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GASB STATEMENT NO. 75 REPORT

FOR THE GEORGIA SCHOOL EMPLOYEES POST-EMPLOYMENT

HEALTH BENEFIT FUND

PREPARED AS OF JUNE 30, 2021

FOR FINANCIAL REPORTING AS OF JUNE 30, 2022





Cavanaugh Macdonald

CONSULTING, LLC

The experience and dedication you deserve

February 21, 2022

Georgia Department of Community Health
2 Peachtree Street, N.W., 34th Floor
Atlanta, GA 30303-3159

Dear Members of the Board:

Presented in this report is information to assist the Georgia School Employees Post-employment Health Benefit Fund in meeting the requirements of the Governmental Accounting Standards Board (GASB) Statement No. 75. The information is presented for the one-year period ending June 30, 2021. These calculations have been made on a basis that is consistent with our understanding of these accounting standards.

The annual actuarial valuation performed as of June 30, 2020 was used as the basis for much of the information presented as of June 30, 2021 in this report. The valuation was based upon data furnished by the School pension retirement systems and the Georgia Department of Community Health staff, concerning active, inactive, and retired members along with pertinent claims data and financial information. This information was reviewed for completeness and internal consistency but was not audited. The valuation results depend on the integrity of the data. If any of the information is inaccurate or incomplete our results may be different, and our calculations may need to be revised. In the June 30, 2020 valuation, 771 active members out of over 181,000 total active members were missing information regarding entry age, so entry age was assumed to be equal to current age for valuation purposes. 0 active members were missing information regarding gender, so the assumption records with missing gender are female was not necessary.

To the best of our knowledge, the information contained in this report is complete and accurate. These calculations were performed by, and under the supervision of, independent consulting actuaries with experience in performing valuations for public retirement systems. In addition, the valuation was prepared in accordance with generally accepted actuarial principles and practices as well as with Actuarial Standards of Practice prescribed by the Actuarial Standards Board.

Our calculation of the liability associated with the benefits described in this report was performed for the purpose of providing reporting and disclosure information that satisfies the requirements of GASB Statement No. 75. The calculation of the plan's liability for this report may not be applicable for funding purposes of the plan. A calculation of the plan's liability for purposes other than satisfying the requirements of GASB No. 75 may produce significantly different results.



Georgia Department of Community Health
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Since the prior valuation, we have updated the actuarial assumptions used for the Employees' Retirement System of Georgia and Georgia Public School Employees' Retirement System based on the results of actuarial experience studies for the five-year period from July 1, 2014 to June 30, 2019.

In order to prepare the results in this report, we have utilized appropriate actuarial models that were developed for this purpose. These models use assumptions about future contingent events along with recognized actuarial approaches to develop the needed results.

We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein. We are available to answer any questions on the material contained in this report or to provide explanations or further details as may be appropriate. The valuations were prepared in accordance with principles of practice prescribed by the Actuarial Standards Board, and 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 each plan and are expected to reasonably estimate future experience of the plan.

Respectfully submitted,

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

Alisa Bennett, FSA, EA, FCA, MAAA
President

A handwritten signature in blue ink, appearing to read 'Ben Mobley'.

Ben Mobley, ASA, FCA, MAAA
Senior Actuary

AB/BM:JF



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Section I – Summary of Collective Amounts

**REPORT OF THE ANNUAL GASB STATEMENT NO. 75
REQUIRED INFORMATION FOR THE
GEORGIA SCHOOL EMPLOYEES POST-EMPLOYMENT HEALTH BENEFIT FUND
PREPARED AS OF JUNE 30, 2021**

| Valuation Date (VD): | June 30, 2019 | June 30, 2020 |
|---|-------------------|-------------------|
| Prior Measurement Date: | June 30, 2019 | June 30, 2020 |
| Measurement Date (MD): | June 30, 2020 | June 30, 2021 |
| Reporting Date (RD): | June 30, 2021 | June 30, 2022 |
| Single Equivalent Interest Rate (SEIR): | | |
| Single Equivalent Interest Rate at Prior Measurement Date | 3.58% | 2.22% |
| Single Equivalent Interest Rate at Measurement Date | 2.22% | 2.20% |
| Net OPEB Liability: | | |
| Total OPEB Liability (TOL) | \$ 15,298,687,911 | \$ 11,539,870,356 |
| Fiduciary Net Position (FNP) | 611,016,804 | 709,043,075 |
| Net OPEB Liability (NOL = TOL – FNP) | \$ 14,687,671,107 | \$ 10,830,827,281 |
| FNP as a percentage of TOL | 3.99% | 6.14% |
| Collective OPEB Expense/(Income): | \$ 584,576,448 | \$ (65,024,156) |
| Deferred Outflow of Resources: | \$ 2,467,296,249 | \$ 1,983,291,586 |
| Deferred Inflow of Resources: | \$ 2,910,324,475 | \$ 5,846,284,243 |



Section II – Introduction

The Governmental Accounting Standards Board issued Statement No. 75 (GASB 75), “*Accounting and Financial Reporting for Postemployment Benefit Plans other than Pension*” in June 2015. This report, prepared as of June 30, 2021 (the Measurement Date), presents information to assist the Fund in providing the required information under GASB 75 to participating employers. Much of the material provided in this report, including the Net OPEB Liability, is based on the results of the GASB 74 report, which was issued October 11, 2021. See that report for more information on the member data, actuarial assumptions and methods used in developing the GASB 74 results.

GASB 75 requires the inclusion of a Net OPEB Liability (NOL) on the plan sponsor’s balance sheet and a determination of an OPEB Expense (OE), which may bear little relationship to the funding requirements for the plan. In fact, it is possible in some years for the NOL to be an asset or the OE to be an income item. The NOL is set equal to the Total OPEB Liability (TOL) minus the Fiduciary Net Position (FNP). The benefit provisions recognized in the calculation of the TOL are summarized in Schedule A. For the purposes of reporting under GASB 75, the plan is assumed to be a cost-sharing-employer defined benefit OPEB plan.

OE includes amounts for Service Cost (the Normal Cost under Entry Age Normal (EAN) for the year), interest on the TOL, employee contributions, administrative expenses, other cash flows during the year, recognition of increases/decreases in the TOL due to changes in the benefit structure, actual versus expected experience, actuarial assumption changes, and recognition of investment gains/losses. The actual experience and assumption change impacts are recognized over the average expected remaining service life of the membership as of the beginning of the measurement period, while investment gains/losses are recognized equally over five years. The development of the OE is shown in Section V. The unrecognized portions of each year’s experience, assumption changes and investment gains/losses are used to develop Deferred Inflows and Outflows of Resources, which also must be included on the employer’s Statement of Net Position.



Section II – Introduction (continued)

Among the items needed for the TOL calculation is a discount rate, as defined by GASB, or a Single Equivalent Interest Rate (SEIR). To determine the SEIR, the FNP must be projected into the future for as long as there are anticipated benefits payable under the plan provisions applicable to the membership and beneficiaries of the System on the Measurement Date. Future contributions were projected to be made at the current levels set in statute. If the FNP is not projected to be depleted at any point in the future, the long-term expected rate of return on plan investments expected to be used to finance the benefit payments may be used as the SEIR.

If, however, the FNP is projected to be depleted at a future measurement date, the SEIR is determined as 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 depletion by the long-term expected rate of return, and the present value determined by discounting those benefits after the date of depletion by a 20-year tax-exempt municipal bond (rating AA/Aa or higher) rate. The rate used, if necessary, for this purpose is the Bond Buyers General Obligation 20-year Municipal Bond Index Rate (formerly published monthly by the Board of Governors of the Federal Reserve System). The Municipal Bond Index Rate as of June 30, 2021 was 2.16%. For the purpose of this report, we have determined that a discount rate of 2.20% meets the requirements of GASB 75 since the benefit payments are projected to exceed the assets in 2025.

The FNP projections are based upon the financial status of Fund on the Measurement Date, the indicated set of methods and assumptions, and the requirements of GASB 74 and 75. As such, the FNP projections are not reflective of the cash flows and asset accumulations that would occur on an ongoing plan basis, reflecting the impact of future members. Therefore, the results of this test do not necessarily indicate whether or not the fund will actually run out of money, the financial condition of the plan, or the plan's ability to make benefit payments in future years.

The sections that follow provide the results of all the required calculations, presented in the order laid out in GASB 75 for note disclosure and Required Supplementary Information (RSI).



Section III – Financial Statement Notes

Paragraph 92-93.: This paragraph requires information to be disclosed regarding the actuarial assumptions and other inputs used to measure the TOL. The complete set of actuarial assumptions and other inputs utilized in developing the TOL are outlined in Schedule B. The TOL as of June 30, 2021 was determined based on an actuarial valuation prepared as of June 30, 2020, using the following actuarial assumptions and other inputs, applied to all periods included in the measurement and rolled forward to the measurement date of June 30, 2021:

| | |
|---|---|
| Salary Increases* | |
| TRs | 3.00 – 8.75% |
| PSERS | N/A |
| Long-Term Investment Rate of Return* | 7.00% compounded annually and net of Investment expense |
| Municipal Bond Index Rate | 2.16% |
| Year FNP is Projected to be Depleted | 2025 |
| Single Equivalent Interest Rate | 2.20% |
| Health Care Cost Trend Rate* | |
| Initial Trend Rate | |
| Pre-Medicare Eligible | 6.750% |
| Medicare Eligible | 5.125% |
| Ultimate Trend Rate | |
| Pre-Medicare Eligible | 4.50% |
| Medicare Eligible | 4.50% |
| Year of Ultimate Trend Rate | |
| Pre-Medicare Eligible | 2029 |
| Medicare Eligible | 2023 |

*Includes inflation at 2.50%

For TRS: Post-retirement mortality rates for service retirements and beneficiaries were based on the Pub-2010 Teachers Headcount Weighted Below Median Healthy Retiree mortality table (ages set forward one year and adjusted 106%) with the MP-2019 Projection scale applied generationally. The rates of improvement were reduced by 20% for all years prior to the ultimate rate. Post-retirement mortality rates for disability retirements were based on the Pub-2010 Teachers Mortality Table for Disabled Retirees (ages set forward one year and adjusted 106%) with the MP-2019 Projection scale applied generationally. The rates of improvement were reduced by 20% for all years prior to the ultimate rate. The Pub-2010 Teachers Headcount Weighted Below Median Employee mortality table with ages set forward one year and adjusted 106% was used for death prior to retirement. Future improvement in mortality rates was assumed using the MP-2019 projection scale generationally. These rates of improvement were reduced by 20% for all years prior to the ultimate rate.



Section III – Financial Statement Notes (continued)

For PSERS: Pre-retirement mortality rates were based on the Pub-2010 General Employee Mortality Table, with no adjustment, with the MP-2019 Projection scale applied generationally. Post-retirement mortality rates for service retirements were based on the Pub-2010 General Healthy Annuitant Mortality Table (ages set forward one year and adjusted 105% for males and 108% for females) with the MP-2019 Projection scale applied generationally. Post-retirement mortality rates for disability retirements were based on the Pub-2010 General Disabled Mortality Table (ages set back three years for males and adjusted 103% for males and 106% for females) with the MP-2019 Projection scale applied generationally. Post-retirement mortality rates for beneficiaries were based on the Pub-2010 General Contingent Survivor Mortality Table (ages set forward two years and adjusted 106% for males and 158% for females) with the MP-2019 Projection scale applied generationally.

The actuarial assumptions used for TRS members in the June 30, 2020 valuation were based on the results of an actuarial experience study for the period July 1, 2013 – June 30, 2018, with the exception of the assumed annual rate of inflation which was changed from 2.75% to 2.50%, effective with the June 30, 2018 valuation.

Approximately 0.10% of School Personnel OPEB Fund members who are included in the School Personnel OPEB Fund Total OPEB Liability participate in the Employees Retirement System of Georgia. Assumptions for these members can be found in the State Employee OPEB Fund report.

The remaining actuarial assumptions (e.g., initial per capita costs, health care cost trends, rate of plan participation, rates of plan election, etc.) used in the June 30, 2020 valuation were based on a review of recent plan experience done concurrently with the June 30, 2020 valuation. The full set of actuarial assumptions used can be found in Schedule C.



Section III – Financial Statement Notes (continued)

Assets are invested in the same manner as are assets of the Georgia Employees' Retirement System (ERS). The most recent target asset allocation and best estimates of arithmetic real rates of return for each major asset class provided to us by ERS are summarized in the following table:

| Asset Class | Target Allocation | Long-Term Expected Rate of Return |
|--------------|-------------------|-----------------------------------|
| Fixed Income | 30.00% | 0.14% |
| Equities | 70.00% | 9.20% |
| Total | 100.00% | |

*Net of inflation

Discount rate (SEIR). For the purpose of this report, we have determined that a discount rate of 2.20% meets the requirements of GASB 75, since current assets are less than the expected benefit payments starting with fiscal year 2025.

93(e) Sensitivity analysis: This paragraph requires disclosure of the sensitivity of the NOL to changes in the health care cost trend rates. The following exhibit presents the NOL of the Plan, calculated using the health care cost trend rates, as well as what the Plan's NOL would be if it were calculated using a health care cost trend rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate.

| Health Care Cost Trend Rates | | | |
|------------------------------|------------------|-------------------|-------------------|
| | 1% Decrease | Current | 1% Increase |
| Net OPEB Liability | \$ 9,190,376,850 | \$ 10,830,827,281 | \$ 12,881,519,313 |



Section III – Financial Statement Notes (continued)

Paragraph 94:

- (a) **Discount rate.** The discount rate used to measure the Total OPEB Liability was 2.20%.
- (b) **Projected cash flows:** The projection of cash flows used to determine the discount rate assumed that plan contributions from members and the State of Georgia will be made at the level projected in the budget projections, which indicated that no additional employer contributions will be made to the Fund in excess of pay as you go benefit payments. Pay as you go benefit payments, adjusted for closed group active headcount estimations, are assumed for the next five years. After that, the plan contribution is assumed to be equal to the average of the plan contributions over the prior five years, adjusted for closed group active headcount estimations.
- (c) **Long term rate of return:** The long-term expected rate of return on OPEB plan investments will be determined based on the allocation of assets by asset class and by the mean and variance of real returns as determined by the investment advisor.
- (d) **Municipal bond rate:** The discount rate determination will use a municipal bond rate to the extent the Fund is projected to run out of money before all benefits are paid.
- (e) **Periods of projected benefit payments:** Projected future benefit payments for all current plan members were projected through 2145.
- (f) **Assumed asset allocation:** The target asset allocation, as provided by the investment consultant, was summarized on the prior page.
- (g) **Sensitivity analysis:** This paragraph requires disclosure of the sensitivity of the NOL to changes in the discount rate. The following presents the NOL, calculated using the discount rate of 2.20%, as well as the NOL calculated using a discount rate that is 1-percentage-point lower (1.20%) or 1-percentage-point higher (3.20%) than the current rate:

| Interest Rates | | | |
|--------------------|---------------------------|-------------------------------------|---------------------------|
| | 1% Decrease (1.20%) | Current Discount Rate (2.20%) | 1% Increase (3.20%) |
| Net OPEB Liability | \$ 12,382,064,603 | \$ 10,830,827,281 | \$ 9,532,294,870 |

Paragraph 96(a): This paragraph requires the disclosure of the employer's proportionate share of the Collective NOL and if an employer has as special funding situation, the portion of the non-employer contributing entities proportionate share of the collective NOL that is associated with the employer. These amounts are shown in Appendix B. Note that there is no special funding situation.



Section III – Financial Statement Notes (continued)

Paragraph 96(b): This paragraph requires disclosure of the employer's proportion of the collective NOL and the change in the proportion since the prior measurement date. These amounts are shown in Appendix A.

Paragraph 96(c): June 30, 2020 is the actuarial valuation date upon which the TOL is based. The result was rolled forward using standard actuarial techniques to the measurement date. The roll forward calculation adds the normal cost (also called the service cost) for the period July 1, 2020 through June 30, 2021, subtracts the actual benefit payments for the same period and then applies the expected investment rate of return for the period. If applicable, actuarial gains and losses arising from benefit changes, the differences between estimates and actual experience, and changes in assumptions or other inputs are reconciled to the TOL as of the Measurement Date. The procedure was used to determine the TOL as of June 30, 2021, as shown in the following table:

| TOL Roll Forward | | |
|-------------------------|--|-------------------|
| (a) | TOL as of June 30, 2020* | \$ 15,298,687,911 |
| (b) | Actual Benefit Payments and Refunds for the Period July 1, 2020 - June 30, 2021 | (367,775,501) |
| (c) | Interest on TOL = [(a) x Prior SEIR] + [(b) x Prior SEIR x 0.50] | 335,548,564 |
| (d) | Service Cost for the Period July 1, 2020 - June 30, 2021 at the End of the Period | 639,070,265 |
| (e) | Change Due to Experience | (4,394,954,584) |
| (f) | Change Due to Change in Assumptions | <u>29,293,701</u> |
| (g) | TOL Rolled Forward to June 30, 2021 = (a) + (b) + (c) + (d) + (e) | \$ 11,539,870,356 |

* The TOL as of June 30, 2020 used in the roll forward was calculated using the discount rate as of the Prior Measurement Date. The Change Due to Experience is primarily due to claims experience, especially for Medicare eligible members. The Change Due to Change in Assumptions is primarily due to the change in the discount rate and the ERS experience study.



Section III – Financial Statement Notes (continued)

Paragraphs 96(d) and (e): The following changes were made to the assumptions as noted:

Changes in actuarial assumptions:

6/30/2020 valuation: Decremental assumptions were changed to reflect the Employees Retirement Systems experience study. Approximately 0.10% of employees are members of the Employees Retirement System.

6/30/2019 valuation: Decremental assumptions were changed to reflect the Teachers Retirement Systems experience study.

6/30/2018 valuation: The inflation assumption was lowered from 2.75% to 2.50%.

6/30/2017 valuation: The participation assumption, tobacco use assumption and morbidity factors were revised.

6/30/2015 valuation: Decremental and underlying inflation assumptions were changed to reflect the Retirement Systems' experience studies.

6/30/2012 valuation: A data audit was performed, and data collection procedures and assumptions were changed.

Paragraph 96(f): There were no changes between the measurement date of the collective net OPEB liability and the employer's reporting date.

Paragraph 96(g): Please see Section V of the report for the development of the collective OPEB expense. The OE for each employer is shown in Appendix B.



Section III – Financial Statement Notes (continued)

Paragraph 96(h): Since certain expense items are amortized over closed periods each year, the deferred portions of these items must be tracked annually. If the amounts serve to reduce OPEB expense they are labeled deferred inflows. If they will increase OPEB expense they are labeled deferred outflows. As noted in the previous section, the amortization of these amounts is accomplished on a level dollar basis, with no interest included in the deferred amounts. Experience gains/losses and the impact of changes in actuarial assumptions, if any, are amortized over the average remaining service life of the active and inactive members at the beginning of the fiscal year. Investment gains and losses are amortized over a fixed five-year period.

The table below summarizes the deferred inflows and outflows as of the Measurement Date.

| | Deferred Outflows of Resources | Deferred Inflows of Resources |
|---|-----------------------------------|----------------------------------|
| Differences between expected and actual experience | \$ 0 | \$ 4,945,321,338 |
| Changes of assumptions or other inputs | 1,983,291,586 | 883,788,641 |
| Net difference between projected and actual earnings on plan investments | 0 | 17,174,264 |
| Total | <u>\$ 1,983,291,586</u> | <u>\$ 5,846,284,243</u> |

Paragraph 96(i): The collective amounts reported as deferred outflows of resources and deferred inflows of resources related to OPEBs will be recognized in OPEB expense as follows:

| Deferred Amounts to be Recognized in Future Years | |
|---|---|
| | Deferred Outflows / (Inflows) of Resources |
| Year 1 | \$ (999,811,840) |
| Year 2 | (918,674,513) |
| Year 3 | (681,451,025) |
| Year 4 | (472,620,488) |
| Thereafter | (790,434,791) |

Paragraph 96(j): There are no non-employer contributions recognized for the support provided by non-employer contributing entities.



Section IV – Required Supplementary Information

Paragraph 97(a) and (b): CMC was not required to provide this information.

Paragraph 98: Information about factors that significantly affect trends in the amounts in the schedules required by paragraph 98 should be presented as notes to the schedule. Comments on additional years will be added as they occur.



Section V – OPEB Expense

The OPEB Expense (OE) consists of a number of different items. GASB 75 refers to the first item as Service Cost which is the Normal Cost using the Entry Age Normal actuarial funding method. The second item is interest on the TOL at the Discount Rate in effect as of the Prior Measurement Date.

The next three items refer to any changes that occurred in the TOL due to:

- benefit changes, or
- actual versus expected experience, or
- changes in assumptions or other inputs.

Benefit changes, which are reflected immediately, will increase OE, if there is a benefit improvement for existing Plan members, or decrease OE, if there is a benefit reduction. For the year ended June 30, 2021, there were no benefit changes to be recognized.

The next item to be recognized is the portion of current year changes in TOL due to actual versus expected Plan experience for the year. The portion to recognize in the current year is determined by spreading the total change over the average expected remaining service life of the entire Plan membership at the beginning of the measurement period. The average expected remaining service life of active members is the average number of years the active members are expected to remain in covered employment. For the year ended June 30, 2021 this number is 9.26 years. The average expected remaining service life of the inactive members is zero. Therefore, the recognition period is the weighted average of these two amounts, or 6.26 years. The development of the average remaining service life is shown in the table below.

Calculation of Weighted Average Years of Working Lifetime

| Category | Number | Average Years of Working Lifetime |
|--|---------------|--|
| | (1) | (2) |
| a. Active Members | 181,301 | 9.26 |
| b. Inactive Members | 86,993 | 0.00 |
| c. Total | 268,294 | |
| Weighted Average Years of Working Lifetime [(a1 * a2) + (b1 * b2)]/c1 | | 6.26 |



Section V – OPEB Expense (continued)

The last item under changes in TOL is changes in assumptions or other inputs. The portion to recognize in the current year is determined by spreading the total change over the average expected remaining service life of the entire Plan membership, similar to the way experience gains and losses are recognized.

Member contributions for the year and projected earnings on the FNP at the discount rate serve to reduce the expense. One-fifth of current-period difference between actual and projected earning on the FNP are recognized in the OPEB expense.

| Investment Earnings (Gain) / Loss as of June 30, 2021 | | |
|--|--|------------------------|
| a | Expected asset return rate | 7.30% |
| b | Beginning of year market value of assets (BOY) | \$ 611,016,804 |
| c | End of year market value of assets (EOY) | \$ 709,043,075 |
| d | Expected return on BOY for plan year (a x b) | \$ 44,604,227 |
| | External cash flow: | |
| | Contributions - employer | \$ 371,855,239 |
| | Contributions - member | 0 |
| | Refund of contributions | 0 |
| | Benefits paid | (367,775,501) |
| | Admin expenses and other | (3,757,502) |
| e | Total external cash flow | \$ 322,236 |
| f | Expected return on net cash flow (a x 0.5 x e) | \$ 11,762 |
| g | Projected earnings for plan year (d + f) | \$ 44,615,989 |
| h | Net investment income (c - b - e) | \$ 97,704,035 |
| | Investment earnings (gain) / loss (g - h) | \$ (53,088,046) |



Section V – OPEB Expense (continued)

The current year portions of previously determined experience and assumption amounts, recognized as Deferred Outflows of Resources and Deferred Inflows of Resources are included. Deferred Outflows of Resources are added to the OE while Deferred Inflows of Resources are subtracted from the OE. Finally, other miscellaneous items are included.

| Collective OPEB Expense/(Income) Determined as of the Measurement Date | |
|--|------------------------|
| Service Cost | \$ 639,070,265 |
| Interest on the TOL and Cash Flows | 335,548,564 |
| Current-period benefit changes | 0 |
| Expensed portion of current-period difference between expected and actual experience in the Total OPEB Liability | (702,069,422) |
| Expensed portion of current-period changes of assumptions | 4,679,505 |
| Member contributions | 0 |
| Projected earnings on plan investments | (44,615,989) |
| Expensed portion of current-period differences between actual and projected earnings on plan investments | (10,617,609) |
| Administrative expense | 3,757,502 |
| Other | 0 |
| Recognition of beginning Deferred Outflows of Resources as OPEB Expense | 483,322,686 |
| Recognition of beginning Deferred Inflows of Resources as OPEB Expense | (774,099,658) |
| Collective OPEB Expense/(Income) | \$ (65,024,156) |



Schedule A – Summary of Benefit Provisions Valued

School Personnel OPEB Fund Eligibility

The following summary gives the main participation, benefit and contribution provisions of the Plan as interpreted in preparing the actuarial valuation.

Retiree medical eligibility is attained when an employee retires, and is immediately eligible to draw a retirement annuity from any of these systems:

- Teachers Retirement System
 - Service Retirement: 25 years of service or age 60 with 10 years of service
 - Disability Retirement: 10 years of service
 - Active Death Surviving Spouse: 10 years of service
- Public School Employees Retirement System
 - Service Retirement: age 60 with 10 years of service
 - Disability Retirement: 15 years of service
 - Active Death Surviving Spouse: age 60 with 10 years of service

Retirees from other systems who may be eligible for post-employment benefits other than pensions were included in the valuation if they were included in the DCH census data. Employees with payroll location codes greater than 60000 were included in the School Employee OPEB Fund. Approximately 0.10% employees are members of the Employees Retirement System. Information about this System can be found in the GASB 74 report for the State Employee OPEB Fund.

Coverage starts immediately at retirement, provided the retiree makes proper premium payments or has the premiums deducted from the annuity check. If elected, dependent coverage starts on the same day as retiree coverage. A change from single to family coverage as a retiree is allowed only with a qualified change in status.

A tobacco surcharge of \$80 per month is charged to those tobacco users not participating in the Medicare Advantage plans. Based on analysis of the current census data, it is assumed that 2.5% of retirees not participating in the Medicare Advantage plans pay the tobacco surcharge.



Schedule A – Summary of Benefit Provisions Valued (continued)

2021 Plan Options

The plan designs offered for the 2021 plan year are as follows.

For Medicare-eligible members

- UnitedHealthcare Medicare Advantage (MAPD) Plan Options (Standard and Premium)
- Anthem Blue Cross and Blue Shield Medicare Advantage (MAPD) Plan Options (Standard and Premium)

Non-MA Plan Options

- Anthem Gold, Silver, Bronze Health Reimbursement Arrangement (HRA) Plan Options
- Anthem, Kaiser Permanente (KP) and UnitedHealthcare Health Maintenance Organization (HMO) Plan Options
- UnitedHealthcare High Deductible Health Plan (HDHP)

Premiums

Retiree premiums vary based on plan election, dependent coverage, Medicare eligibility and election. Premiums shown are monthly and are effective January 1, 2021.

**STATE HEALTH BENEFIT PLAN
ANNUITANT UNDER 65 RATES
JANUARY 1 - DECEMBER 31, 2021**

| | YOU | YOU + CHILD(REN) | YOU + SPOUSE | YOU + FAMILY |
|---------------|------------|-------------------------|---------------------|---------------------|
| Anthem Gold | \$175.68 | \$320.11 | \$436.33 | \$580.76 |
| Anthem Silver | \$114.32 | \$215.80 | \$307.47 | \$408.95 |
| Anthem Bronze | \$76.58 | \$151.64 | \$228.22 | \$303.28 |
| Anthem HMO | \$143.03 | \$264.61 | \$367.76 | \$489.34 |
| UHC HMO | \$174.49 | \$318.09 | \$433.83 | \$577.43 |
| UHC HDHP | \$61.83 | \$126.57 | \$197.24 | \$261.98 |
| Kaiser HMO | \$154.13 | \$283.60 | \$391.49 | \$520.96 |

The Medicare Advantage Plan monthly retiree premiums for members with Medicare Parts A and B as of January 1, 2021 are as follows. The Fund pays the Medicare Part B late enrollment penalty for members who were required to pay the penalty when the Medicare Advantage plans were first implemented. Future retirees are required to enroll in Medicare Part B when first eligible to avoid the penalty or be responsible for paying the late enrollment penalty if applicable.

| Medicare Advantage Plan | Retiree Premium |
|--------------------------------|------------------------|
| UHC Standard MA | \$ 0.00 |
| UHC Premium MA | \$ 148.22 |
| Anthem Standard MA | \$ 146.15 |
| Anthem Premium MA | \$ 312.02 |



Schedule A – Summary of Benefit Provisions Valued (continued)

For active employees with less than 5 years of service, premiums will be subject to the service-based schedule shown below.

CONTRIBUTIONS (Actives with less than five years of service as of January 1, 2012): The Health Benefit Fund will pay a portion of the blended contribution rate for the Bronze Plan or the UHC Premium MA Plan based on the retirees' service at retirement. The retiree or spouse will pay the remainder of the premium for the chosen plan, not less than the premium paid by those with more than five years of service as of January 1, 2012.

| Service at Retirement | Health Benefit Fund's Share of Contribution Rate | | Retiree's Share of Contribution Rate | |
|-----------------------|--|--------|--------------------------------------|--------|
| | Retiree | Spouse | Retiree | Spouse |
| 30 and above | 75% | 55% | 25% | 45% |
| 29 | 72% | 53% | 28% | 47% |
| 28 | 69% | 51% | 31% | 49% |
| 27 | 66% | 49% | 34% | 51% |
| 26 | 63% | 47% | 37% | 53% |
| 25 | 60% | 45% | 40% | 55% |
| 24 | 57% | 43% | 43% | 57% |
| 23 | 54% | 41% | 46% | 59% |
| 22 | 51% | 39% | 49% | 61% |
| 21 | 48% | 37% | 52% | 63% |
| 20 | 45% | 35% | 55% | 65% |
| 19 | 42% | 33% | 58% | 67% |
| 18 | 39% | 31% | 61% | 69% |
| 17 | 36% | 29% | 64% | 71% |
| 16 | 33% | 27% | 67% | 73% |
| 15 | 30% | 25% | 70% | 75% |
| 14 | 27% | 23% | 73% | 77% |
| 13 | 24% | 21% | 76% | 79% |
| 12 | 21% | 19% | 79% | 81% |
| 11 | 18% | 17% | 82% | 83% |
| 10 | 15% | 15% | 85% | 85% |
| 9 and below | 0% | 0% | 100% | 100% |



Schedule A – Summary of Benefit Provisions Valued (continued)

BLENDED CONTRIBUTION RATES: The blended contribution rates used in valuation and trended back to the valuation date are as follows:

| 2021 Rates | | | | |
|---------------------|---|---------------|---------------|---------------|
| Medical Plan | Under 65 Retiree with Under 65 Spouse (If Covered) | | | |
| | Ret Only | Ret+Ch | Ret+Sp | Family |
| Anthem HRA Gold | \$761.69 | \$1,294.87 | \$1,599.55 | \$2,132.73 |
| Anthem HRA Silver | \$700.33 | \$1,190.56 | \$1,470.69 | \$1,960.92 |
| Anthem HRA Bronze | \$662.59 | \$1,126.40 | \$1,391.44 | \$1,855.25 |
| Anthem HMO | \$729.04 | \$1,239.37 | \$1,530.98 | \$2,041.31 |
| UHC HMO | \$760.50 | \$1,292.85 | \$1,597.05 | \$2,129.40 |
| UHC HDHP | \$647.84 | \$1,101.33 | \$1,360.46 | \$1,813.95 |
| Kaiser HMO | \$650.35 | \$1,105.59 | \$1,365.73 | \$1,820.98 |

| 2021 Medicare Eligible | | | | |
|-------------------------------|------------------------|---------------|---------------------|---------------|
| Retiree Coverage Tier | Anthem MA Plans | | UHC MA Plans | |
| | MA Prem | MA Std | MA Prem | MA Std |
| Retiree Only | \$363.80 | \$146.15 | \$200.00 | \$0.00 |
| Retiree & Spouse | \$727.60 | \$292.30 | \$400.00 | \$0.00 |



Schedule B – Statement of Actuarial Assumptions and Methods

VALUATION DATE: June 30, 2020

DISCOUNT RATE: 2.20% per annum, compounded annually, net of expenses

AFFORDABLE CARE ACT: 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 other than plan design features and fees currently mandated by the ACA and incorporated in the plan designs, which are included in the current baseline claims costs. Continued monitoring of the ACA's impact on the Plan's liability will be required.

COVID-19: The impact of the COVID-19 pandemic was considered in this valuation; however, no changes were incorporated at this time due to the level of uncertainty regarding the impact on both plan costs and contribution levels going forward. Given the uncertainty regarding COVID-19 (e.g., the impact of routine care being deferred, direct COVID-19 treatment and prevention costs, changes in contribution and budget projections), continued monitoring of the impact on the Plan's liability will be required.

ANNUAL EXPECTED MEDICAL/RX CLAIMS (AGE ADJUSTED TO AGE 65):

PRE-MEDICARE

Following is a chart detailing expected claims for pre-65 retirees blended based on assumed plan elections and normalized to age 65.

| Pre-Medicare* | \$ 15,325 |
|---------------|-----------|

*Retirees selecting one of the HRA plans will also receive annual credits to use for eligible medical expenses. For 2021, the credits are \$400 for the Gold Plan, \$200 for the Silver Plan and \$100 for the Bronze plan. For members participating in the Anthem or UnitedHealthcare plans, wellness credits up to \$480 are available to those completing certain wellness requirements. It is assumed that 50% of eligible plan participants receive the additional wellness credits.

MEDICARE ELIGIBLE

Effective January 1, 2010, the Medicare Advantage Plans are mandatory for Medicare-eligible retirees to receive the State subsidy.



Schedule B – Statement of Actuarial Assumptions and Methods (continued)

The Medicare Advantage Plan monthly retiree premiums for members with Medicare Parts A and B as of January 1, 2021 are as follows:

| Medicare Advantage Plan | Retiree Premium |
|-------------------------|-----------------|
| UHC Standard MA | \$ 0.00 |
| UHC Premium MA | \$ 148.22 |
| Anthem Standard MA | \$ 146.15 |
| Anthem Premium MA | \$ 312.02 |

Following is a chart detailing expected claims costs for Medicare Advantage Plan retirees blended based on assumed plan elections and normalized to age 65. It is assumed that 93% of retirees will choose UHC plans and 7% of retirees will choose Anthem plans. It is further assumed that 34% choose a Premium plan and 66% choose a Standard plan.

2021 premium rates, trended to the valuation date, were used to develop the expected claims costs for Medicare Advantage Plan retirees.

| | |
|---------------------|--------|
| | |
| Medicare Advantage* | \$ 737 |

*Claims costs for current retirees with no Medicare Part A coverage were assumed to be 373% of the claims shown above.

HEALTH CARE COST TREND RATES: Following is a chart detailing trend assumptions:

| Year | Pre-65 Retiree Claims Trend | Post-65 Retiree Claims Trend |
|-----------------|-----------------------------|------------------------------|
| 2020 | 6.750% | 5.125% |
| 2021 | 6.500 | 5.000 |
| 2022 | 6.250 | 4.750 |
| 2023 | 6.000 | 4.500 |
| 2024 | 5.750 | 4.500 |
| 2025 | 5.500 | 4.500 |
| 2026 | 5.250 | 4.500 |
| 2027 | 5.000 | 4.500 |
| 2028 | 4.750 | 4.500 |
| 2029 and Beyond | 4.500 | 4.500 |



Schedule B – Statement of Actuarial Assumptions and Methods (continued)

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 |
|-----------------|-----------------|
| Under 30 | 0.00% |
| 30 – 34 | 1.00 |
| 35 – 39 | 1.50 |
| 40 – 44 | 2.00 |
| 45 – 49 | 2.60 |
| 50 – 54 | 3.30 |
| 55 – 59 | 3.60 |
| 60 – 64 | 4.20 |
| 65 – 69 | 3.00 |
| 70 – 74 | 2.50 |
| 75 – 79 | 2.00 |
| 80 – 84 | 1.00 |
| 85 – 89 | 0.50 |
| 90 and Over | 0.00 |



Schedule B – Statement of Actuarial Assumptions and Methods (continued)

ANTICIPATED PARTICIPATION: Representative values of the assumed annual rates of member participation and spouse coverage by future retirees are as follows. Members who elect to participate are assumed to participate for the remainder of their lives and no lapses are assumed.

| | School |
|--|--------|
| Member Participation*: | |
| If 5 years of service on 1/1/2012 | 95% |
| If less than 5 years of service on 1/1/2012: | |
| Years of Service at Retirement: | |
| 30+ | 95% |
| 25-29 | 90% |
| 20-24 | 80% |
| 15-19 | 65% |
| 10-14 | 50% |
| Under 10 | 20% |
| Spouse Coverage**: | |
| If retiree had 5 years of service on 1/1/2012 | 40% |
| If retiree had less than 5 years of service on 1/1/2012: | |
| Years of Retiree Service at Retirement: | |
| 30+ | 32% |
| 25-29 | 30% |
| 20-24 | 26% |
| 15-19 | 20% |
| 10-14 | 18% |
| Under 10 | 8% |

* Sufficient experience for developing plan specific participation rates for members with less than 5 years of service on 1/1/2012 has not yet developed, so standard actuarial assumptions for participation based on level of subsidization are used. Active employees currently waiving health coverage are assumed to join the plan at a later date at the rate of 20% and then participate in the same pattern as current participating members. The 20% % assumption is based on actual experience using past 4 years of waiver data.

** 100% of active members were assumed to be married. Wives are assumed to be three years younger than husbands for PSERS participants and four years younger than husbands for TRS participants.

ACTUARIAL VALUE OF ASSETS: Market Value



School Personnel OPEB Fund Members Participating in the Teachers Retirement System of Georgia

Actuarial assumptions and methods adopted by the Teachers Retirement System of Georgia Board May 13, 2020.

SALARY INCREASES*:

| Service | Annual Rate | Service | Annual Rate | Service | Annual Rate |
|---------|-------------|---------|-------------|------------|-------------|
| 0 | 8.75% | 7 | 4.25% | 14 | 3.25% |
| 1 | 7.25 | 8 | 3.75 | 15 | 3.25 |
| 2 | 5.75 | 9 | 3.75 | 16 | 3.00 |
| 3 | 5.25 | 10 | 3.50 | 17 | 3.00 |
| 4 | 5.00 | 11 | 3.50 | 18 | 3.00 |
| 5 | 5.00 | 12 | 3.50 | 19 | 3.00 |
| 6 | 5.00 | 13 | 3.50 | 20 or more | 3.00 |

*Includes price inflation component of 2.50% and a real rate of salary increase component of 0.50%

SERVICE RETIREMENT:

| Age | Annual Rate | | | |
|-----|----------------------------------|---------------------------------|----------------------------------|----------------------------------|
| | Male | | Female | |
| | Less than 30 Years of Service | 30 or More Years of Service* | Less than 30 Years of Service | 30 or More Years of Service** |
| 50 | 3.00% | 52.00% | 2.75% | 50.00% |
| 55 | 5.00 | 37.00 | 5.75 | 35.00 |
| 60 | 20.00 | 34.00 | 25.00 | 40.00 |
| 61 | 18.00 | 30.00 | 25.00 | 40.00 |
| 62 | 25.00 | 35.00 | 25.00 | 43.00 |
| 63 | 22.00 | 28.00 | 25.00 | 43.00 |
| 64 | 22.00 | 28.00 | 24.00 | 43.00 |
| 65 | 27.00 | 27.00 | 32.00 | 32.00 |
| 66 | 32.00 | 32.00 | 32.00 | 32.00 |
| 67 | 30.00 | 30.00 | 32.00 | 32.00 |
| 68 | 30.00 | 30.00 | 30.00 | 30.00 |
| 69 | 30.00 | 30.00 | 30.00 | 30.00 |
| 70 | 30.00 | 30.00 | 30.00 | 30.00 |

*An additional 10% are assumed to retire at 30 years of service for ages between 50 and 64.

**An additional 15% are assumed to retire at 30 years of service for ages between 50 and 61.



**School Personnel OPEB Fund Members Participating in the
Teachers Retirement System of Georgia**

SEPARATION BEFORE SERVICE RETIREMENT:

| Age | Annual Rate | | | | |
|--------|-------------|------------|--------------------------------|--------|-------|
| | Death* | Disability | Withdrawal Years of Service | | |
| | | | 0 – 4 | 5 – 9 | 10+ |
| Male | | | | | |
| 20 | 0.0375% | 0.0000% | 27.00% | | |
| 25 | 0.0336 | 0.0000 | 17.00 | 13.00% | |
| 30 | 0.0437 | 0.0000 | 14.00 | 6.50 | 6.00% |
| 35 | 0.0549 | 0.0165 | 14.00 | 6.25 | 3.50 |
| 40 | 0.0714 | 0.0275 | 13.00 | 6.25 | 2.75 |
| 45 | 0.1087 | 0.0720 | 13.00 | 6.00 | 2.50 |
| 50 | 0.1799 | 0.1360 | 11.25 | 5.75 | 2.75 |
| 55 | 0.2828 | 0.2400 | 11.75 | 5.50 | 3.25 |
| 60 | 0.4441 | | 12.00 | 6.00 | |
| 64 | 0.6475 | | 15.00 | 7.50 | |
| Female | | | | | |
| 20 | 0.0139% | 0.0000% | 28.00% | | |
| 25 | 0.0148 | 0.0000 | 13.50 | 12.00% | |
| 30 | 0.0235 | 0.0000 | 13.50 | 7.00 | 6.00% |
| 35 | 0.0345 | 0.0152 | 13.00 | 7.00 | 4.00 |
| 40 | 0.0493 | 0.0312 | 12.00 | 6.50 | 3.00 |
| 45 | 0.0728 | 0.0650 | 10.75 | 6.00 | 2.50 |
| 50 | 0.1107 | 0.1400 | 10.75 | 5.50 | 3.00 |
| 55 | 0.1687 | 0.3400 | 10.75 | 5.00 | 3.00 |
| 60 | 0.2554 | | 11.50 | 5.50 | |
| 64 | 0.3665 | | 15.00 | 7.50 | |

* The Pub-2010 Teachers Headcount Weighted Below Median Employee mortality table with ages set forward one year and adjusted 106% is used for death prior to retirement. Future improvement in mortality rates is assumed using the MP-2019 projection scale generationally. These rates of improvement have been reduced by 20% for all years prior to the ultimate rate. The proposed rates shown above are based on a projection to 2015. Actual mortality rates would be projected generationally.



School Personnel OPEB Fund Members Participating in the Teachers Retirement System of Georgia

DEATHS AFTER RETIREMENT: The Pub-2010 Teachers Headcount Weighted Below Median Healthy Retiree mortality table (ages set forward one year and adjusted 106%) with the MP-2019 Projection scale applied generationally is used for death after service retirement and beneficiaries. The rates of improvement have been reduced by 20% for all years prior to the ultimate rate. The Pub-2010 Teachers Mortality Table for Disabled Retirees (ages set forward one year and adjusted 106%) with the MP-2019 Projection scale applied generationally is used for death after disability retirement. The rates of improvement have been reduced by 20% for all years prior to the ultimate rate. The representative rates shown below are based on a projection to 2015. Actual mortality rates are projected generationally to the year of the measurement.

| Age | Annual Rate of Death After | | | |
|-----|----------------------------|---------|----------------------|---------|
| | Service Retirement* | | Disabled Retirement* | |
| | Male | Female | Male | Female |
| 40 | 0.0714% | 0.0493% | 0.8444% | 0.7386% |
| 45 | 0.1087 | 0.0728 | 1.2146 | 1.1004 |
| 50 | 0.1799 | 0.1107 | 1.8432 | 1.6181 |
| 55 | 0.5241 | 0.3901 | 2.4790 | 1.9679 |
| 60 | 0.6440 | 0.4136 | 3.0569 | 2.2548 |
| 65 | 0.8433 | 0.5260 | 3.7177 | 2.6170 |
| 70 | 1.4580 | 0.9329 | 4.6328 | 3.3740 |
| 75 | 2.7028 | 1.7905 | 6.1798 | 4.7842 |
| 80 | 4.9635 | 3.4310 | 8.8648 | 7.2311 |
| 85 | 9.0522 | 6.5905 | 13.0223 | 11.2015 |
| 90 | 16.0712 | 12.3050 | 18.8001 | 16.0832 |
| 95 | 26.1186 | 21.7258 | 27.0439 | 22.7586 |

*Rates as of 2015



**School Personnel OPEB Fund Members Participating in the
Georgia Public School Employees Retirement System**

Actuarial assumptions and methods adopted by the Georgia Public School Employees Retirement System Board December 17, 2020.

SEPARATIONS BEFORE SERVICE RETIREMENT: Representative values of the assumed annual rates of separation before service retirement are as follows:

| Age | Annual Rates of Withdrawal | | | Disability |
|-----|----------------------------|--------|-----------|------------|
| | Years of Service | | | |
| | 0-4 | 5-9 | 10 & Over | |
| | Males | | | |
| 20 | 34.00% | | | 0.0000% |
| 25 | 31.00 | 19.00% | | 0.0000 |
| 30 | 27.50 | 17.00 | 12.50% | 0.0000 |
| 35 | 24.50 | 15.50 | 9.00 | 0.0018 |
| 40 | 22.00 | 13.50 | 8.25 | 0.0110 |
| 45 | 21.00 | 12.50 | 7.00 | 0.0330 |
| 50 | 18.50 | 11.00 | 7.00 | 0.0770 |
| 55 | 15.25 | 9.00 | 6.00 | 0.2250 |
| 60 | 13.50 | 9.00 | | 0.2500 |
| | Females | | | Females |
| 20 | 35.00% | | | 0.0000% |
| 25 | 31.00 | 20.00% | | 0.0000 |
| 30 | 25.00 | 16.50 | 10.00% | 0.0000 |
| 35 | 22.00 | 15.00 | 10.00 | 0.0018 |
| 40 | 20.00 | 14.00 | 9.00 | 0.0110 |
| 45 | 18.00 | 12.00 | 8.00 | 0.0330 |
| 50 | 16.25 | 10.00 | 7.00 | 0.0770 |
| 55 | 13.50 | 9.00 | 6.00 | 0.2250 |
| 60 | 13.00 | 9.00 | | 0.2500 |



**School Personnel OPEB Fund Members Participating in the
Georgia Public School Employees Retirement System**

RETIREMENT:

| Age | Annual Rate | Age | Annual Rate |
|-----|-------------|-----------|-------------|
| 60 | 12.0% | 71 | 25.0% |
| 61 | 12.0 | 72 | 25.0 |
| 62 | 21.0 | 73 | 25.0 |
| 63 | 17.0 | 74 | 25.0 |
| 64 | 15.0 | 75 | 25.0 |
| 65 | 26.0 | 76 | 25.0 |
| 66 | 26.0 | 77 | 25.0 |
| 67 | 22.0 | 78 | 25.0 |
| 68 | 22.0 | 79 | 25.0 |
| 69 | 23.5 | 80 & Over | 100.0 |
| 70 | 25.0 | | |

RATES OF DEATH BEFORE RETIREMENT: The Pub-2010 Below-Median General Employee Table, with no adjustments, projected generationally with the MP-2019 scale is used for both males and females while in active service. Representative values of the assumed annual rates of mortality while in active service are as follows:

| Annual Rates of Death* | | | | | |
|------------------------|----------|----------|-----|----------|----------|
| Age | Males | Females | Age | Males | Females |
| 20 | 0.0410 % | 0.0130 % | 45 | 0.1430 % | 0.0720 % |
| 25 | 0.0410 | 0.0120 | 50 | 0.2180 | 0.1070 |
| 30 | 0.0520 | 0.0190 | 55 | 0.3200 | 0.1570 |
| 35 | 0.0680 | 0.0300 | 60 | 0.4660 | 0.2380 |
| 40 | 0.0960 | 0.0470 | 65 | 0.6820 | 0.3800 |

* Base mortality rates as of 2010 before application of the improvement scale



**School Personnel OPEB Fund Members Participating in the
Georgia Public School Employees Retirement System**

RATES OF DEATHS AFTER RETIREMENT: The Pub-2010 Family of Tables projected generationally with the MP-2019 Scale and with further adjustments are used for post-retirement mortality assumptions as follows:

| Participant Type | Membership Table | Set Forward (+)/ Setback (-) | Adjustment to Rates |
|---------------------|---|---------------------------------|--------------------------|
| Service Retirees | General Healthy Below-Median Annuitant | Male: +2; Female: +2 | Male: 101%; Female: 103% |
| Disability Retirees | General Disabled | Male: -3; Female: 0 | Male: 103%; Female: 106% |
| Beneficiaries | General Below-Median Contingent Survivors | Male: +2; Female: +2 | Male: 104%; Female: 99% |

Representative values of the assumed annual rates of mortality after retirement are as follows:

| Age | Annual Rates of Death* | | | | | |
|-----|------------------------|---------|-----------------------|---------|---------------|---------|
| | Service Retirement | | Disability Retirement | | Beneficiaries | |
| | Males | Females | Males | Females | Males | Females |
| 50 | 0.7989% | 0.4532% | 1.2576% | 1.5720% | 0.9984% | 0.5930% |
| 55 | 0.9837 | 0.5037 | 1.8725 | 1.8465 | 1.1523 | 0.7742 |
| 60 | 1.1726 | 0.6015 | 2.3484 | 2.0734 | 1.4258 | 1.0237 |
| 65 | 1.5736 | 0.8827 | 2.7573 | 2.3914 | 1.9978 | 1.4147 |
| 70 | 2.5785 | 1.5296 | 3.4536 | 3.0337 | 3.0680 | 2.0731 |
| 75 | 4.3329 | 2.6770 | 4.4743 | 4.2432 | 4.7414 | 3.1878 |
| 80 | 7.4043 | 4.7679 | 6.0986 | 6.3674 | 7.3944 | 5.1450 |
| 85 | 12.4301 | 8.7849 | 8.8220 | 9.8909 | 11.8154 | 8.7684 |
| 90 | 19.3173 | 15.3594 | 12.9831 | 14.4849 | 19.0320 | 14.3778 |

* Base mortality rates as of 2010 before application of the improvement scale



Schedule C – Deferred Outflows and Deferred Inflows of Resources

SCHEDULE OF DIFFERENCES BETWEEN EXPECTED AND ACTUAL EXPERIENCE

| Increase/(Decrease) in OPEB Expense Arising from the Recognition of the Effects of the Differences Between Expected and Actual Experience | | | | | | | | |
|--|---|----------------------------|--------------------|--------------------|--------------------|--------------------|------------------|------------------|
| Measurement Date | Difference Between Expected and Actual Experience | Recognition Period (Years) | Expensed this year | Deferred Year 1 | Deferred Year 2 | Deferred Year 3 | Deferred Year 4 | Thereafter |
| June 30, 2017 | \$ 0 | 6.56 | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 |
| June 30, 2018 | \$ (341,373,142) | 6.53 | (52,277,663) | (52,277,663) | (52,277,663) | (27,707,164) | 0 | 0 |
| June 30, 2019 | \$ (1,298,676,985) | 6.48 | (200,413,115) | (200,413,115) | (200,413,115) | (200,413,115) | (96,198,295) | 0 |
| June 30, 2020 | \$ (619,357,462) | 6.30 | (98,310,708) | (98,310,708) | (98,310,708) | (98,310,708) | (98,310,708) | (29,493,214) |
| June 30, 2021 | \$ (4,394,954,584) | 6.26 | (702,069,422) | (702,069,422) | (702,069,422) | (702,069,422) | (702,069,422) | (884,607,474) |
| Total | | | \$ (1,053,070,908) | \$ (1,053,070,908) | \$ (1,053,070,908) | \$ (1,028,500,409) | \$ (896,578,425) | \$ (914,100,688) |



Schedule C – Deferred Outflows and Deferred Inflows of Resources (continued)

SCHEDULE OF DIFFERENCES BETWEEN EXPECTED AND ACTUAL EXPERIENCE (continued)

| Measurement Date | Changes Due to Experience (Decreases) / Increases (a) | Amounts Recognized in OPEB Expense Through June 30, 2021 Measurement Date (b) | Amounts of Deferred Resources (Inflows)/Outflows (a) - (b) |
|------------------|---|---|--|
| June 30, 2017 | \$ 0 | \$ 0 | \$ 0 |
| June 30, 2018 | \$ (341,373,142) | (209,110,652) | (132,262,490) |
| June 30, 2019 | \$ (1,298,676,985) | (601,239,345) | (697,437,640) |
| June 30, 2020 | \$ (619,357,462) | (196,621,416) | (422,736,046) |
| June 30, 2021 | \$ (4,394,954,584) | (702,069,422) | (3,692,885,162) |
| Total | | \$ (1,709,040,835) | \$ (4,945,321,338) |



Schedule C – Deferred Outflows and Deferred Inflows of Resources (continued)

SCHEDULE OF DIFFERENCES BETWEEN PROJECTED AND ACTUAL EARNINGS ON PLAN INVESTMENTS

| Increase/(Decrease) in OPEB Expense Arising from the Recognition of the Effects of the Differences Between Projected and Actual Earnings on OPEB Plan Investments | | | | | | | | |
|--|---|----------------------------------|-----------------------|--------------------|--------------------|--------------------|--------------------|------------|
| Measurement Date | Difference Between Projected and Actual Earnings on OPEB Plan Investments | Recognition Period (Years) | Expensed this year | Deferred Year 1 | Deferred Year 2 | Deferred Year 3 | Deferred Year 4 | Thereafter |
| June 30, 2017 | \$ 5,136,723 | 5.00 | \$ 1,027,343 | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 0 |
| June 30, 2018 | \$ 17,642,651 | 5.00 | 3,528,530 | 3,528,531 | 0 | 0 | 0 | 0 |
| June 30, 2019 | \$ 17,605,862 | 5.00 | 3,521,172 | 3,521,172 | 3,521,174 | 0 | 0 | 0 |
| June 30, 2020 | \$ 24,542,160 | 5.00 | 4,908,432 | 4,908,432 | 4,908,432 | 4,908,432 | 0 | 0 |
| June 30, 2021 | \$ (53,088,046) | 5.00 | (10,617,609) | (10,617,609) | (10,617,609) | (10,617,609) | (10,617,610) | 0 |
| Total | | | \$ 2,367,868 | \$ 1,340,526 | \$ (2,188,003) | \$ (5,709,177) | \$ (10,617,610) | \$ 0 |



Schedule C – Deferred Outflows and Deferred Inflows of Resources (continued)

SCHEDULE OF DIFFERENCES BETWEEN PROJECTED AND ACTUAL EARNINGS ON PLAN INVESTMENTS (continued)

| Measurement Date | Difference Between Projected and Actual Earnings on OPEB Plan Investments (a) | Amounts Recognized in OPEB Expense Through June 30, 2021 Measurement Date (b) | Amounts of Deferred Resources (Inflows)/Outflows (a) - (b) |
|------------------|---|---|--|
| June 30, 2017 | \$ 5,136,723 | \$ 5,136,723 | \$ 0 |
| June 30, 2018 | \$ 17,642,651 | 14,114,120 | 3,528,531 |
| June 30, 2019 | \$ 17,605,862 | 10,563,516 | 7,042,346 |
| June 30, 2020 | \$ 24,542,160 | 9,816,864 | 14,725,296 |
| June 30, 2021 | \$ (53,088,046) | (10,617,609) | (42,470,437) |
| Total | | \$ 29,013,614 | \$ (17,174,264) |



Schedule C – Deferred Outflows and Deferred Inflows of Resources (continued)

SCHEDULE OF CHANGES OF ASSUMPTIONS

| Increase/(Decrease) in OPEB Expense Arising from the Recognition of the Effects of Assumption Changes | | | | | | | | |
|--|-----------------------|----------------------------------|-----------------------|--------------------|--------------------|--------------------|--------------------|----------------|
| Measurement Date | Assumption Changes | Recognition Period (Years) | Expensed this year | Deferred Year 1 | Deferred Year 2 | Deferred Year 3 | Deferred Year 4 | Thereafter |
| June 30, 2017 | \$ (1,262,290,993) | 6.56 | \$ (192,422,407) | \$ (192,422,407) | \$ (107,756,551) | \$ 0 | \$ 0 | \$ 0 |
| June 30, 2018 | \$ (1,506,312,743) | 6.53 | (230,675,765) | (230,675,765) | (230,675,765) | (122,258,153) | 0 | 0 |
| June 30, 2019 | \$ 503,959,116 | 6.48 | 77,771,469 | 77,771,469 | 77,771,469 | 77,771,469 | 37,330,302 | 0 |
| June 30, 2020 | \$ 2,473,164,161 | 6.30 | 392,565,740 | 392,565,740 | 392,565,740 | 392,565,740 | 392,565,740 | 117,769,721 |
| June 30, 2021 | \$ 29,293,701 | 6.26 | 4,679,505 | 4,679,505 | 4,679,505 | 4,679,505 | 4,679,505 | 5,896,176 |
| Total | | | \$ 51,918,542 | \$ 51,918,542 | \$ 136,584,398 | \$ 352,758,561 | \$ 434,575,547 | \$ 123,665,897 |



Schedule C – Deferred Outflows and Deferred Inflows of Resources (continued)

SCHEDULE OF CHANGES OF ASSUMPTIONS (continued)

| Measurement Date | Changes Due to Assumptions (Decreases) / Increases (a) | Amounts Recognized in OPEB Expense Through June 30, 2021 Measurement Date (b) | Amounts of Deferred Resources (Inflows)/Outflows (a) - (b) |
|------------------|--|---|--|
| June 30, 2017 | \$ (1,262,290,993) | \$ (962,112,035) | \$ (300,178,958) |
| June 30, 2018 | \$ (1,506,312,743) | (922,703,060) | (583,609,683) |
| June 30, 2019 | \$ 503,959,116 | 233,314,407 | 270,644,709 |
| June 30, 2020 | \$ 2,473,164,161 | 785,131,480 | 1,688,032,681 |
| June 30, 2021 | \$ 29,293,701 | 4,679,505 | 24,614,196 |
| Total | | \$ (861,689,703) | \$ 1,099,502,945 |



Schedule C – Deferred Outflows and Deferred Inflows of Resources (continued)

| Net Increase/(Decrease) in OPEB Expense | | | | | | |
|---|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| | Expensed this year | Deferred Year 1 | Deferred Year 2 | Deferred Year 3 | Deferred Year 4 | Thereafter |
| Differences Between Expected and Actual Experience | \$ (1,053,070,908) | \$ (1,053,070,908) | \$ (1,053,070,908) | \$ (1,028,500,409) | \$ (896,578,425) | \$ (914,100,688) |
| Changes of Assumptions | 51,918,542 | 51,918,542 | 136,584,398 | 352,758,561 | 434,575,547 | 123,665,897 |
| Differences Between Projected and Actual Earnings on OPEB Plan Investments | 2,367,868 | 1,340,526 | (2,188,003) | (5,709,177) | (10,617,610) | 0 |
| Grand Total | \$ (998,784,498) | \$ (999,811,840) | \$ (918,674,513) | \$ (681,451,025) | \$ (472,620,488) | \$ (790,434,791) |



Schedule D – Actuarial Cost Method

1. The valuation is prepared on the projected benefit basis, under which the present value, at the interest rate assumed to be earned in the future (currently 2.20% for disclosure), of each participant's expected retiree health benefit at retirement or death based on his age and service. The calculations take into account the probability of a participant's death or termination of employment prior to becoming eligible for a benefit, as well as the probability of his terminating with a service, disability or survivor's benefit. The present value of the expected benefits payable on account of the active participants is added to the present value of the expected future payments to retired participants and beneficiaries to obtain the present value of all expected benefits payable from the Plan on account of the present group of participants and beneficiaries.
2. The service cost is determined using the "entry age normal" method. Using this method, a calculation is made to determine the uniform and constant percentage rate of employer contribution which, if applied to the compensation of each participant during the entire period of his anticipated covered service, would be required in addition to the contributions of the participant to meet the cost of all benefits payable on his behalf.
3. The present value of future unfunded accrued liability contributions is determined by subtracting the present value of prospective normal contributions together with the current assets held, from the present value of expected benefits to be paid from the Plan.