any in-network facility within the state can become a Blue Distinction Center if they meet certain quality of care criteria as set by Blue Cross Blue Shield of Alabama.

Pharmacy 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 that the PEEHIP formulary covers the most effective drugs at the most reasonable price. No changes were made to the drug copay tiers.