



EMPLOYEES RETIREMENT SYSTEM OF TEXAS

**ACTUARIAL VALUATION OF OTHER POST-EMPLOYMENT
BENEFITS PROVIDED UNDER THE TEXAS EMPLOYEES
GROUP BENEFITS PROGRAM
GOVERNMENTAL ACCOUNTING STANDARDS BOARD
STATEMENT NO. 75
FOR THE MEASUREMENT YEAR ENDED AUGUST 31, 2018 AND
EMPLOYER REPORTING FOR FISCAL YEARS ENDING
ON OR BEFORE AUGUST 31, 2019**



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June 11, 2019

Board of Trustees
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Attached is our Actuarial Valuation of the Other Post-Employment Benefits (OPEB) provided under the Texas Employees Group Benefits Program (GBP) administered by the Employees Retirement System of Texas (ERS) for the Measurement Year Ended August 31, 2018 and Employer Reporting for Fiscal Years Ending on or before August 31, 2019 (GBP OPEB). The purpose of this valuation is to provide accounting information that is required by the Governmental Accounting Standards Board Statement No. 75 (GASB No. 75) which sets forth the financial reporting standards for state and local government employers that provide post-employment benefits other than pension benefits. Such benefits are referred to collectively as OPEB. The results of this valuation are appropriate only for purposes of GASB No. 75.

The GBP provides OPEB for retired employees of the State of Texas and certain institutions of higher education and other agencies as specified in Chapter 1551 of the Texas Insurance Code. For purposes of this report, the term Employer is used when referring to the cost-sharing employers collectively.

GASB No. 74 and GASB No. 75 operate together to form the basis of financial reporting for OPEB by the plan (GASB No. 74) and by the employer/plan sponsor (GASB No. 75). Depending upon plan structure, GASB presents several alternatives for coordinated plan and employer/sponsor reporting.

ERS has determined that the GBP is a cost-sharing multiple employer plan with a special funding situation that is administered in accordance with paragraph 4 of GASB No. 75 which applies to trusts, or equivalent arrangements, that meet the following criteria:

- a) Contributions from employers and **nonemployer contributing entities** to the OPEB plan and earnings on those contributions are irrevocable,
- b) OPEB plan assets are dedicated to providing OPEB benefits to plan members in accordance with the benefit terms, and
- c) OPEB plan assets are legally protected from creditors of employers, nonemployer contributing entities, and the OPEB plan administrator. If the plan is a defined benefit OPEB plan, plan assets are also legally protected from creditors of the plan members.

Therefore, the employers report under paragraphs 21-26, 59-98, 109-115, 138 and 140-142 of GASB No. 75 and references to GASB No. 75 should be interpreted accordingly.

Please refer to the glossary in Section IX of this report for the definitions of certain GASB No. 75 terms which are indicated below in boldface type the first time they appear.

Measurement Date

Paragraph No. 59 of GASB No. 75 permits a measurement date that is no earlier than the end of the employer's prior fiscal year and no later than the end of the employer's current fiscal year. Thus, for purposes of GASB No. 75 reporting for 2019 fiscal years ending on or before August 31, 2019, the measurement date is August 31, 2018, and the August 31, 2018 liability shown in the GBP OPEB GASB No. 74 actuarial valuation report will be used for such reporting.

Consistency with Assumptions Used for Retirement Plan Valuations

Most of the employees and retirees covered by the GBP are also covered by either the ERS or Teacher Retirement System (TRS) retirement plans that are subject to periodic actuarial valuations. Where appropriate, for purposes of this report, we have utilized assumptions previously adopted by the ERS and TRS Boards for use in performing the retirement plan valuations. However, certain aspects of the OPEB valuation process require the use of assumptions that are unique to OPEB; for example, the discount rate assumption and the health benefit cost trend assumption as discussed below.

Changes in Actuarial Assumptions

Since the last valuation was prepared for this plan, demographic assumptions (including rates of retirement, disability, termination, and mortality, and assumed salary increases) for Higher Education members have been updated to reflect assumptions recently adopted by the TRS Trustees. These new assumptions were adopted to reflect an experience study on the TRS retirement plan performed by the TRS retirement plan actuary.

In addition, assumed Expenses, assumed Per Capita Health Benefit Costs and assumed Health Benefit Cost, Retiree Contribution and Expense trends have been updated to reflect recent experience and its effects on our short-term expectations. Furthermore, (a) the percentage of current retirees and their spouses not yet eligible to participate in the HealthSelect Medicare Advantage Plan and future retirees and their spouses who will elect to participate in the plan at the earliest date at which coverage can commence and (b) the percentage of future retirees assumed to be married and electing coverage for their spouse have been updated to reflect recent plan experience and expected trends.

Lastly, the discount rate assumption was increased from 3.51% to 3.96% as a result of requirements by GASB No. 75 to utilize the yield or index rate for 20-year, tax-exempt general obligation municipal bonds rated AA/Aa (or equivalent) or higher in effect on the measurement date. (See below for additional details.)

For a complete list of assumptions, see Section VI of this report.

Discount Rate Assumption

In accordance with Paragraph No. 79 of GASB No. 75, the discount rate should be the single rate that reflects the following:

- (a) the long-term expected rate of return on OPEB plan investments that are expected to be used to finance the payment of benefits, to the extent that (i) the OPEB plan's fiduciary net position (i.e., plan assets) is projected to be sufficient to make projected benefit payments and (ii) OPEB plan assets are expected to be invested using a strategy to achieve that return, and
- (b) a yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher (or equivalent quality on another rating scale), to the extent that the conditions in (a) are not met.

For each future period, if the amount of the OPEB plan's fiduciary net position is projected to be greater than or equal to the benefit payments that are projected to be made in that period and OPEB plan assets up to that point are expected to be invested using a strategy to achieve the long-term expected rate of return, the actuarial present value of benefit payments projected to be made in the period should be determined using the long-term expected rate of return on those investments. Per Paragraph No. 83 of GASB No. 75, the long-term expected rate of return should be based on the nature and mix of current and expected OPEB plan investments over a period representative of the expected length of time between (1) the point at which a plan member begins to provide service to the employer and (2) the point at which all benefits to the plan member have been paid. For this purpose, the long-term expected rate of return should be determined net of OPEB plan investment expense but without reduction for OPEB plan administrative expense. The municipal bond rate discussed in (b) above should be used to calculate the actuarial present value of all other benefit payments. The discount rate is the single rate of return that, when applied to all projected benefit payments, results in an actuarial present value of projected benefit payments equal to the total of the actuarial present values determined using the long-term rate of return and the municipal bond rate applied to the appropriate periods as described above.

For this plan, the amount that the participating employers contribute to the OPEB plan each year is limited to the anticipated cost of providing benefits incurred during that year. As a result, the GBP is not expected to accumulate funds. (Although there are some accumulated funds as of August 31, 2018, such funds provide less than a full year's benefit payments and are expected to be depleted shortly.) Since no plan assets are expected to accumulate, the discount rate assumption must be based solely on the municipal bond rate discussed in (b) above. The assumed discount rate for the measurement year ending August 31, 2018 is 3.96% based upon the Bond Buyer Index of general obligation bonds with 20 years to maturity with an average credit quality that is roughly equivalent to Moody's Investors Service's Aa2 rating and Standard & Poor's Corp.'s AA rating.

Health Benefit Cost Trend

For purposes of this valuation, the health benefit cost trend represents the expected annual rate of increase in health benefit costs, excluding the effects of changes in demographics and changes in plan provisions.

The health benefit cost trend has exceeded the rate of price increases in the general economy, as measured by changes in the Consumer Price Index (CPI), for many decades. Although this pattern is expected to continue for the foreseeable future, many economists anticipate that the degree to which the health benefit cost trend exceeds general inflation will eventually abate. These economists believe that the health benefit cost trend will reach an ultimate level that still exceeds general inflation, but not by as wide a margin as in past decades.

The health benefit cost trend assumption used in this report begins with our short term expectations of expected health benefit cost increases in the next year and gradually declines to a rate that exceeds the assumed rate of general price inflation by 2.0%.

Changes in Plan Provisions

Under Q/A #4.107 of GASB's Implementation Guide No. 2017-2, Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans, any plan changes that have been adopted and communicated to plan members by the time the valuation is prepared must be included in the valuation. Accordingly, this valuation reflects the benefit changes that will become effective January 1, 2019, since these changes were communicated to plan members in advance of the preparation of the valuation used for this report. The only benefit change for FY 2019 for HealthSelect retirees and dependents for whom Medicare is not primary is an increase in the out-of-pocket maximum for both HealthSelect and Consumer Directed HealthSelect (CDHP) from \$6,550 to \$6,650 for individuals and from \$13,100 to \$13,300 for families in order to remain consistent with Internal Revenue Service maximums. This minor benefit change is provided for in the FY 2019 Assumed Per Capita Health Benefit Costs. There are no benefit changes for HealthSelect retirees and dependents for whom Medicare is Primary. For a complete description of the benefit provisions, see Section VII of this report.

High-Cost Plan Excise Tax

Consistent with the prior valuation, the effects of the High-Cost Plan Excise Tax imposed by the ACA under Internal Revenue Code Section 4980I (sometimes referred to as the "Cadillac Tax") have been included in this valuation. The Excise Tax becomes effective in 2020, but the plan is not expected to be subject to the tax until 2068 based on current plan provisions, assumptions and participant demographics. The Net OPEB Liability is increased by the \$197 million present value of the estimated Excise Taxes in future years.

Medicare Part D

The Medicare Prescription Drug Improvement and Modernization Act of 2003 introduced a prescription drug benefit under Medicare (Medicare Part D) as well as a federal subsidy to sponsors of retiree healthcare benefit plans that provide a prescription drug benefit that is at least actuarially equivalent to the basic coverage provided under Medicare Part D (the Retiree Drug Subsidy).

For purposes of GASB No. 75, the valuation of future OPEB may not reflect the anticipated receipt of future federal government payments under the Medicare Part D Prescription Drug Retiree Drug Subsidy (RDS) Program as required under GASB Technical Bulletin No. 2006-1. The Bulletin requires that RDS payments to an employer be reported by the employer as revenue, rather than being netted against the employer's OPEB cost for prescription drug coverage.

ERS implemented an Employer Group Waiver Plan plus Commercial Wrap (EGWP plus Wrap) on January 1, 2013 in order to provide the plan with the benefit of increased subsidies and discounts available under such an arrangement. The RDS has been significantly reduced as a result of the implementation of the EGWP plus Wrap. The impact of RDS payments are excluded from this valuation in accordance with GASB Technical Bulletin No. 2006-1.

The projected cost of the EGWP plus Wrap reflects the subsidies which are expected to be provided by the Federal government under Medicare Part D and the discounts expected to be provided by drug manufacturers as required under the ACA.

Proportionate Share

Per Paragraph No. 59 of GASB No. 75, a liability for an employer's proportionate share of the collective Net OPEB Liability as of the measurement date shall be recognized at the end of the employer's fiscal year. ERS has determined each employer's proportionate share as the ratio of the employer's contributions to the GBP for active and retired members to the total contributions made by all employers to the GBP for all active and retired members. These proportions are determined as of the measurement date based on contributions made during the year ending on the measurement date.

For each employer, this same proportionate share is used to allocate the OPEB Expense and Deferred Outflows/Inflows of Resources in accordance with Paragraph No. 63 of GASB No. 75.

In addition, pursuant to paragraph 64 of GASB No. 75, if there is a change in the employer's proportion of the collective net OPEB liability since the prior measurement date, the net effect of that change on the employer's proportionate shares of the collective net OPEB liability and collective deferred outflows of resources and deferred inflows of resources related to OPEB, determined as of the beginning of the measurement period, should be recognized in the employer's OPEB expense, beginning in the current reporting period, using a systematic and rational method over a closed period. For this purpose, the length of the expense recognition period should be equal to the average of the expected remaining service lives of all employees that are provided with OPEB through the OPEB plan (active members and inactive members) determined as of the beginning of the measurement period. The amount not recognized in the employer's OPEB expense should be reported as a deferred outflow of resources or deferred inflow of resources related to OPEB. [See Q/A #4.193 and Illustration B4-3 of GASB's Implementation Guide No. 2017-3, Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions (and Certain Issues Related to OPEB Plan Reporting).]

See Section V for a list of the employers' proportionate shares.

Variability in Future Actuarial Measurement

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following:

- Plan experience differing from that anticipated by the economic or demographic assumptions;
- Changes in economic or demographic assumptions;

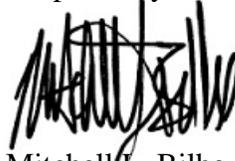
- Increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and
- Changes in plan provisions, applicable law or applicable accounting standards.

Retiree group benefits models necessarily rely on the use of approximations and estimates and are sensitive to changes in these approximations and estimates. Small variations in these approximations and estimates may lead to significant changes in actuarial measurements.

Aside from the required sensitivities of the Net OPEB Liability to changes in the discount rate and healthcare cost trend rates presented on page II-5, we have not been asked to perform and have not performed any stochastic or deterministic sensitivity analyses of the potential ranges of such future measurements. If you have an interest in the results of any such analysis, please let us know.

Please let us know if you have any questions or need additional information concerning this report.

Respectfully submitted,



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MLB/CSJ/PSD:ph

Enclosures

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**GASB STATEMENT NO. 75
ACTUARIAL VALUATION**

**AS OF AUGUST 31, 2018 FOR THE
MEASUREMENT YEAR ENDED AUGUST 31, 2018 AND
EMPLOYER REPORTING FOR FISCAL YEARS ENDING
ON OR BEFORE AUGUST 31, 2019**

**FOR THE
OTHER POST-EMPLOYMENT BENEFITS UNDER THE
TEXAS EMPLOYEES
GROUP BENEFITS PROGRAM**



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Section I - Certification of GASB No. 75 Actuarial Valuation

At the request of the Employees Retirement System of Texas (ERS), we have performed an actuarial valuation of the Other Post-Employment Benefits (OPEB) provided under the Texas Employees Group Benefits Program (GBP) for purposes of employer reporting requirements for 2019 fiscal years ending on or before August 31, 2019. The purpose of this report is to present the results of our valuation and provide the information necessary to determine financial statement entries consistent with the Governmental Accounting Standards Board Statement No. 75 Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions (GASB No. 75).

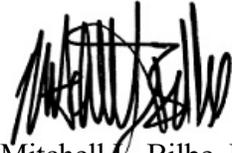
Actuarial computations under GASB No. 75 are for purposes of fulfilling governmental employer financial accounting requirements. The calculations reported herein have been made on a basis consistent with our understanding of GASB No. 75 and the GBP. The information presented in this report is solely for purposes of compliance with GASB No. 75. This report does not provide any advice with respect to the manner in which the benefits are funded (i.e., pay-as-you go funding as opposed to prefunding the benefits).

Paragraph No. 59 of GASB No. 75 permits a measurement date that is no earlier than the end of the employer's prior fiscal year and no later than the end of the employer's current fiscal year. The measurement date of August 31, 2018 will be used to report information for 2019 fiscal years ending on or before August 31, 2019. We have used the actuarial methods and assumptions described in Section VI of this report. The actuarial valuation has been performed on the basis of the plan benefits described in Section VII.

To the best of our knowledge, the actuarial information supplied in this report is complete and accurate. In our opinion, each of the assumptions used is reasonably related to the experience of the plan and to reasonable expectations and represents our best estimate of anticipated experience under the plan solely with respect to that individual assumption. All of our work conforms to generally accepted actuarial principles and practices and to the Actuarial Standards of Practice issued by the Actuarial Standards Board.

Rudd and Wisdom, Inc. prepared and presented in Sections II and III of this report the information that is required to be included in the notes to the Financial Statements and the Required Supplementary Information. ERS prepared the proportionate share allocation percentages shown in Section V of this report.

The undersigned individuals are members of the American Academy of Actuaries who meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.



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Member of American Academy of Actuaries



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Section II - Notes to the Financial Statements

Pursuant to Paragraphs No. 91 through 98 of GASB No. 75, the following information should be included in the Notes to the Financial Statements.

A. OPEB Plan Description

1. Plan Name

Other Post-Employment Benefits provided under the Texas Employees Group Benefits Program (GBP)

2. Plan Type

The GBP is a cost-sharing multiple-employer defined benefit OPEB plan. Employers participating in the GBP include:

- a. the State of Texas which is the employer for all state agency employees and employees of senior colleges and universities,
- b. 51 Texas junior and community colleges,
- c. the Texas Municipal Retirement System, Texas County and District Retirement System and the Texas Turnpike Authority,
- d. Community Supervision and Corrections Departments.

3. Employees Covered

- a. State agency and higher education employees must meet the following classification requirements in order to be eligible for OPEB provided they also meet certain age and service conditions.

- i. State Agency or Higher Education Employee

An individual must be an elected or appointed officer or employee who performs service (other than an independent contractor) for the State of Texas, including an institution of higher education, other than the University of Texas or Texas A&M University Systems, and who:

- a) receives compensation for the service performed pursuant to a payroll certified by a state agency or by an elected or appointed officer, or



- b) receives compensation for service performed for an institution of higher education pursuant to a payroll certified by an institution of higher education or by an elected or appointed officer of the State.
- ii. Employees of Certain Other Entities
 - a) Officers or employees of Texas Municipal Retirement System or Texas County and District Retirement System
 - b) Certain employees or officers of the Texas Turnpike Authority
 - c) Employees of the Community Supervision and Corrections Departments
- b. Number of Plan Members as of August 31, 2018

Member Category	Count
a. Inactive employees or beneficiaries currently receiving benefit payments	122,350 ¹
b. Inactive employees entitled to but not yet receiving benefit payments	11,564
c. Active employees	<u>231,911</u> ²
d. Total	365,825

¹ Includes 4,161 retirees who receive the Opt-Out Credit in lieu of health benefits.
² Includes return-to-work retirees and employees who have not yet satisfied the waiting period.

4. Brief Description of Benefit Provisions

- a. The GBP provides self-funded group health (medical and prescription drug) benefits for eligible retirees under HealthSelect. The GBP also provides a fully insured medical benefit option for Medicare-primary participants under the HealthSelect Medicare Advantage Plan. An eligible retiree who has retired from full-time employment does not contribute toward the cost of coverage for himself/herself, but he/she pays a portion of the cost if he/she covers an eligible spouse or dependent child*. An eligible retiree who has retired from part-time employment contributes toward the cost of coverage for himself/herself, as well as paying a portion of the cost if he/she covers an eligible spouse or dependent child.
- b. The GBP also provides life insurance benefits to eligible retirees via a minimum premium funding arrangement.
 - * SB 1459 requires employees who have less than 5 years of eligible service credit on September 1, 2014 to pay a larger portion of the cost of insurance if they retire with less than 20 years of eligible service credit on or after September 1, 2014.
- 5. The authority under which the obligations of the plan members and Employer are established and/or may be amended is Chapter 1551, Texas Insurance Code.
- 6. The Employer and member contribution rates are determined annually by the ERS Board Trustees based on the recommendations of the ERS staff and consulting actuary. The contribution rates are determined based on (i) the benefit and administrative costs expected to be incurred, (ii) the funds appropriated and (iii) the funding policy established by the Texas Legislature in connection with benefits provided through the GBP. The Trustees revise benefits when necessary to match



expected benefit and administrative costs with the revenue expected to be generated by the appropriated funds.

- There are no long-term contracts for contributions to the plan.

B. Net OPEB Liability

The Employer’s Net OPEB Liability reported for 2019 fiscal years ending on or before August 31, 2019 was measured as of August 31, 2018, and the Total OPEB Liability used to calculate the Net OPEB Liability was determined by an actuarial valuation as of that same date.

The components of the Net OPEB Liability of the Employer at August 31, 2018 were as follows:

Total OPEB Liability	\$ 30,018,171,986
Plan Fiduciary Net Position	380,429,662
Net OPEB Liability	<u>\$ 29,637,742,324</u> ¹
Plan Fiduciary Net Position as a percentage of the Total OPEB Liability	1.27%

1. Actuarial Assumptions

The Total OPEB Liability was determined by an actuarial valuation as of August 31, 2018 using the following actuarial assumptions, applied to all periods included in the measurement, unless otherwise specified:

Inflation	2.50%
Salary increases	2.50% to 9.50% ²
Discount rate	3.96%
Healthcare cost trend rates	
HealthSelect	7.30% for FY20, 7.40% for FY21, 7.00% for FY22, decreasing 0.50% per year to an ultimate rate of 4.50% for FY27 and later years
HealthSelect Medicare Advantage ³	11.80% for FY20, 13.40% for FY21, 7.00% for FY22, decreasing 0.50% per year to an ultimate rate of 4.50% for FY27 and later years

¹ Comprised of a current portion of \$435,965,814 and a long-term portion of \$29,201,776,510.

² Includes inflation.

³ The HealthSelect Medicare Advantage Trend is projected to be higher in FY 2020 and FY 2021 as a result of the reinstatement of the ACA Health Insurance Providers Fee following its suspension in CY2019.

- Mortality
1. State Agency Members
 - a. Service Retirees, Survivors and other Inactive Members (Regular, Elected, CPO/CO and JRS I and II Employee Classes):
2017 State Retirees of Texas Mortality table with a 1 year set forward for male CPO/CO members and Ultimate MP Projection Scale projected from the year 2017.
 - b. Disability Retirees (Regular, Elected, CPO/CO and JRS I and II Employee Classes):
RP-2014 Disabled Retiree Mortality with Ultimate MP Projection Scale projected from the year 2014
 - c. Active Members:
RP-2014 Active Member Mortality tables with Ultimate MP Projection Scale from the year 2014
 2. Higher Education Members
 - a. Service Retirees, Survivors and other Inactive Members:
Tables based on TRS experience with Ultimate MP Projection Scale from the year 2018.
 - b. Disability Retirees:
Tables based on TRS experience with Ultimate MP Projection Scale from the year 2018 using a 3-year set forward and minimum mortality rates of four per 100 male members and two per 100 female members.
 - c. Active Members:
Sex Distinct RP-2014 Employee Mortality multiplied by 90% with Ultimate MP Projection Scale from the year 2014.

Many of the actuarial assumptions used in this valuation were based on the results of actuarial experience studies performed by the ERS and TRS retirement plan actuaries for the period September 1, 2011 to August 31, 2016 for State Agency members and for the period September 1, 2010 to August 31, 2017 for Higher Education members.

Several assumptions have been updated since the prior valuation as shown in Section VI of this report.

2. Discount Rate

- a. Discount Rate: 3.96%; the discount rate used to measure the Total OPEB Liability was 3.96%. The change in the discount rate since the OPEB plan's prior fiscal year-end is an increase of 0.45% (i.e., from 3.51% to 3.96%) in order to reflect the requirements of GASB No. 75.
- b. Projected Cash Flows: Projected cash flows into the plan are equal to projected benefit payments out of the plan.
- c. Long-Term Expected Rate of Return: N/A; the plan operates on a PAYGO basis and is not intended to accumulate assets.



- d. Municipal Bond Rate: 3.96%; the source of the municipal bond rate is the Bond Buyer Index of general obligation bonds with 20 years to maturity and mixed credit quality. In describing their index, the Bond Buyer notes that the bonds' average credit quality is roughly equivalent to Moody's Investors Service's Aa2 rating and Standard & Poor's Corp.'s AA.
- e. Years of Projected Benefit Payments to which Long-Term Expected Rate of Return Applies: 0 years
- f. Assumed Asset Allocation, Long-Term Expected Real Rate of Return for Each Asset Class and Arithmetic vs. Geometric return: N/A; the plan operates on a PAYGO basis and is not intended to accumulate assets.

3. Sensitivity of the Net OPEB Liability to Changes in the Discount Rate

The following presents the Net OPEB Liability reported as of the end of 2019 fiscal years ending on or before August 31, 2019 and measured as of August 31, 2018, as well as what the Net OPEB Liability would be if it were calculated using a discount rate that is 1-percentage-point lower (2.96%) or 1-percentage-point higher (4.96%) than the current discount rate:

	1% Decrease (2.96%)	Current Discount Rate (3.96%)	1% Increase (4.96%)
Net OPEB Liability/(Asset) (\$ thousands)	\$ 35,186,896	\$ 29,637,742	\$ 25,437,657

4. Sensitivity of the Net OPEB Liability to Changes in the Healthcare Cost Trend Rates

The following presents the Net OPEB Liability reported as of the end of 2019 fiscal years ending on or before August 31, 2019 and measured as of August 31, 2018, as well as what the Net OPEB Liability would be if it were calculated using healthcare cost trend rates that are 1-percentage-point lower or 1-percentage-point higher than the current healthcare cost trend rates:

	1% Decrease ¹	Current Healthcare Cost Trend Rates ¹	1% Increase ¹
Net OPEB Liability/(Asset) (\$ thousands)	\$ 25,099,335	\$ 29,637,742	\$ 35,492,297

¹ Healthcare Cost Trend Rates and -1%/+1% sensitivities are shown below:

Fiscal Year	HealthSelect			HealthSelect Medicare Advantage		
	1% Decrease	Healthcare Cost Trend Rates	1% Increase	1% Decrease	Healthcare Cost Trend Rates	1% Increase
2020	6.30%	7.30%	8.30%	10.80%	11.80%	12.80%
2021	6.40%	7.40%	8.40%	12.40%	13.40%	14.40%
2022	6.00%	7.00%	8.00%	6.00%	7.00%	8.00%
2023	5.50%	6.50%	7.50%	5.50%	6.50%	7.50%
2024	5.00%	6.00%	7.00%	5.00%	6.00%	7.00%
2025	4.50%	5.50%	6.50%	4.50%	5.50%	6.50%
2026	4.00%	5.00%	6.00%	4.00%	5.00%	6.00%
2027 and beyond	3.50%	4.50%	5.50%	3.50%	4.50%	5.50%

The HealthSelect Medicare Advantage Trend is projected to be higher in FY 2020 and FY 2021 as a result of the reinstatement of the ACA Health Insurance Providers Fee following its suspension in CY2019.



C. Changes in the Net OPEB Liability

	Increase (Decrease)		
	Total OPEB Liability (a)	Plan Fiduciary Net Position (b)	Net OPEB Liability (a) – (b)
Balance at August 31, 2017 Measurement Date¹	\$ 34,782,794,493	\$ 709,782,760	\$ 34,073,011,733
Changes for the year:			
Service cost	\$ 1,495,979,208		\$ 1,495,979,208
Interest	1,261,854,477		1,261,854,477
Changes of benefit terms	0		0
Differences between expected and actual experience	(935,688,538)		(935,688,538)
Contributions – employer		\$ 307,028,461	(307,028,461)
Contributions – non-employer contributing entities		16,585,270	(16,585,270)
Contributions – employee		203,123,120	(203,123,120)
Contributions – Federal Revenues for Medicare Part D RDS		1,417,806	(1,417,806)
Other (Federal Revenues)		73,074,980	(73,074,980)
Other (Other Additions)		3,249,101	(3,249,101)
Net investment income		10,906,797	(10,906,797)
Benefit payments, including refunds of employee contributions	(662,722,913)	(662,722,913)	0
Benefit payments financed by employee contributions and Federal Revenues		(276,198,100)	276,198,100
Administrative expenses		(5,817,620)	5,817,620
Assumption changes ²	(5,924,044,741)	0	(5,924,044,741)
Other changes	<u>0</u>	<u>0</u>	<u>0</u>
Net changes	\$ (4,764,622,507)	\$ (329,353,098)	\$ (4,435,269,409)
Balance at August 31, 2018 Measurement Date³	\$ 30,018,171,986	\$ 380,429,662	\$ 29,637,742,324

¹ Information for 2018 fiscal years ending on or before August 31, 2018 was taken as of the measurement date of August 31, 2017 as permitted by Paragraph No. 59 of GASB No. 75.

² Comprised of \$(2,195,696,452) due to the change in discount rate and \$(3,728,348,289) due to other assumption changes.

³ Information for 2019 fiscal years ending on or before August 31, 2019 was taken as of the measurement date of August 31, 2018 as permitted by Paragraph No. 59 of GASB No. 75.

OPEB Plan Fiduciary Net Position

Detailed information about the OPEB plan’s fiduciary net position is shown in Section IV of the GBP OPEB GASB No. 74 actuarial valuation report dated December 6, 2018.



D. OPEB Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to OPEB

For the 2019 fiscal years ended on or before August 31, 2019, the Employer recognized OPEB expense of \$(176,184,910).

1. Components of OPEB Expense for the Measurement Year Ended August 31, 2018 and Employer Reporting for Fiscal Years Ending on or before August 31, 2019

Service Cost	\$ 1,495,979,208
Interest on the total OPEB liability	1,261,854,477
Amortization of differences between expected and actual experience ¹	(259,305,317)
Amortization of changes of assumptions ¹	(2,662,427,756)
Employee contributions	(203,123,120)
Other (Federal Revenues and Other Additions)	(76,324,081)
Benefit payments financed by Employee Contributions and Federal Revenues	276,198,100
Projected earnings on OPEB plan investments	(18,993,314)
Amortization of differences between projected and actual earnings on OPEB plan investments ²	4,139,273
OPEB plan administrative expense	<u>5,817,620</u>
Total OPEB expense	\$ (176,184,910)

At the end of FY19³, the Employer reported deferred outflows of resources and deferred inflows of resources related to OPEB from the sources listed in the table below.

2. Balances of Deferred Outflows of Resources and Deferred Inflows of Resources as of the Measurement Year Ended August 31, 2018 for Employer Reporting for Fiscal Years Ending on or before August 31, 2019

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	\$ 0	\$ 1,085,831,486
Changes of assumptions	0	10,385,875,034
Net difference between projected and actual earnings on OPEB plan investments	<u>14,035,125</u>	<u>0</u>
Total excluding post-measurement date contributions	\$ 14,035,125 ⁴	\$ 11,471,706,520

¹ Per Paragraph No. 86.a. of GASB No. 75, amortized over a straight-line closed period equal to the average remaining service period for all employees (active and inactive) who are provided with benefits through the OPEB plan.

² Per Paragraph No. 86.b. of GASB No. 75, amortized over a straight-line closed 5-year period.

³ Amounts recognized in the fiscal year represent changes between the current and prior measurement dates.

⁴ Contributions made after the measurement date of August 31, 2018 and before the cost-sharing employer's Fiscal Year End need to be recognized as deferred outflows in accordance with Paragraph No. 68 of GASB No. 75. At the end of FY19, each reporting entity shall determine their contributions during this period and add this amount to their allocated portion of these deferred outflows.



3. Change in Deferred Outflows of Resources and Deferred Inflows of Resources

	Change in Deferred Outflows of Resources	Change in Deferred Inflows of Resources
Differences between expected and actual experience	\$ 0	\$ 676,383,221
Changes of assumptions	0	3,261,616,985
Net difference between projected and actual earnings on OPEB plan investments	<u>3,947,244</u>	<u>0</u>
Total	\$ 3,947,244	\$3,938,000,206

4. Change in Balance Sheet Items

Change in Net OPEB Liability	\$(4,435,269,409)
Change in deferred outflows	(3,947,244)
Change in deferred inflows	3,938,000,206
Employer contributions	<u>325,031,537</u>
Total OPEB expense	\$ (176,184,910)

Contributions made after the measurement date of August 31, 2018 and before the end of FY19 are to be recognized as deferred outflows. Those amounts are not reflected in Sections D.3. or D.4. above, as Sections D.3. and D.4. illustrate changes between the two measurement dates, rather than contributions made subsequent to the measurement date.

5. Amounts reported as Deferred Outflows/(Inflows) of resources will be recognized in OPEB expense as follows:

Measurement Year Ending August 31	Amount
2019	\$(2,917,593,800)
2020	(2,917,593,800)
2021	(2,917,593,799)
2022	(1,969,918,572)
2023	(734,971,424)
Thereafter	0



E. Payable to the OPEB Plan

At the end of FY19, the Employer reported a payable of \$TBD¹ for the outstanding amount of contributions to the OPEB plan required for the 2019 fiscal years ended on or before August 31, 2019.

¹ Each cost-sharing employer shall determine this amount, if any, at the end of FY19.

F. Change in Proportionate Share

In accordance with Paragraph No. 96f of GASB No. 75, the Employer shall provide a brief description of the nature of changes between the measurement date of the collective net OPEB liability and the Employer's reporting date that are expected to have a significant effect on the Employer's proportionate share of the collective net OPEB liability, and the amount of the expected resultant change in the Employer's proportionate share of the collective net OPEB liability, if known.

Section III – Required Supplementary Information

A. Information to be Presented for Each Cost-Sharing Employer

Each employer shall include information in its Required Supplementary Information that comports with the requirements of Paragraph No. 97 of GASB No. 75.

See Section V of this report for each employer’s proportionate share.

B. Notes to the Required Schedules

Per Paragraph No. 98 of GASB No. 75, the employer should disclose factors that significantly affect trends in the amounts reported. For example, changes in benefit provisions, changes in the size or composition of the population covered by the benefit terms or changes in actuarial methods and assumptions should be identified.

1. Significant Methods and Assumptions

Valuation Date: August 31, 2018

Actuarially determined contribution rates are calculated as of August 31, 2018.

Methods and assumptions used to determine contribution rates:

Actuarial cost method	Entry age
Amortization method	Level percentage of payroll, open
Amortization period	30 years
Asset valuation method	Marked to Market
Inflation	2.5%
Healthcare cost trend rates	
HealthSelect	7.30% for FY20, 7.40% for FY21, 7.00% for FY22, decreasing 0.50% per year to an ultimate rate of 4.50% for FY27 and later years
HealthSelect Medicare Advantage ¹	11.80% for FY20, 13.40% for FY21, 7.00% for FY22, decreasing 0.50% per year for an ultimate rate of 4.50% for FY27 and later years
Salary increases	0.00% to 9.50%, including inflation
Discount rate	3.96%
Aggregate payroll growth	3.00%
Retirement age	Experience-based tables of rates that are specific to the class of employee.

¹ The HealthSelect Medicare Advantage Trend is projected to be higher in FY 2020 and FY 2021 as a result of the reinstatement of the ACA Health Insurance Providers Fee following its suspension in CY2019.

Mortality

1. State Agency Members
 - a. Service Retirees, Survivors and other Inactive Members (Regular, Elected, CPO/CO and JRS I and II Employee Classes):
 2017 State Retirees of Texas Mortality table with a 1 year set forward for male CPO/CO members and Ultimate MP Projection Scale projected from the year 2017.
 - b. Disability Retirees (Regular, Elected, CPO/CO and JRS I and II Employee Classes):
 RP-2014 Disabled Retiree Mortality with Ultimate MP Projection Scale projected from the year 2014
 - c. Active Members:
 RP-2014 Active Member Mortality tables with Ultimate MP Projection Scale from the year 2014

2. Higher Education Members
 - a. Service Retirees, Survivors and other Inactive Members:
 Tables based on TRS experience with Ultimate MP Projection Scale from the year 2018.
 - b. Disability Retirees:
 Tables based on TRS experience with Ultimate MP Projection Scale from the year 2018 using a 3-year set forward and minimum mortality rates of four per 100 male members and two per 100 female members.
 - c. Active Members:
 Sex Distinct RP-2014 Employee Mortality multiplied by 90% with Ultimate MP Projection Scale from the year 2014.

2. Factors that Significantly Affect Trends in Amounts Reported

- a. The following assumptions have been changed since the previous valuation:

- i. Demographic Assumptions

Since the last valuation was prepared for this plan, demographic assumptions (including rates of retirement, disability, termination, and mortality, and assumed salary increases) for Higher Education members have been updated to reflect assumptions recently adopted by the TRS Trustees. These new assumptions were adopted to reflect an experience study on the TRS retirement plan performed by the TRS retirement plan actuary.

In addition, the following assumptions have been updated since the previous valuation to reflect recent plan experience and expected trends:

- Percentage of current retirees and retiree spouses not yet eligible to participate in the HealthSelect Medicare Advantage Plan and future retirees and retiree spouses who will elect to participate in the plan at the earliest date at which coverage can commence.
- Percentage of future retirees assumed to be married and electing coverage for their spouse.

ii. Economic Assumptions

Assumptions for Expenses, Assumed Per Capita Health Benefit Costs and Health Benefit Cost and Retiree Contribution and Expense trends have been updated since the previous valuation to reflect recent health plan experience and its effects on our short-term expectations.

The discount rate was changed from 3.51% to 3.96% as a result of requirements by GASB No. 75 to utilize the yield or index rate for 20-year, tax-exempt general obligation bonds rated AA/Aa (or equivalent) or higher in effect on the measurement date.

Minor benefit changes described below have been reflected in the FY 2019 Assumed Per Capita Health Benefits Costs.

Please see our previous GASB No. 74 valuation report dated November 17, 2017 for a complete list of our previous economic assumptions.

- b. Benefit revisions have been adopted since the prior valuation. The only benefit change for HealthSelect retirees and dependents for whom Medicare is not primary is an increase in the out-of-pocket maximum for both HealthSelect and Consumer Directed HealthSelect (CDHP) from \$6,550 to \$6,650 for individuals and from \$13,100 to \$13,300 for families in order to remain consistent with Internal Revenue Service maximums. This minor benefit change is provided for in the FY 2019 Assumed Per Capita Health Benefit Costs. There are no benefit changes for HealthSelect retirees and dependents for whom Medicare is Primary.



Section IV – Additional Information

A. Schedule of Changes in the Employer’s Net OPEB Liability and Related Ratios

Last 10 Fiscal Years^{1,2}

	Measurement Year Ended August 31	
	2018	2017
1. Total OPEB Liability		
a. Service cost	\$ 1,495,979,208	\$ 2,303,978,626
b. Interest	1,261,854,477	1,225,588,297
c. Changes of benefit terms	0	0
d. Differences between expected and actual experience	(935,688,538)	(501,666,343)
e. Changes of assumptions	(5,924,044,741) ³	(8,728,820,673) ⁴
f. Benefit payments, including refunds of employee contributions ⁵	(662,722,913)	(728,548,091)
g. Net Change in Total OPEB Liability	\$ (4,764,622,507)	\$ (6,429,468,184)
h. Total OPEB Liability – Beginning	34,782,794,493	41,212,262,677
i. Total OPEB Liability – Ending	\$ 30,018,171,986	\$ 34,782,794,493
2. Plan Fiduciary Net Position		
a. Contributions – employer	\$ 307,028,461	\$ 892,204,840
b. Contributions – non-employer contributing entities	16,585,270	45,035,437
c. Contributions – employee	203,123,120	195,806,162
d. Contributions – Federal Revenues for Medicare Part D Retiree Drug Subsidies	1,417,806	1,658,573
e. Contributions – adjustments	0	(2,071,361)
f. Net investment income	10,906,797	4,516,817
g. Benefit payments, including refunds of employee contributions	(662,722,913)	(728,548,091)
h. Benefit payments financed by employee contributions and Federal Revenues	(276,198,100)	(267,267,712)
i. Administrative expense	(5,817,620)	(5,628,689)
j. Other – Federal Revenues ⁶	73,074,980	71,461,550
k. Other additions	3,249,101	356,575
l. Net Change in Plan Fiduciary Net Position	\$ (329,353,098)	\$ 207,524,101
m. Plan Fiduciary Net Position – Beginning	709,782,760	502,258,659
n. Plan Fiduciary Net Position – Ending	\$ 380,429,662	\$ 709,782,760
3. Employer’s Net OPEB Liability – Ending [Item 1(i) – 2(n)]	\$ 29,637,742,324	\$ 34,073,011,733
4. Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	1.27%	2.04%
5. Covered-Employee Payroll	\$ 12,047,166,658	\$ 11,745,310,057
6. Employer’s Net OPEB Liability as a Percentage of Covered-Employee Payroll	246.01%	290.10%

Notes to Schedule:

¹ Until a full 10-year trend is compiled, governments should present information for those years for which information is available.

² Information is presented using a measurement date on the last day of the preceding fiscal year (e.g., a measurement date of August 31, 2017 was used for FY18).

³ Changes in assumptions for measurement year ended August 31, 2018 include (a) demographic assumptions (including rates of retirement, disability, termination, and mortality, and assumed salary increases) for Higher Education members, (b) discount rate increased from 3.51% to 3.96%, (c) percentage of current retirees and their spouses not yet eligible to participate in the HealthSelect Medicare Advantage Plan and future retirees and their spouses who will elect to participate in the plan at the earliest date at which coverage can commence, (d) percentage of members assumed to be married and electing coverage for their spouse, and (e) assumptions for Expenses, Assumed Per Capita Health Benefit Costs and Health Benefit Cost Retiree Contribution, and Expense trends.

⁴ Changes in assumptions for measurement year ended August 31, 2017 include (a) demographic assumptions (including rates of retirement, disability, termination, and mortality, assumed salary increases and assumed age difference for future retirees and their spouses for select classes of State Agency members), (b) assumed aggregate payroll increases and rate of general inflation, (c) discount rate increased from 2.84% to 3.51%, (d) percentage of current retirees and their spouses not yet eligible to participate in the HealthSelect Medicare Advantage Plan and future retirees and their spouses who will elect to participate in the plan at the earliest date at which coverage can commence, (e) proportion of future retirees covering dependent children, (f) percentage of members assumed to be married and electing coverage for their spouse, and (g) assumptions for Expenses, Assumed Per Capita Health Benefit Costs and Health Benefit Cost Retiree Contribution, and Expense trends.

⁵ Benefit payments include expenses directly related to the payment of benefits and are net of member contributions and Federal Revenues.

⁶ Excludes Federal Revenues for Medicare Part D Retiree Drug Subsidies.



B. Detailed Calculations of Certain Components of OPEB Expense

	Measurement Year Ended August 31, 2018 and Employer Reporting for Fiscal Years Ending on or before August 31, 2019
1. Interest on Total OPEB Liability	
a. Total OPEB Liability on prior Measurement Date (August 31, 2017)	\$ 34,782,794,493
b. Service Cost	\$ 1,495,979,208
c. Benefit Payments	\$ 662,722,913
d. Discount Rate as of prior Measurement Date (August 31, 2017)	3.51%
e. Interest on Total OPEB Liability $[(a. + b.) \times d.] - \{c. \times [(1+d.)^{0.5} - 1]\}$	\$ 1,261,854,477
2. Projected Earnings on OPEB Plan Investments	
a. Plan Fiduciary Net Position on prior Measurement Date (August 31, 2017)	\$ 709,782,760
b. Contributions – employer	\$ 307,028,461
c. Contributions – Non-employer contributing entities	\$ 16,585,270
d. Contributions – employee	\$ 203,123,120
e. Contributions – Federal Revenues for Medicare Part D RDS	\$ 1,417,806
f. Other (Federal Revenues)	\$ 73,074,980
g. Other (Other Additions)	\$ 3,249,101
h. Benefit Payments	\$ 662,722,913
i. Administrative Expense	\$ 5,817,620
j. Benefit payments financed by employee contributions and Federal Revenues	\$ 276,198,100
k. Expected Rate of Return on Plan Assets as of prior Measurement Date (August 31, 2017)	3.51%
l. Projected Earnings on OPEB Plan Investments $(a. \times k.) + \{(b. + c. + d. + e. + f. + g. - h. - i. - j.) \times [(1 + k.)^{0.5} - 1]\}$	\$ 18,993,314



C. Changes in Liabilities Since the Prior Valuation

The Total OPEB Liability and the Normal Cost have both decreased since the prior valuation due to the combined effect of growth due to passage of time, Actuarial Gains, changes to the Actuarial Assumptions, and changes to the plan provisions.

An **Actuarial Gain or Loss** occurs from one valuation to the next if the experience of the plan differs from that anticipated by the actuarial assumptions. The plan experienced gains in the Total OPEB Liability during the measurement year ending August 31, 2018 as shown in the table on the next page.

The **Actuarial Assumptions** are used to project the demographic events and economic forces that affect the cost of the plan. Since the last valuation was prepared for this plan, demographic assumptions (including rates of retirement, disability, termination, and mortality, and assumed salary increases) for Higher Education members have been updated to reflect assumptions recently adopted by the TRS Trustees. These new assumptions were adopted to reflect an experience study on the TRS retirement plan performed by the TRS retirement plan actuary.

In addition, assumed Expenses, assumed Per Capita Health Benefit Costs and assumed Health Benefit Cost, Retiree Contribution and Expense trends have been updated to reflect recent experience and its effects on our short-term expectations. Furthermore, (a) the percentage of current retirees and their spouses not yet eligible to participate in the HealthSelect Medicare Advantage Plan and future retirees and their spouses who will elect to participate in the plan at the earliest date at which coverage can commence and (b) the percentage of future retirees assumed to be married and electing coverage for their spouse have been updated to reflect recent plan experience and expected trends.

Lastly, the discount rate assumption was increased from 3.51% to 3.96% as a result of requirements by GASB No. 75 to utilize the yield or index rate for 20-year, tax-exempt general obligation municipal bonds rated AA/Aa (or equivalent) or higher in effect on the measurement date.

Since the last valuation was prepared for this plan, a benefit change has been adopted which will become effective January 1, 2019. The benefit change for HealthSelect retirees and dependents for whom Medicare is not primary is an increase in the out-of-pocket maximum for both HealthSelect and Consumer Directed HealthSelect (CDHP) from \$6,550 to \$6,650 for individuals and from \$13,100 to \$13,300 for families in order to remain consistent with Internal Revenue Service maximums. This minor benefit change is provided for in the FY 2019 Assumed Per Capita Health Benefit Costs. There are no benefit changes for HealthSelect retirees and dependents for whom Medicare is Primary.



The table below summarizes the effects of significant factors affecting the Total OPEB Liability and the Normal Cost. Because 100% of the Normal Cost is attributable to Active plan members while only 52% of the Total OPEB Liability is attributable to Active plan members, these factors affect the Total OPEB Liability and the Normal Cost differently. Additionally, due to the mechanics of the Entry Age cost method, some factors affect the Active Total OPEB Liability and Normal Cost differently as well.

Changes to Liability Since the Prior Valuation		
Factor	Approximate Increase / (Decrease)	
	Total OPEB Liability (in \$ thousands)	Normal Cost (in \$ thousands)
Growth due to passage of time¹	\$ 2,095,111	\$ 52,509
Actuarial (Gains)/Losses	(935,689)	(28,902)
Assumption Changes Other than Discount Rate²	(3,728,348)	(147,296)
Discount Rate Assumption Change	(2,195,696)	(166,184)
Total	\$ (4,764,622)	\$ (289,873)

¹ Since OPEB is funded on a PAYGO basis, the excess of (a) the Normal Cost plus (b) interest over (c) the PAYGO contribution increases the Total OPEB Liability. Since the Normal Cost is determined as a level percentage of payroll, it will increase due to payroll growth resulting from growth in the number of active employees and inflationary increases in the salaries.

² Includes plan benefit changes as reflected in the FY 2019 Assumed Per Capita Health Benefit Costs.



Section V - Proportionate Share for Each Employer

Each employer shall apply their allocation percentage to the Net OPEB Liability of \$29,637,742,324, to the sensitivities of the Net OPEB Liability to changes in the discount rate and the healthcare cost trend rates as shown on page II-5 of this report, to the OPEB Expense of \$(176,184,910), to the Deferred Outflows of Resources of \$14,035,125 and to the Deferred Inflows of Resources of \$11,471,706,520 to determine their proportionate share of each of these accounting entries. (See Appendices for additional details about the Deferred Outflows/Inflows of Resources.) The allocation percentages presented in the table below were determined by ERS and are as of August 31, 2018 to be used for reporting for 2019 fiscal years ending on or before August 31, 2019.

In addition, pursuant to paragraph 64 of GASB No. 75, if there is a change in the employer's proportion of the collective net OPEB liability since the prior measurement date, the net effect of that change on the employer's proportionate shares of the collective net OPEB liability and collective deferred outflows of resources and deferred inflows of resources related to OPEB, determined as of the beginning of the measurement period, should be recognized in the employer's OPEB expense, beginning in the current reporting period, using a systematic and rational method over a closed period. For this purpose, the length of the expense recognition period should be equal to the average of the expected remaining service lives of all employees that are provided with OPEB through the OPEB plan (active members and inactive members) determined as of the beginning of the measurement period. The amount net recognized in the employer's OPEB expense should be reported as a deferred outflow of resources or deferred inflow of resources related to OPEB. [See Q/A #4.193 and Illustration B4-3 of GASB's Implementation Guide No. 2017-3, Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions (and Certain Issues Related to OPEB Plan Reporting).]

Summary of Employer Allocations by Reporting Entity

	Fiscal Year 2018 Actual Employer Contributions	Employer Allocation Percentage
STATE OF TEXAS		
State Matching funds:		
¹ Non-Employer Contributing Entity (NECE)	178,488,167.00	6.14425740%
Employer Contributions - State Universities	174,100,294.28	5.99320974%
² Other Entities - State	75,616,223.03	2.60300470%
Employer Contributions - State Agencies	1,959,778,416.86	67.46320074%
Total - STATE OF TEXAS	2,387,983,101.17	82.20367259%
ALL OTHER EMPLOYERS		
Other Entities - Universities	272,601,460.51	9.38400326%
Other Entities - Junior and Community Colleges	232,503,761.10	8.00368438%
Other Entities	11,870,818.38	0.40863977%
Total - ALL OTHER EMPLOYERS	516,976,039.99	17.79632741%
GRAND TOTAL	2,904,959,141.16	100.00000000%
OPEB Liability	29,637,742,324.00	



**Employees Retirement System of Texas
Schedule of Employer Allocations for Other Postemployment Benefits (OPEB)
as of August 31, 2018 for the Measurement Year Ending August 31, 2018
for Reporting for 2019 Fiscal Years Ending on or before August 31, 2019**

Agency No.	Agency Name	Fiscal Year 2018 Employer Contributions	Employer Allocation Percentage
0902	¹ State of Texas Non Employer Contributing Entity (NECE)	178,488,167.00	6.14425740%
0902	State of Texas Employer for Universities	174,100,294.28	5.99320974%
0902	² Other Entities - State	75,616,223.03	2.60300470%
Employer Contributions - State Agencies			
0101	Senate	6,578,811.85	0.22646831%
0102	House of Representatives	10,573,715.40	0.36398844%
0103	Texas Legislative Council	4,916,617.70	0.16924912%
0104	Legislative Budget Board	1,795,614.62	0.06181204%
0105	Legislative Reference Library	281,734.02	0.00969838%
0116	Sunset Advisory Commission	334,422.48	0.01151212%
0201	Supreme Court	884,666.66	0.03045367%
0202	State Bar of Texas	3,584,453.76	0.12339085%
0203	Board of Law Examiners	273,244.14	0.00940613%
0211	Court of Criminal Appeals	875,174.22	0.03012690%
0212	Office of Court Administration	2,676,552.16	0.09213734%
0213	State Prosecuting Attorney	86,407.82	0.00297449%
0215	Office of Capital and Forensic Writs	123,835.14	0.00426289%
0221	Court of Appeals - First Court of Appeals District	556,869.28	0.01916961%
0222	Court of Appeals - Second Court of Appeals District	482,880.30	0.01662262%
0223	Court of Appeals - Third Court of Appeals District	487,240.30	0.01677271%
0224	Court of Appeals - Fourth Court of Appeals District	403,347.82	0.01388480%
0225	Court of Appeals - Fifth Court of Appeals District	794,011.10	0.02733295%
0226	Court of Appeals - Sixth Court of Appeals District	229,041.60	0.00788450%
0227	Court of Appeals - Seventh Court of Appeals District	292,575.30	0.01007158%
0228	Court of Appeals - Eighth Court of Appeals District	238,162.50	0.00819848%
0229	Court of Appeals - Ninth Court of Appeals District	274,459.78	0.00944797%
0230	Court of Appeals - Tenth Court of Appeals District	189,436.40	0.00652114%
0231	Court of Appeals - Eleventh Court of Appeals District	227,515.40	0.00783197%
0232	Court of Appeals - Twelfth Court of Appeals District	260,392.02	0.00896371%
0233	Court of Appeals - Thirteenth Court of Appeals District	405,077.42	0.01394434%
0234	Court of Appeals - Fourteenth Court of Appeals District	602,658.44	0.02074585%
0241	Comptroller - Judiciary Section	11,713,450.47	0.40322256%
0242	State Commission on Judicial Conduct	187,359.68	0.00644965%
0243	State Law Library	107,519.34	0.00370123%
0300	Governor - Fiscal	1,405,965.86	0.04839882%
0301	Governor - Executive	2,059,215.40	0.07088621%
0302	Attorney General	48,879,761.52	1.68263164%
0303	Texas Facilities Commission	5,390,532.86	0.18556312%
0304	Comptroller of Public Accounts	41,763,275.79	1.43765450%
0305	General Land Office	8,400,969.32	0.28919406%
0306	Texas State Library and Archives Commission	2,014,821.03	0.06935798%
0307	Secretary of State	2,639,342.96	0.09085646%
0308	State Auditor	2,446,837.86	0.08422968%
0312	State Securities Board	1,104,094.20	0.03800722%
0313	Department of Information Resources	2,819,322.20	0.09705204%
0320	Texas Workforce Commission	63,770,179.19	2.19521777%
0323	Teacher Retirement System of Texas	8,332,249.56	0.28682846%
0326	Texas Emergency Services Retirement System	86,020.52	0.00296116%
0327	Employees Retirement System of Texas	4,941,681.98	0.17011193%
0329	Texas Real Estate Commission – Semi-Independent	1,426,213.26	0.04909581%
0332	Texas Department of Housing and Community Affairs	3,885,166.30	0.13374255%



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Agency No.	Agency Name	Fiscal Year 2018 Employer Contributions	Employer Allocation Percentage
0338	State Pension Review Board	183,537.12	0.00631806%
0347	Texas Public Finance Authority	175,686.66	0.00604782%
0352	Bond Review Board	140,922.12	0.00485109%
0356	Texas Ethics Commission	340,395.02	0.01171772%
0359	Office Of Public Insurance Counsel	123,060.98	0.00423624%
0360	State Office of Administrative Hearings	1,506,837.38	0.05187121%
0362	Texas Lottery Commission	3,906,424.38	0.13447433%
0364	Health Professions Council	65,967.46	0.00227086%
0401	Texas Military Department	6,238,607.49	0.21475715%
0403	Texas Veterans Commission	3,661,953.62	0.12605870%
0405	Department of Public Safety	134,183,455.44	4.61911679%
0407	Texas Commission on Law Enforcement	727,016.94	0.02502675%
0409	Commission on Jail Standards	238,811.70	0.00822083%
0411	Texas Commission on Fire Protection	534,927.34	0.01841428%
0448	Office of Injured Employee Counsel – Administered by 454	1,735,382.07	0.05973861%
0450	Department of Savings and Mortgage Lending – Semi-Independent	650,706.08	0.02239984%
0451	Texas Department of Banking – Semi-Independent	2,251,985.98	0.07752212%
0452	Texas Department of Licensing and Regulation	4,978,877.80	0.17139235%
0454	Texas Department of Insurance	21,215,503.96	0.73032022%
0455	Railroad Commission of Texas	11,159,689.04	0.38415993%
0456	Texas State Board of Plumbing Examiners	442,268.14	0.01522459%
0457	Texas State Board of Public Accountancy – Semi-Independent	504,835.04	0.01737839%
0458	Texas Alcoholic Beverage Commission	9,240,117.00	0.31808079%
0459	Texas Board of Architectural Examiners – Semi-Independent	270,776.76	0.00932119%
0460	Texas Board of Professional Engineers – Semi-Independent	427,564.16	0.01471842%
0464	Texas Board of Professional Land Surveying	78,845.42	0.00271417%
0466	Office of Consumer Credit Commissioner – Semi-Independent	977,897.59	0.03366304%
0469	Credit Union Department – Semi-Independent	338,905.22	0.01166644%
0473	Public Utility Commission of Texas	2,565,198.40	0.08830411%
0475	Office of Public Utility Counsel	229,148.70	0.00788819%
0476	Texas Racing Commission	676,340.60	0.02328228%
0477	Commission on State Emergency Communications	296,581.42	0.01020949%
0479	State Office of Risk Management	1,226,048.78	0.04220537%
0481	Texas Board of Professional Geoscientists	41,589.84	0.00143168%
0503	Texas Medical Board	2,190,966.84	0.07542161%
0504	State Board of Dental Examiners	547,574.70	0.01884965%
0507	Texas Board of Nursing	1,150,762.26	0.03961372%
0508	Texas Board of Chiropractic Examiners	97,760.76	0.00336531%
0513	Texas Funeral Service Commission	134,674.18	0.00463601%
0514	Texas Optometry Board	83,334.18	0.00286869%
0515	Texas State Board of Pharmacy	1,093,741.68	0.03765085%
0520	Texas State Board of Examiners of Psychologists	175,375.40	0.00603710%
0529	Health and Human Services Commission	434,872,401.70	14.97000063%
0530	Department of Family and Protective Services	127,957,261.50	4.40478696%
0533	Executive Council of Physical and Occupational Therapy Examiners	225,393.24	0.00775891%
0537	Department of State Health Services	89,872,959.26	3.09377705%
0542	Cancer Prevention & Research	294,762.52	0.01014687%
0551	Department of Agriculture	9,352,140.94	0.32193709%
0554	Texas Animal Health Commission	3,188,245.49	0.10975182%
0578	State Board of Veterinary Medical Examiners	186,768.62	0.00642930%
0580	Texas Water Development Board	4,555,307.48	0.15681141%



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Agency No.	Agency Name	Fiscal Year 2018 Employer Contributions	Employer Allocation Percentage
0582	Texas Commission on Environmental Quality	35,808,672.85	1.23267389%
0592	Soil and Water Conservation Board	826,762.86	0.02846040%
0601	Texas Department of Transportation	212,626,716.89	7.31943916%
0608	Texas Department of Motor Vehicles	7,548,993.55	0.25986574%
0644	Texas Juvenile Justice Department	32,086,764.97	1.10455134%
0696	Texas Department of Criminal Justice	453,753,652.45	15.61996677%
0701	Texas Education Agency	14,034,366.70	0.48311753%
0771	Texas School for the Blind and Visually Impaired	4,748,731.10	0.16346981%
0772	Texas School for the Deaf	5,711,136.06	0.19659953%
0781	Texas Higher Education Coordinating Board	3,439,908.32	0.11841503%
0802	Parks and Wildlife Department	44,760,852.64	1.54084276%
0808	Texas Historical Commission	2,391,876.78	0.08233771%
0809	State Preservation Board	1,798,190.96	0.06190073%
0813	Texas Commission on the Arts	160,346.64	0.00551976%
0907	Comptroller - State Energy Conservation Office	151,018.14	0.00519863%
0930	Texas Treasury Safekeeping Trust Company	812,232.62	0.02796021%
Total of Employer Contributions - State Agencies		1,959,778,416.86	
Other Entities - Universities			
0717	Texas Southern University	6,385,002.33	0.21979663%
0719	Texas State Technical College System	2,831,629.82	0.09747572%
0730	University of Houston	42,424,598.06	1.46041979%
0731	Texas Woman's University	10,866,302.68	0.37406043%
0733	Texas Tech University	38,148,426.63	1.31321732%
0734	Lamar University	8,023,790.84	0.27621011%
0735	Midwestern State University	4,627,762.52	0.15930560%
0737	Angelo State University	6,633,212.44	0.22834099%
0739	Texas Tech University Health Sciences Center	23,515,638.21	0.80949979%
0752	University of North Texas	28,108,118.17	0.96759083%
0753	Sam Houston State University	17,398,170.55	0.59891275%
0754	Texas State University	30,237,604.38	1.04089603%
0755	Stephen F. Austin State University	12,516,426.08	0.43086410%
0756	Sul Ross State University	2,375,193.66	0.08176341%
0758	Texas State University System	399,159.13	0.01374061%
0759	University of Houston - Clear Lake	5,533,797.71	0.19049486%
0763	University of North Texas Health Science Center at Fort Worth	6,896,407.59	0.23740119%
0765	University of Houston - Victoria	1,979,931.21	0.06815694%
0768	Texas Tech University System	1,166,156.71	0.04014365%
0769	University of North Texas System	3,227,647.63	0.11110819%
0773	University of North Texas at Dallas	1,354,683.59	0.04663348%
0774	Texas Tech University Health Sciences Center - El Paso	9,045,934.36	0.31139627%
0783	University of Houston System	90,576.31	0.00311799%
0784	University of Houston - Downtown	6,899,177.06	0.23749653%
0787	Lamar State College - Orange	620,366.41	0.02135543%
0788	Lamar State College - Port Arthur	776,851.67	0.02674226%
0789	Lamar Institute of Technology	518,894.76	0.01786238%
Total of Other Entities - Universities		272,601,460.51	



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Agency No.	Agency Name	Fiscal Year 2018 Employer Contributions	Employer Allocation Percentage	Non-Employer Contributing Entity (NECE)	Non-Employer Contributing Entity (NECE) Allocation Percentage
Other Entities - Junior and Community Colleges					
0767	³ Southwest Collegiate Institute for the Deaf	216,557.91	0.00745477%	247,049.49	0.00850441%
0948	South Texas Community College	8,881,037.01	0.30571986%	5,520,404.53	0.19003381%
0949	Collin County Community College District	6,421,045.74	0.22103739%	5,202,130.06	0.17907756%
0951	Alvin Community College	2,324,368.75	0.08001382%	1,711,724.91	0.05892423%
0952	Amarillo College	5,210,824.94	0.17937688%	3,854,600.20	0.13269034%
0953	Coastal Bend College	1,632,099.37	0.05618321%	1,076,224.61	0.03704784%
0954	Blinn College	4,817,561.13	0.16583920%	4,158,677.39	0.14315786%
0955	Central Texas College	5,290,512.05	0.18212002%	2,699,705.88	0.09293438%
0956	Cisco Junior College	1,234,199.96	0.04248597%	898,099.22	0.03091607%
0957	Clarendon College	690,010.83	0.02375286%	420,795.73	0.01448543%
0958	North Central Texas College	2,444,770.31	0.08415851%	1,870,899.35	0.06440364%
0959	Dallas County Community College	23,633,539.48	0.81355841%	18,648,111.94	0.64194059%
0960	Del Mar College	5,464,830.32	0.18812073%	4,238,957.98	0.14592143%
0961	Frank Phillips College	826,872.26	0.02846416%	367,305.02	0.01264407%
0962	Galveston College	1,082,744.62	0.03727228%	854,172.60	0.02940395%
0963	Grayson County College	2,078,207.96	0.07154001%	1,598,789.98	0.05503657%
0964	Trinity Valley Community College	2,580,676.07	0.08883692%	2,036,649.81	0.07010941%
0965	Hill College	1,218,273.75	0.04193772%	1,226,712.21	0.04222821%
0966	³ Howard College	1,904,317.34	0.06555402%	1,134,384.44	0.03904993%
0967	Kilgore College	3,024,997.71	0.10413220%	1,744,916.03	0.06006680%
0968	Laredo Junior College	4,136,129.56	0.14238168%	3,361,322.36	0.11570980%
0969	Lee College	3,252,219.21	0.11195404%	2,113,531.53	0.07275598%
0970	McLennan Community College	3,947,452.92	0.13588669%	3,022,944.18	0.10406150%
0971	College Of The Mainland	2,597,235.26	0.08940695%	2,204,053.54	0.07587210%
0972	Navarro College	2,568,208.89	0.08840775%	1,717,380.31	0.05911891%
0973	Odessa College	2,507,879.54	0.08633098%	1,955,365.02	0.06731127%
0974	Panola College	1,170,670.87	0.04029905%	976,484.73	0.03361441%
0975	Paris Junior College	1,905,775.03	0.06560419%	1,064,891.27	0.03665770%
0976	Ranger Junior College	709,135.55	0.02441121%	458,128.81	0.01577058%
0977	Alamo Community College	15,956,878.99	0.54929788%	13,585,195.41	0.46765530%
0978	San Jacinto College	9,319,628.43	0.32081788%	8,411,855.97	0.28956882%
0979	South Plains College	4,958,556.39	0.17069281%	3,558,556.01	0.12249935%
0980	Southwest Texas Counties Junior College	2,324,412.26	0.08001532%	1,572,451.98	0.05412992%
0981	Tarrant County College District	15,155,734.74	0.52171938%	13,724,421.98	0.47244802%
0982	Temple College	1,934,247.99	0.06658434%	1,525,881.23	0.05252677%
0983	Texarkana College	1,814,071.17	0.06244739%	1,488,687.21	0.05124641%
0984	Texas Southmost College	1,787,375.19	0.06152841%	477,230.85	0.01642814%
0985	Tyler Junior College	4,721,605.60	0.16253604%	3,792,189.66	0.13054193%
0986	Victoria College	2,488,653.01	0.08566912%	1,310,005.55	0.04509549%
0987	Weatherford College	2,151,457.74	0.07406155%	1,574,005.72	0.05418340%
0988	Wharton County Junior College	2,345,008.27	0.08072431%	2,040,668.19	0.07024774%
0989	Angelina College	1,938,060.36	0.06671558%	1,414,007.84	0.04867565%
0990	Brazosport College	1,763,958.44	0.06072232%	1,488,474.38	0.05123908%
0991	Vernon Regional Junior College	1,466,048.88	0.05046711%	1,211,235.50	0.04169544%
0992	Western Texas College	937,395.58	0.03226880%	821,352.60	0.02827415%
0993	El Paso Community College	7,406,496.17	0.25496043%	7,195,923.30	0.24771169%
0994	Houston Community College	16,029,426.98	0.55179527%	10,820,151.75	0.37247174%
0995	Midland College	2,671,349.09	0.09195823%	2,177,522.44	0.07495880%
0996	Lone Star College	16,011,025.29	0.55116181%	12,633,646.95	0.43489930%
0997	Austin Community College	14,066,001.15	0.48420651%	10,370,118.17	0.35697983%
0998	Northeast Texas Community College	1,484,215.04	0.05109246%	910,171.18	0.03133163%
Total of Other Entities - Junior and Community Colleges		232,503,761.10		178,488,167.00	6.14425740%



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Agency No.	Agency Name	Fiscal Year 2018 Employer Contributions	Employer Allocation Percentage
Other Entities			
0602	Texas Turnpike Authority	374,612.22	0.01289561%
0851	Texas Cooperative Inspection Program	691,055.38	0.02378882%
0897	Texas County District Retirement System	1,187,091.50	0.04086431%
0898	Texas Municipal Retirement System	1,124,495.30	0.03870951%
8696	Windham School District	8,493,563.98	0.29238153%
Total of Other Entities		11,870,818.38	
GRAND TOTAL of Schedule of Employer Allocation		2,904,959,141.16	100.00000000%

¹ State of Texas Non Employer Contributing Entity (NECE) represents the Fund 0001 portion for Junior Colleges.

² Other Entities - State
 University of Texas Medical Branch at Galveston
 Community Supervision & Corrections Departments (CSCD) - Department of Criminal Justice
 UT Mental Sciences Institute

³ Howard College and Southwest Collegiate Institute for the Deaf are a part of the Howard County Junior College District

Change in Accounting Policy for FY 2018 - All contributions by employers and NECE to the Group Employees Life, Accident and Health Insurance and Benefits Fund Program (GBP) are available to pay claims of active and retired members. Employer and NECE contributions are based on a blended rate. Allocation of the OPEB liability and related accounts should be based on the total contributions that are available to pay current and future claims of the OPEB plan, as this best reflects the relationship between the contributions and the collective net OPEB liability. The above schedule for Fiscal Year 2018 are based on both active and retiree contributions.

To assist Junior and Community Colleges with GASB 75 paragraph 113 (a) for FY 2018, ERS has included a column for the Non-Employer Contributing Entity (NECE) and the Non-Employer Contributing Entity (NECE) Allocation Percentage.

To the best of our knowledge, the information contained within this schedule is accurate and fairly presented in conformity with GASB 74 and 75.

Additional related documents available on the ERS website include:
 ERS Comprehensive Annual Financial Report (CAFR) for FY 2018

Governmental Accounting Standards Board (GASB) No. 74 Actuarial Valuation of the OPEB provided under the Texas Group Benefits Program (Texas GBP) for fiscal year 2018

GASB No. 75 Actuarial Valuation of the OPEB provided under the Texas GBP for fiscal year ending 2018
 Schedule of Collective OPEB Amounts for Other Post-Employment Benefits (OPEB) Fund for ERS FY 2018

Section VI - Actuarial Methods and Assumptions

A. Actuarial Methods

1. Actuarial Funding Method

The Entry Age (or Entry Age Normal as generally used in the Actuarial Standards of Practice) actuarial funding method is used in determining the contribution requirements for the plan. The actuarial funding method is the procedure by which the actuary determines a series of annual contributions which, along with current assets and future investment earnings, will fund the expected plan benefits. The Entry Age funding method compares the excess of the actuarial present value of projected benefit payments over the fiduciary net position (or current value of plan assets). This difference represents the expected present value of current and future contributions that will be paid into the plan. The contributions are divided into two components: an annual Normal Cost and an amortization charge for the Net OPEB Liability (or unfunded accrued liability).

The Normal Cost for the plan is the sum of individually determined Normal Costs for each active member. Each active member's Normal Cost is the current annual contribution in a series of annual contributions which, if made throughout the member's total period of employment, would fund his expected benefits from the plan. Each member's Normal Cost is calculated to be a constant percentage of his expected compensation in each year of employment.

The plan's Total OPEB Liability (or current accrued liability) is the excess of the actuarial present value of projected benefit payments over the present value of all future remaining Normal Cost contributions for all active members. The Net OPEB Liability (or unfunded accrued liability) is the amount by which the Total OPEB Liability exceeds the fiduciary net position. The Net OPEB Liability is recalculated each time a valuation is performed and is amortized as a level percentage of projected payroll in accordance with employer funding goals and GASB guidelines. Experience gains and losses, which represent deviations of the Net OPEB Liability from its expected value based on the prior valuation, are determined at each valuation and are amortized as part of the Net OPEB Liability.

2. Fiduciary Net Position

The Fiduciary Net Position is equal to the fair market value of plan assets as determined by the plan administrator, including any receivable contributions made for a prior plan year which were not recognized by the plan administrator as of the asset valuation date.

B. Actuarial Assumptions

The actuarial valuation of the GBP OPEB requires the use of numerous actuarial assumptions many of which are similar to the assumptions used in performing the actuarial valuations of the retirement plans in which the GBP members participate. State agency members participate in the ERS retirement plan while many higher education members participate in the TRS retirement plan. For consistency with those valuations, for purposes of our valuation of the GBP OPEB we have utilized the applicable assumptions previously adopted by the Trustees of the respective systems at the time our valuation is performed. In other words, we have used applicable ERS

retirement plan assumptions for the valuation of OPEB for state agency members and, except as indicated below, we have used TRS retirement plan assumptions for the valuation of OPEB for higher education members. It should be noted that we have applied the TRS assumptions to all higher education members including those who have opted to participate in the optional retirement plan (ORP) instead of TRS. Although it may be preferable to eventually develop a body of data that would enable ORP specific assumptions to be used, such data does not presently exist. In the absence of such data, it is our opinion that the TRS demographic and pay-related assumptions can be reasonably applied to ORP participants.

In addition to the assumptions used in the retirement plan valuations, the OPEB valuation also requires numerous unique assumptions developed as follows.

1. The following assumptions are based on actual GBP experience.
 - a) Percentages of future retired members electing coverage for a spouse and/or dependent children.
 - b) Percentages of (i) current retirees and retiree spouses not yet eligible for HealthSelect Medicare Advantage participation and (ii) future retirees and retiree spouses who will elect to participate in HealthSelect Medicare Advantage at the earliest date at which such coverage can commence.
 - c) Percentages of future retirees and future retiree spouses assumed to use tobacco.
 - d) GBP expenses.
 - e) HealthSelect Per Capita Health Benefit Cost (Medical and Prescription Drugs) for Fiscal Year 2019 for Covered Retirees, Spouses and Dependent Children.
 - f) HealthSelect Medicare Advantage Per Capita Health Benefit Cost for Fiscal Year 2019 for Covered Retirees and Spouses;
 - i. Medical – Based on actual Medicare Advantage premiums for CY18 and CY19.
 - ii. Prescription drug – Based on actual GBP experience.
2. Health Benefit Cost Trend, Trend Rate for Retiree Contributions and Expense Trend Rate are based on current experience and reasonable expectations concerning future experience.
3. Assumed Commencement Age if Eligible for OPEB following Termination is based upon reasonable expectations concerning future experience.
4. The following assumptions are based on actuarial judgment.
 - a) Period of coverage for dependent children of current and future retirees.



- b) Percentages of current and future retiree spouses and dependent children expected to continue coverage after the death of the retiree.
- c) Percentages of future retirees assumed to elect coverage at retirement and remain covered until death.

The assumptions used in this report are summarized below.

1. **Demographic Assumptions**

The tables of decrements below contain rates (not probabilities) of decrement.

- a. **Mortality**: The members of the GBP are expected to exhibit mortality in accordance with the following mortality tables:
 - i. State Agency Members (assumptions used in valuing the applicable ERS retirement plan)
 - a) Service Retirees, Survivors and other Inactive Members (Regular, Elected, CPO/CO and JRS I and II Employee Classes):
2017 State Retirees of Texas Mortality table with a 1 year set forward for male CPO/CO members and Ultimate MP Projection Scale projected from the year 2017. Sample Rates for base table shown below.

Annual Mortality Rates per 100 Individuals

<u>Age</u>	<u>Males</u>	<u>Females</u>
40	0.0603	0.0380
45	0.1059	0.0687
50	0.1825	0.1215
55	0.3145	0.2150
60	0.5421	0.3804
65	0.9344	0.6730
70	1.6105	1.1908
75	2.7757	2.1069
80	4.7842	3.7277
85	8.2459	6.5956
90	14.2527	11.7028



b) Disability Retirees (Regular, Elected, CPO/CO and JRS I and II Employee Classes):

RP-2014 Disabled Retiree Mortality with Ultimate MP Projection Scale projected from the year 2014

c) Active Members*:

RP-2014 Active Member Mortality tables with Ultimate MP Projection Scale from the year 2014

* For Regular Employee Class and CPO/CO Class members, 1.0% of active deaths are assumed to be occupational.

ii. Higher Education Members (assumptions used in valuing the TRS retirement plan)

a) Service Retirees, Survivors and other Inactive Members:

Tables based on TRS experience with Ultimate MP Projection Scale projected from the year 2018. Illustrative base rates before applying the projection scale are shown in the table below.

Annual Rates of Inactive Member
 Mortality per 100 Members

Age	Male	Female
50	0.1652	0.1080
60	0.4651	0.2668
70	1.4356	0.8969
80	4.6716	3.2270
90	15.2340	11.6359
100	49.0265	42.2361

b) Disability Retirees:

The same mortality as described in B.1.a.ii.a. above but using a 3-year set forward and minimum mortality rates of four per 100 male members and two per 100 female members.

c) Active Members:

Sex Distinct RP-2014 Employee Mortality multiplied by 90% with Ultimate MP Projection Scale projected from the year 2014.

b. Retirement: A member is assumed to retire in accordance with the following annual rates:

i. State Agency Members (assumptions used in valuing the applicable ERS retirement plan)

a) Active Regular Employee Class Members:

ERS Decrement Service is used to determine when the rates apply for members hired before September 1, 2009:

- Age 60 with 5 years of service
- Rule of 80 with 5 years of service



ERS Decrement Service is used to determine when the rates apply for members hired after August 31, 2009:

- Age 65 with 10 years of service
- Rule of 80 with 5 years of service

Service retirement rates are determined by the first set of eligibility requirements satisfied:

- Eligibility A: Age plus eligibility service is greater than or equal to 80 (“Rule of 80”)
- Eligibility B: Retirement eligibility other than Rule of 80

Adjustments to the base rates are made to account for age at first eligibility or reduced retirement benefits, based on date of hire (described below sample table).

Sample rates for eligible members:

Annual Service Retirement Rates		
Regular Employee Class Members (Males & Females)		
	Eligibility A	Eligibility B
<u>Age</u>	<u>Rule of 80</u>	<u>Other Age/Service</u>
<50	0.50	
50	0.40	
51	0.35	
52	0.30	
53	0.28	
54	0.27	
55	0.26	
56	0.25	
57	0.24	
58	0.23	
59	0.22	
60	0.21	0.18
61	0.20	0.12
62	0.33	0.20
63	0.27	0.18
64	0.27	0.18
65 - 74	0.27	0.27
75	1.00	1.00

Adjustments for members hired before September 1, 2009:

- Eligibility A: Add 0.30 at age of 1st eligibility

Adjustments for members hired on or after September 1, 2009, but before September 1, 2013:

- Eligibility A: Add 0.30 at age 60



Adjustments for members hired on or after September 1, 2013:

- Eligibility A: If age of 1st eligibility is before age 62, then
 - rates prior to age 62 are multiplied by 75% for each year prior to age 62
 - the rate at age 62 is the base table rate plus 0.20 plus 0.06 times the number of years the age at 1st eligibility was before age 62

b) Active Elected Class Members:

ERS Decrement Service is used to determine when the rates apply:

- Age 60 with 8 years of service
- Age 50 with 12 years of service

Sample rates for eligible members:

Annual Service Retirement Rates Per 100 Elected Class Members	
<u>Age</u>	<u>Male and Female</u>
50-61	10
62-74	20
75+	100

c) Active CPO/CO Employee Class Members:

CPO/CO Decrement Service is used to determine when the rates apply for members hired before September 1, 2009:

- Any age with 20 years CPO/CO service
- Age 55 with 10 years CPO/CO service

CPO/CO Decrement Service is used to determine when the rates apply for members hired after August 31, 2009:

- Any age with 20 years CPO/CO service
- Age 55 with 10 years CPO/CO service

Service retirement rates are determined by the first set of eligibility requirements satisfied:

- Eligibility A: 20 years of CPO/CO service
- Eligibility B: Age 55 and 10 years of CPO/CO service
- Eligibility C: Any eligibility pertaining to Regular Employee Class Members (see rates and adjustments for Regular Employee Class Members)



Adjustments to the base rates are made to account for age at first eligibility or reduced retirement benefits, based on date of hire (described below sample table).

Sample rates for eligible members:

Annual Service Retirement Rates CPO/CO Members (Males & Females)			
Eligibility A		Eligibility B	
Age	20 yrs CPO/CO	Age	Age 55 & 10 yrs CPO/CO
<48	0.03		
48	0.04	55	0.20
49	0.05	56	0.18
50	0.60	57	0.16
51 - 61	0.33	58 - 61	0.14
62 - 74	0.50	62 - 74	0.27
75	1.00	75	1.00

Adjustments for members hired before September 1, 2013:

- Eligibility A and B: Rate set to zero if member has 18 or 19 years of CPO/CO service. Rate is doubled if member has 20 years of CPO/CO service.

Adjustments for members hired on or after September 1, 2013:

- Eligibility A: If age of 1st eligibility is before age 57, then
 - rates prior to age 57 are multiplied by 75% for each year prior to age 57
 - the rate at age 57 is 100%
- Eligibility B: If member will attain 20 years of CPO/CO service at or before age 62, rates are zero prior to age 62 and 100% when member attains 20 years of CPO/CO service.
- Eligibility B: If member will attain 20 years of CPO/CO service after age 62, then
 - rates prior to age 62 are multiplied by 75% for each year prior to age 62
 - the rate at age 62 is the base table rate plus 0.20 plus 0.06 times the number of years the age at 1st eligibility was before age 62

d) JRS Members:

JRS I and II Decrement Service is used to determine when the rates apply:

- Age 60 with 10 years of service, if member currently holding judicial office.
- Age 60 with 12 years of service.
- 20 years of service.
- Age plus service equal to or greater than 70, if member has at least 12 years of service on an appellate court.



Sample rates for eligible members:

Annual Service Retirement Rates Per 100 Members		
Age	Unreduced	Reduced
50-64	20	10
65-69	20	N/A
70-74	25	N/A
75+	100	N/A

ii. Higher Education Members (assumptions used in valuing the TRS retirement plan)

Early Retirement			Normal Retirement		
Annual Service Retirement Rates Per 100 Members			Annual Service Retirement Rates Per 100 Members		
Age	Male	Female	Age	Male	Female
45	1	1	50	13	14
46	1	1	51	13	14
47	1	1	52	13	14
48	1	1	53	13	14
49	1	1	54	13	14
50	1	1	55	13	15
51	1	1	56	14	16
52	1	1	57	15	17
53	1	1	58	16	18
54	1	1	59	17	19
55	1	1	60	18	20
56	1	1	61	19	21
57	1	1	62	20	22
58	1	1	63	21	23
59	1	1	64	22	24
60	1	2	65	25	25
61	2	2	66	25	25
62	4	4	67	25	25
63	5	5	68	25	25
64	5	5	69	25	25
65	5	5	70	25	25
			71	25	25
			72	25	25
			73	25	25
			74	25	25
			75	100	100

For members hired after August 31, 2007 and who are vested as of August 31, 2014, the retirement rates for members once they reach unreduced retirement eligibility at age 60 are increased 10% for each year the member is beyond the Rule of 80 (i.e., if the member reached the Rule of 80 at age 58, then the probability of retirement at age 60 is 120% of the rate shown above).

For members hired after August 31, 2007 and who are not vested as of August 31, 2014, or, for members hired after August 31, 2014, the retirement rates for members once they reach unreduced retirement eligibility at age 62 are increased 10% for

each year the member is beyond the Rule of 80 (i.e., if the member reached the Rule of 80 at age 58, then the probability of retirement at age 62 is 140% of the rate shown above).

- c. **Disability Retirement:** Active members are expected to become disabled as defined under the plan in accordance with annual rates as illustrated below.
- i. State Agency Members (assumptions used in valuing the applicable ERS retirement plan)

ERS Decrement Service is used to determine when the rates apply:

- The rates do not apply before member is eligible for the benefit.
- Service greater than zero is required for occupational disability retirement.
- For Regular, CPO/CO, and JRS I members, 10 years of service is required for non-occupational disability retirement.
- For JRS II members, 7 years of service is required for non-occupational disability retirement.
- For Elected Class members, 8 years of service is required for non-occupational disability retirement.
- Regular Class and JRS II Members are not eligible for non-occupational disability retirement if they are eligible for service retirement under the Rule of 80. Members who suffer a non-occupational disability after satisfying the Rule of 80 are therefore assumed to retire on service retirement.
- JRS I Members are not eligible for non-occupational disability retirement if they are eligible for service retirement under the Rule of 70. Members who suffer a non-occupational disability after satisfying the Rule of 70 are therefore assumed to retire on service retirement.
- Elected Class Members are not eligible for non-occupational disability retirement if they are eligible for service retirement (age 60 with 8 years of service; or age 50 with 12 years of service). Members who suffer a non-occupational disability after becoming eligible for service retirement are therefore assumed to retire on service retirement.
- CPO/CO Members are not eligible for non-occupational disability retirement if they are eligible for service retirement under the Rule of 80, or under the age 55 with at least 10 years of CPO/CO service provisions.



- For a member with 20 years CPO/CO service the combined ERS/LECO service retirement annuity is much greater than the ERS non-occupational disability retirement annuity. Therefore, the rates of non-occupational disability retirement are zero for members with 20 years of CPO/CO service.

Annual Disability Retirement Rates Per 100 Members

Age	Regular Class ¹ ,		CPO/CO Class ²
	Elected Class, JRS		
	Males	Females	Males/Females
30	0.0275	0.0135	0.0092
35	0.0650	0.0442	0.0314
40	0.0749	0.0896	0.0586
45	0.1027	0.1455	0.0980
50	0.1484	0.2072	0.1774
55	0.2477	0.3488	0.2460
60	0.3740	0.5583	0.3150

¹ 99% of all disabilities are assumed to be non-occupational and 1% are assumed to be occupational. No occupational disabilities are assumed for JRS I, JRS II or the Elected classes.

² 95% of all disabilities are assumed to be non-occupational, 4.5% are assumed to be occupational but not total disability, and 0.5% are assumed to be occupational and total disability.

ii. Higher Education Members (assumptions used in valuing the TRS retirement plan)

Annual Disability Retirement Rates Per 100 Members

Age	Years of Service < 10		Years of Service >= 10	
	Male	Female	Male	Female
20	0.001840	0.002760	0.014720	0.026220
30	0.001840	0.002760	0.014720	0.026220
40	0.004300	0.004690	0.034400	0.044555
50	0.019930	0.018170	0.159440	0.172615
55	0.028660	0.024650	0.229280	0.234175
60	0.035050	0.027540	0.280400	0.261630
65	0.036990	0.027540	0.295920	0.261630
70	0.036990	0.027540	0.295920	0.261630

Disability rates for members who reach the Rule of 80 but are not eligible for unreduced retirement rates are increased by an additional 1% (i.e., 0.01 is added to the otherwise applicable rate).



- d. **Termination**: The active members are assumed to terminate their employment for causes other than death, disability or retirement in accordance with annual rates as illustrated below.
- i. State Agency Members (assumptions used in valuing the applicable ERS retirement plan)
- a) Regular Class Members:

Rates of termination are zero for members eligible for service retirement. To account for active Regular Class Members that accumulate additional eligibility service at retirement through converting sick/annual leave or other types of service purchases, termination rates are also set to zero in the year prior to first retirement eligibility.

Rates for members not eligible for service retirement:

Annual Rates of Termination Per 100		
Regular Class Members		
Eligibility Service	Male and Female	
	Entry age 35 or Younger	Entry age over 35
0	25.25	19.63
1	21.24	16.07
2	17.88	13.26
3	15.07	11.08
4	12.76	9.42
5	10.86	8.16
6	9.33	7.21
7	8.09	6.49
8	7.10	5.94
9	6.31	5.50
10	5.67	5.11
11	5.15	4.75
12	4.71	4.39
13	4.32	4.03
14	3.97	3.66
15	3.64	3.29
16	3.30	2.95
17	2.97	2.69
18	2.62	2.53
19	2.27	1.00
20	1.92	1.00
21	1.59	1.00
22	1.29	1.00
23	1.05	1.00
24	0.89	1.00
25+	0.85	1.00



b) CPO/CO Class Members:

Rates of termination are zero for members eligible for service retirement. To account for active CPO/CO members that accumulate additional eligibility service at retirement through converting sick/annual leave or other types of service purchases, termination rates are also set to zero in the year prior to first retirement eligibility.

Annual Rates of Termination Per 100 Participants CPO/CO Employee Class Members	
<u>Eligibility Service</u>	<u>Male and Female</u>
0	23.00
1	19.22
2	15.36
3	12.48
4	10.36
5	8.81
6	7.67
7	6.81
8	6.11
9	5.52
10	4.96
11	4.42
12	3.90
13	3.43
14	3.07
15	2.90
16	2.50
17	1.00
18	1.00
19+	0.00

c) Elected Class Members:

Four per 100 for members not eligible for service retirement.

d) JRS I and II Members:

Four per 100 for members not eligible for service retirement.



ii. Higher Education Members (assumptions used in valuing the TRS retirement plan)

a) Select Period:

Rate of Decrement Due to Termination Per 100 Members Based on First 10 Years of Service		
Years of Service	Male	Female
1	15.5507	16.2296
2	12.4963	13.3070
3	10.0839	11.1030
4	7.5417	8.7064
5	6.5169	7.7625
6	5.7971	6.8467
7	4.9227	5.6290
8	4.3267	4.8891
9	3.8586	4.3639
10	3.5246	3.9995

b) Ultimate Rates after the first 10 Years of Service:

Rate of Decrement Due to Termination Per 100 Members Based on Years from Normal Retirement					
Years from Normal Retirement	Male	Female	Years from Normal Retirement	Male	Female
1	1.2969	1.2300	17	2.6491	3.0497
2	1.5445	1.5360	18	2.6876	3.1061
3	1.7108	1.7491	19	2.7245	3.1604
4	1.8394	1.9181	20	2.7599	3.2128
5	1.9459	2.0603	21	2.7941	3.2634
6	2.0374	2.1843	22	2.8270	3.3125
7	2.1181	2.2949	23	2.8589	3.3600
8	2.1907	2.3952	24	2.8897	3.4061
9	2.2567	2.4874	25	2.9196	3.4510
10	2.3174	2.5728	26	2.9486	3.4947
11	2.3738	2.6526	27	2.9768	3.5372
12	2.4264	2.7276	28	3.0042	3.5787
13	2.4759	2.7985	29	3.0309	3.6191
14	2.5226	2.8658	30	3.0570	3.6587
15	2.5668	2.9298	31	3.0823	3.6973
16	2.6089	2.9911	32	3.1071	3.7351



e. **Withdrawal of Contribution:**

i. **State Agency Members (assumptions used in valuing the applicable ERS retirement plan)**

Annual Rates of Withdrawal of Employee Contributions
 Per 100 New Vested Terminations Male and Female

Age	Regular Employee Class ERS Decrement Service				CPO/CO Employee Class ERS Decrement Service				Elected Class Members and JRS*			
	5-10	10-15	15-20	20+	5-10	10-15	15-20	20+	5-10	10-15	15-20	20+
20-24	100	100			100							
25-29	75	65	60		75	60	60					
30-34	65	60	50		75	60	50					
35-39	65	50	50	35	70	60	50					
40-44	65	50	45	35	70	60	50					
45-49	60	45	35	25	60	40	20					
50-54	55	40	30	20	55	40	20					
55+	50	30	25	15	50	30	20					

* Elected Class and JRS Members are assumed not to withdraw employee contributions.

100% of Non-vested terminations are assumed to withdraw their employee contributions.

ii. **Higher Education Members**

Members eligible to receive a deferred annuity are assumed to withdraw their contributions in accordance with the rates illustrated below.

Annual Rates of Withdrawal
 of Employee Contributions per 100 New
 Vested Terminations Male and Female

Age	Years of Service			
	5-10	10-15	15-20	20+
20-24	100	100		
25-34	80	80	60	
35-44	50	40	30	25
45-54	28	28	25	18
55+	0	0	0	0



f. **Salary Increases:** Increases are assumed to occur at the beginning of the valuation year and vary by employee group. The components of the annual increases are:

i. State Agency Members (assumptions used in valuing the applicable ERS retirement plan)

Employee Group	Inflation	Real Wage Growth (Productivity)	Merit, Promotion and Longevity
a. Legislators	0%	0%	0%
b. Elected Class (other than Legislators)	2.5%	0.50%	0%
c. Regular Employee Class	2.5%	included in merit, promotion and longevity increases	See sample rates
d. CPO/CO Class	2.5%	0%	See sample rates
e. JRS I & II	2.5%	0.50% ¹	0%

¹ State salary of a district judge is 0.25%.

a) Regular Employee Class: Merit, Promotion and Longevity Sample Rates:

Annual Salary Increases for Merit, Promotion and Longevity
 Male and Female Regular Employee Class Members

Age	Years of ERS Decrement Service						
	0	1	2-4	5-9	10-14	15-19	20+
20	6.80%	5.25%	4.75%	4.30%			
25	6.40	5.25	4.75	3.50	2.50%		
30	5.90	5.25	4.75	3.00	2.50	2.00%	
35	5.40	4.75	4.00	3.00	2.50	2.00	1.90%
40	4.90	4.75	4.00	3.00	2.50	1.90	1.80
45	4.40	4.25	3.75	3.00	2.40	1.90	1.70
50	3.90	3.70	3.20	2.70	2.20	1.70	1.60
55	3.40	3.20	2.80	2.40	1.90	1.60	1.50
60+	2.90	2.70	2.30	2.00	1.60	1.40	1.30

b) CPO/CO Employee Class: Merit, Promotion and Longevity Sample Rates:

Annual Salary Increases for Merit, Promotion and Longevity
 Male and Female CPO/CO Employee Class Members

Age	Years of ERS Decrement Service					
	0	1	2-4	5-8	9-17	18+
All	7.00%	5.00%	3.50%	2.50%	2.25%	2.00%



ii. Higher Education Members (assumptions used in valuing the TRS retirement plan)

<u>Years of Service</u>	<u>Merit, Promotion, Longevity</u>	<u>General¹</u>	<u>Total</u>
1	6.00%	3.25%	9.25%
2	2.50	3.25	5.75
3	1.90	3.25	5.15
4	1.50	3.25	4.75
5	1.40	3.25	4.65
6	1.20	3.25	4.45
7	1.10	3.25	4.35
8	1.00	3.25	4.25
9	1.00	3.25	4.25
10	1.00	3.25	4.25
11	0.90	3.25	4.15
12	0.90	3.25	4.15
13	0.80	3.25	4.05
14	0.70	3.25	3.95
15	0.60	3.25	3.85
16	0.50	3.25	3.75
17	0.50	3.25	3.75
18	0.40	3.25	3.65
19	0.30	3.25	3.55
20	0.30	3.25	3.55
21	0.20	3.25	3.45
22	0.20	3.25	3.45
23	0.10	3.25	3.35
24	0.10	3.25	3.35
25 or more	0.00	3.25	3.25

¹ Comprised of general price inflation assumption of 2.50% and general productivity increases of 0.75%. Differs from “General” increase assumption used in the TRS valuation in order to be consistent with the general price inflation assumption used in other inflation-related assumptions in this report.

- g. **Payroll Growth**: For purposes of total member projected payroll, payroll is assumed to increase 3.00% per year.
- h. **Dependency Status**: Marital status and spouse/dependent children coverage elections in accordance with GBP records were used for current retired members.

For future retired members and their spouses:

- i. a) State Agency Members
Female spouses are assumed to be 2 years younger than their male counterparts.
- b) Higher Education Members
Female spouses are assumed to be 3 years younger than their male counterparts.



- ii. 33% of the male members are assumed to be married and electing coverage for their spouse, and 19% of the female members are assumed to be married and electing coverage for their spouse.
- iii. The proportion of future retirees covering dependent children is based upon the retiree’s age at retirement as follows:

<u>Age at Retirement</u>	<u>Percentage of Retirees Covering Dependent Children</u>
<50	35%
50-54	33%
55-59	18%
60-64	8%
65-69	3%
>70	1%

- iv. Current retirees covering dependent children are assumed to continue such coverage until the child reaches age 23. Future retirees who cover dependent children are expected to cover dependent children for a period of seven years on average.
- v. 40% of current and future retiree spouses are assumed to continue health coverage for their lifetime after the death of the retiree. No dependent children are assumed to continue health coverage after the death of the retiree.

i. **Declinations:**

98% of future Service Retirees are assumed to elect health coverage at retirement and remain covered until death. The remaining 2% of future Service Retirees are expected to demonstrate outside health coverage and receive an Employer contribution towards certain other optional benefits (i.e., Opt-Out Credit).

100% of future retirees who decrement for causes other than Service Retirement (e.g., Disability and Termination–without account balance withdrawal) are assumed to elect health coverage at retirement and remain covered until death.

j. **HealthSelect Medicare Advantage Participation:**

- i. For current retirees and retiree spouses eligible for participation in the HealthSelect Medicare Advantage Plan: based on actual election.
- ii. For current retirees and retiree spouses not yet eligible for HealthSelect Medicare Advantage participation and for future retirees and retiree spouses: 72% are assumed to participate in HealthSelect Medicare Advantage at the earliest date at which coverage can commence under this program.



k. **Tobacco Usage:**

- i. For current retirees and retiree spouses, tobacco usage is based on records of the System.
- ii. 9.0% of future retirees are assumed to use tobacco, and 8.0% of future retiree spouses are assumed to use tobacco.

l. **Assumed Commencement Age if Eligible for OPEB following Termination**

Group	Service at Termination (x)	Assumed Commencement Age
a. ERS - Regular Class	$x \geq 20$	60
	$18 \leq x < 20$	62
	$10 \leq x < 18$	65
b. ERS - CPO/CO	$x \geq 10$	55
c. ERS - Elected Class	$x \geq 12$	50
	$8 \leq x < 12$	60
d. TRS (Higher Education)	$x \geq 20$	60
	$18 \leq x < 20$	62
	$10 \leq x < 18$	65
e. ORP (Higher Education)	$x \geq 20$	60
	$18 \leq x < 20$	62
	$10 \leq x < 18$	65
f. JRS I and II	$x \geq 12$	58
	$10 \leq x < 12$	60

2. **Economic Assumptions**

- a. **Expenses:** The expenses directly related to the payment of GBP health benefits are \$180.24 for medical for HealthSelect plus \$9.00 for prescription drugs for HealthSelect and HealthSelect Medicare Advantage per year per covered member for FY 2019. The expenses per covered member are the same regardless of whether the member covers dependents.
- b. **Affordable Care Act (ACA) Fees:** The Patient-Centered Outcomes Research Institute (PCORI) fees payable under the ACA are \$3.34 per year per covered member for FY 2019. The ACA fees per covered member are the same regardless of whether the member covers dependents. Under the terms of the ACA, the PCORI fee will not be assessed after August 31, 2019.
- c. **Stop-loss Reinsurance:** Stop-loss reinsurance is not purchased for the GBP.
- d. **Discount Rate:** Equal to the municipal bond rate of 3.96%*.

* The source of the municipal bond rate is the Bond Buyer Index of general obligation bonds with 20 years to maturity and mixed credit quality. In describing their index, the Bond Buyer notes that the bonds' average credit quality is roughly equivalent to Moody's Investors Service's Aa2 rating and Standard & Poor's Corp.'s AA.



- e. **Health Benefit Cost Trend:** The assumed Per Capita Health Benefit Cost assumptions shown in items 2.j., 2.k., and 2.l. below are assumed to increase at the rates shown below.

<u>Fiscal Year</u>	<u>Annual Rate of Increase</u>	
	<u>HealthSelect (Items 2.j. and 2.l.)</u>	<u>HealthSelect Medicare Advantage (Item 2.k.)</u>
2020	7.30%	11.80%*
2021	7.40%	13.40%*
2022	7.00%	7.00%
2023	6.50%	6.50%
2024	6.00%	6.00%
2025	5.50%	5.50%
2026	5.00%	5.00%
2027 and beyond	4.50%	4.50%

* The HealthSelect Medicare Advantage Trend is projected to be higher in FY 2020 and FY 2021 as a result of the reinstatement of the ACA Health Insurance Providers Fee following its suspension in CY2019.

- f. **Trend Rate for Retiree Contributions:** The portions of retiree contributions attributable to non-life insurance benefits for both HealthSelect and HealthSelect Medicare Advantage Plan are assumed to increase from their amounts in FY 2019 at the rates shown below.

<u>Fiscal Year</u>	<u>Annual Rate of Increase*</u>
2020	0.00%
2021	0.00%
2022	7.00%
2023	6.50%
2024	6.00%
2025	5.50%
2026	5.00%
2027 and beyond	4.50%

* The retiree contribution rates are assumed to increase at the same rate as the Health Benefit Cost Trend except for FY 2020 and FY 2021 for which the increase is limited in accordance with the increase included in the Legislative Appropriation Request.

- g. **Expense Trend Rate:** The expenses directly related to the payment of GBP Health benefits are contractually guaranteed at the current rate through FY 2023. They are assumed to increase 2.50% per annum thereafter.
- h. **Trend Rate for the Opt-Out Credit:** The monthly benefit of \$60 in FY 2019 is not assumed to increase in the future.



- i. **Health Coverage by Governmental Plans:** There has been no consideration of anticipated changes in laws concerning health costs covered by governmental programs. However, presently enacted changes in the law that take effect in future periods that will affect future benefit coverages are considered. The proportion of health benefits which are currently covered by governmental programs has been assumed to remain constant in the future.
- j. **Assumed HealthSelect Per Capita Health Benefit Cost (Medical and Prescription Drugs) for Fiscal Year 2019 for Covered Retirees and Spouses* (reflects benefits in effect September 1, 2018)**

Age	Assumed Annual Claims Cost per Retiree		Age	Assumed Annual Claims Cost per Retiree		Age	Assumed Annual Claims Cost per Retiree	
	Male	Female		Male	Female		Male	Female
22	\$ 2,154	\$ 4,366	52	\$ 7,243	\$ 8,246	82	\$ 4,381	\$ 3,812
23	2,176	4,410	53	7,500	8,397	83	4,417	3,835
24	2,198	4,454	54	7,758	8,549	84	4,452	3,858
25	2,220	4,499	55	8,015	8,700	85	4,487	3,881
26	2,242	4,545	56	8,273	8,851	86	4,523	3,904
27	2,265	4,591	57	8,530	9,002	87	4,560	3,928
28	2,404	4,735	58	9,061	9,226	88	4,596	3,951
29	2,542	4,880	59	9,593	9,451	89	4,633	3,975
30	2,681	5,024	60	10,124	9,675	90	4,670	3,999
31	2,820	5,169	61	10,656	9,899	91	4,707	4,023
32	2,959	5,314	62	11,187	10,124	92	4,745	4,047
33	3,057	5,376	63	11,634	10,529	93	4,783	4,071
34	3,155	5,439	64	12,100	10,950	94	4,821	4,096
35	3,253	5,502	65	4,744	4,035	95	4,860	4,120
36	3,351	5,564	66	4,792	4,075	96	4,899	4,145
37	3,449	5,627	67	4,841	4,117	97	4,938	4,170
38	3,632	5,763	68	4,754	4,059	98	4,977	4,195
39	3,815	5,899	69	4,666	4,001	99	5,017	4,220
40	3,998	6,035	70	4,579	3,944	100	5,057	4,245
41	4,181	6,171	71	4,492	3,886	101	5,098	4,271
42	4,364	6,307	72	4,405	3,829	102	5,138	4,296
43	4,646	6,499	73	4,318	3,771	103	5,180	4,322
44	4,927	6,691	74	4,231	3,713	104	5,221	4,348
45	5,208	6,882	75	4,144	3,656	105	5,263	4,374
46	5,489	7,074	76	4,177	3,678	106	5,305	4,400
47	5,771	7,266	77	4,210	3,700	107	5,347	4,427
48	6,065	7,462	78	4,244	3,722	108	5,390	4,453
49	6,360	7,658	79	4,278	3,744	109	5,433	4,480
50	6,654	7,854	80	4,312	3,767	110	5,477	4,507
51	6,948	8,050	81	4,347	3,789			

* Spouses' per capita costs are assumed to be 122% of the amounts shown in this table.



k. **Assumed HealthSelect Medicare Advantage Plan Per Capita Health Benefit Cost (Medical and Prescription Drugs) for Fiscal Year 2019 for Covered Retirees and Spouses* (reflects benefits in effect September 1, 2018)**

Age	Assumed Annual Claims Cost per Retiree		Age	Assumed Annual Claims Cost per Retiree	
	Male	Female		Male	Female
65	\$ 3,339	\$ 3,377	88	\$ 3,609	\$ 3,445
66	3,354	3,392	89	3,623	3,455
67	3,370	3,408	90	3,637	3,464
68	3,378	3,398	91	3,651	3,474
69	3,386	3,388	92	3,665	3,484
70	3,394	3,377	93	3,680	3,494
71	3,403	3,367	94	3,694	3,503
72	3,411	3,357	95	3,709	3,513
73	3,419	3,347	96	3,724	3,523
74	3,427	3,336	97	3,739	3,533
75	3,436	3,326	98	3,754	3,543
76	3,448	3,335	99	3,769	3,554
77	3,461	3,344	100	3,785	3,564
78	3,474	3,353	101	3,800	3,574
79	3,487	3,362	102	3,816	3,584
80	3,500	3,371	103	3,831	3,595
81	3,513	3,380	104	3,847	3,605
82	3,527	3,389	105	3,863	3,616
83	3,540	3,398	106	3,879	3,626
84	3,553	3,408	107	3,895	3,637
85	3,567	3,417	108	3,912	3,648
86	3,581	3,426	109	3,928	3,658
87	3,595	3,436	110	3,945	3,669

* The prescription drug components of spouses' per capita costs are assumed to be 122% of the prescription drug amounts included in this table.

l. **Dependent Children: Assumed Per Capita Health Benefit Cost for Fiscal Year 2019 (reflects benefits in effect September 1, 2018):**

\$5,697 annual per capita benefit cost for each retiree covering dependent children irrespective of the number of children covered.

m. **Dental Benefits:** The present value of future expected dental benefits is assumed to be equal to the present value of future retiree contributions towards dental benefits.

n. **Vision Benefits:** The present value of future expected vision benefits is assumed to be equal to the present value of future retiree contributions towards vision benefits.

- o. **Cost Sharing Provisions:** Deductibles, copayments and coinsurance levels and retiree contribution levels are assumed to increase at the same rate as the health benefit cost trend, consistent with the expected operation of the substantive plan (i.e., the proportion of non-Medicare expenses covered by the employer/employee is assumed to remain constant).
- p. **General Price Inflation:** Both the health benefit cost trend and the discount rate include the same inflationary element attributable to changes in general price levels, 2.50%.

3. **Other Assumptions**

a. **Valuation Payroll**

Valuation Payroll (earnings applied to the current valuation year) is the payroll for the fiscal year ending on the valuation date. It is based on reported payroll determined from August member contributions.

b. **Missing Data**

i. Service for Non-ERS Members

Service for all employees who are not members of ERS (except as indicated in (ii) below) is determined as follows: (i) for employees hired before September 1, 2003, service is calculated as the elapsed time from original date of hire to the valuation date, and (ii) for employees hired after August 31, 2003, service is calculated as the elapsed time from completion of the waiting period to the valuation date.

ii. Pre-September 1, 1992 Higher Education Hires

Service for pre-September 1, 1992 Higher Education hires, whose date of hire was reported as September 1, 1992, is assumed to have the same service distribution as State Agency employees.

iii. ORP Vested Terminated Employees

Census data for vested terminated higher education employees participating in the ORP was not available at the time of this valuation. As a result, the ORP vested terminated employees liability is assumed to have the same ratio to the ORP retiree liability as the ratio of TRS vested terminated employee liability to the TRS retiree liability. In other words, the ORP retiree liability is multiplied by this TRS ratio to determine the ORP vested terminated liability. The estimated number of ORP vested terminated members is determined in the same manner.

iv. TRS was unable to produce a TRS vested terminated census file as of August 31, 2018 due to a system transition. Thus, for purposes of this August 31, 2018 valuation, the previously provided TRS vested terminated census file as of August 31, 2017 has been used. The Higher Education vested terminated employees comprised approximately 1% of the GBP's OPEB Present Value of Future Benefits as of August 31, 2017, so differences between the August 31, 2017

TRS vested terminated census and the August 31, 2018 TRS vested terminated census, were it available, would not be expected to produce a material difference on the entire OPEB obligation.

c. **Demographic Assumptions for TMRS, TCDRS, TTA and CSCD**

Employees of Texas Municipal Retirement System, Texas County and District Retirement System, Texas Turnpike Authority and Community Supervision and Corrections Departments are assumed to exhibit the same demographic decrements as Regular Class ERS members.

d. **Graduate Students**

Graduate students are excluded from this valuation because none of the graduate students are assumed to satisfy the eligibility criteria for benefits under this plan during the period of their employment as a graduate student.

4. **Changes in Assumptions**

a. **Demographic Assumptions**

Since the last valuation was prepared for this plan, demographic assumptions (including rates of retirement, disability, termination, and mortality, and assumed salary increases for Higher Education members) have been updated to reflect assumptions recently adopted by the TRS Trustees. These new assumptions were adopted to reflect an experience study on the TRS retirement plan performed by the TRS retirement plan actuary.

In addition, the following assumptions have been updated since the previous valuation to reflect recent plan experience and expected trends:

- Percentage of current retirees and retiree spouses not yet eligible to participate in the HealthSelect Medicare Advantage Plan and future retirees and retiree spouses who will elect to participate in the plan at the earliest date at which coverage can commence.
- Percentage of future retirees assumed to be married and electing coverage for their spouse.

b. **Economic Assumptions**

Assumptions for Expenses, Assumed Per Capita Health Benefit Costs and Health Benefit Cost, Retiree Contribution and Expense trends have been updated since the previous valuation to reflect recent health plan experience and its effects on our short-term expectations.

The discount rate was changed from 3.51% to 3.96% as a result of requirements by GASB No. 75 to reflect the yield or index rate for 20-year, tax-exempt general



obligation bonds rated AA/Aa (or equivalent) or higher in effect on the measurement date.

Benefit revisions have been adopted since the prior valuation. The only benefit change for HealthSelect retirees and dependents for whom Medicare is not primary is an increase in the out-of-pocket maximum for both HealthSelect and Consumer Directed HealthSelect (CDHP) from \$6,550 to \$6,650 for individuals and from \$13,100 to \$13,300 for families in order to remain consistent with Internal Revenue Service maximums. This minor benefit change is provided for in the FY 2019 Assumed Per Capita Health Benefit Costs. There are no benefit changes for HealthSelect retirees and dependents for whom Medicare is Primary.

Please see our previous GASB No. 74 valuation report dated November 17, 2017 for a complete list of our previous economic assumptions.

Section VII - Outline of Principal Eligibility and Benefit Provisions

A. Plan Identification

1. Plan Name

Other Post-Employment Benefits provided under the Texas Employees Group Benefits Program (GBP)

2. Plan Type

The GBP is a cost-sharing multiple-employer defined benefit OPEB plan. Employers participating in the GBP include:

- a. the State of Texas which is the employer for all state agency employees and employees of senior colleges and universities,
- b. 51 Texas junior and community colleges,
- c. the Texas Municipal Retirement System, Texas County and District Retirement System and the Texas Turnpike Authority,
- d. Community Supervision and Corrections Departments.

3. Contributions and Reserves

- a. The authority under which the obligations of the plan members and Employer are established and or may be amended is Chapter 1551, Texas Insurance Code.
- b. The Employer and member contribution rates are determined annually by the ERS Board Trustees based on the recommendations of the ERS staff and consulting actuary. The contribution rates are determined based on (i) the benefit and administrative costs expected to be incurred, (ii) the funds appropriated and (iii) the funding policy established by the Texas Legislature in connection with benefits provided through the GBP. The Trustees revise benefits when necessary to match expected benefit and administrative costs with the revenue expected to be generated by the appropriated funds.
- c. There are no long-term contracts for contributions to the plan.



B. Employee Classification Requirements for Future Benefit Eligibility

State agency and higher education employees must meet the following classification requirements in order to be eligible for OPEB provided they also meet the age and service conditions described in item C. below.

1. State Agency or Higher Education Employee

An individual must be an elected or appointed officer or employee who performs service (other than an independent contractor) for the State of Texas, including an institution of higher education, other than the University of Texas or Texas A&M University Systems, and who:

- a. receives compensation for the service performed pursuant to a payroll certified by a state agency or by an elected or appointed officer, or
- b. receives compensation for service performed for an institution of higher education pursuant to a payroll certified by an institution of higher education or by an elected or appointed officer of the State.

2. Employees of Certain Other Entities

- a. Officers or employees of Texas Municipal Retirement System or Texas County and District Retirement System
- b. Certain employees or officers of the Texas Turnpike Authority
- c. Employees of the Community Supervision and Corrections Departments



C. Eligibility for OPEB

The employee's eligibility for GBP OPEB is dependent upon the event which initiates the employee's severance from employment.

<u>Event</u>	<u>GBP OPEB Eligibility</u>			
	<u>At Least</u>		<u>Age + Service</u>	<u>Commencement of GBP Benefits</u>
	<u>Age</u>	<u>Service</u>		
1. <u>Service Retirement or Death</u>				
a. ERS - Regular Class	60	10		65
	or	10	80	Immediately upon Retirement
b. ERS - CPO/CO	55	10		Immediately upon Retirement
	or	20		Immediately upon Retirement
	or	10	80	Immediately upon Retirement
c. ERS - Elected Class	60	8		Immediately upon Retirement
	or	50	12	Immediately upon Retirement
d. TRS (Higher Education)	55	10		65
	or	30		65
	or	10	80	Immediately upon Retirement
e. ORP (Higher Education)		10	80	Immediately upon Retirement
f. JRS I and II	60	10*		Immediately upon Retirement
	or	20		Immediately upon Retirement
	or	12**	70	Immediately upon Retirement

* 10 years required if holding a judicial office at the time of retirement; otherwise 12 years.

** 12 years of service on an appellate court.

<u>Event</u>	<u>GBP OPEB Eligibility</u>			
	<u>At Least</u>		<u>Age + Service</u>	<u>Commencement of GBP Benefits</u>
	<u>Age</u>	<u>Service</u>		
2. <u>Disability</u>				
a. ERS - Regular Class		10*		Immediately upon Disability
b. ERS - CPO/CO		10*		Immediately upon Disability
c. ERS - Elected Class		8*		Immediately upon Disability
d. TRS (Higher Education)		10		Immediately upon Disability
e. ORP (Higher Education)		10		Immediately upon Disability
f. JRS I and II		7		Immediately upon Disability

* Service Requirement is waived if the disability is an occupational disability.



3. Termination

- a. Same Age/Service/Age+Service requirements as Service Retirement in item 2.a. above, provided at the time of termination the employee has at least:
 1. 10 service years for Regular, CPO/CO, TRS and ORP classes
 2. 8 service years for Elected class members
 3. 12 service years for the JRS I and II classes
- b. Only eligible for benefits at commencement age if employee contributions are not withdrawn prior to commencement age.

D. Post-Employment Health Benefits

1. For purposes of the valuation, all retirees, including those presently enrolled in HMOs, are assumed to have GBP health coverage under HealthSelect (unless they elect or are assumed to elect the HealthSelect Medicare Advantage Plan for Medicare-primary years of coverage), a self-funded health plan providing medical and prescription drug coverage. (See chart at end of this section for details.) We have adopted this assumption due to the small number of retirees enrolled in HMOs and the similarity between the cost of HealthSelect and HMO coverage.
2. For benefit years prior to the date on which Medicare becomes primary, HealthSelect (Medical and Prescription Drug) is primary. (See chart at end of this section for details.)
3. For benefit years after the date on which Medicare becomes primary:
 - a. For retirees and spouses participating in HealthSelect:
 - (i) HealthSelect medical coverage is secondary to Medicare (secondary via Coordination of Benefits method) (See chart at end of this section for details.)
 - (ii) HealthSelect prescription drug coverage remains primary.
 - b. For retirees and spouses participating in the HealthSelect Medicare Advantage Plan:
 - (i) HealthSelect Medicare Advantage Plan medical coverage is provided in lieu of Medicare and HealthSelect medical coverage. (See chart at end of this section for details.)
 - (ii) HealthSelect prescription drug coverage remains primary.
4. Covered Retirees are eligible for coverage until death.
5. Retiree Spouses may be covered until death provided the applicable monthly contribution is paid on behalf of the covered spouse.
6. Dependent Children may be covered provided the applicable monthly contribution is paid on behalf of the dependent children.
 - a. Coverage ceases when the child reaches age 26 or when the child marries, if earlier. However, a child who is mentally retarded or physically incapacitated may continue coverage beyond age 26 provided such child remains a dependent of the retired member.
 - b. The term child includes an adopted child, a foster child, a stepchild or other child in a parent-child relationship.



E. Post-Employment Life Insurance Coverage

1. Retirees participating in GBP health coverage are eligible for \$2,500 life insurance coverage funded by the Employer.
2. Retirees who opt-out of health coverage are not eligible for Employer-funded life insurance.
3. Employer-funded life insurance coverage is not available for spouses or other dependent children.

F. Opt-Out Credit

Applicable to certain optional benefits for retirees who opt out of GBP health coverage provided they demonstrate that they have health coverage outside of the GBP.

1. Retirees who opt out of the GBP health benefits are eligible.
2. Opt-Out credit is up to \$60 per month for full-time retirees and \$30 per month for part-time retirees. Retirees may use the credit only to purchase dental coverage.
3. The retiree qualifies for a \$60 credit without regard to whether the retiree has a spouse or dependent children.

G. Other Optional Benefits Available at Cost to Eligible Retirees

1. Dental Options
 - a. State of Texas Dental Choice Plan
 - b. Dental HMO
2. Optional Group Term Life Insurance with a face value of \$10,000 or up to two times salary.
3. Optional Dependent Group Term Life Insurance with a face value of \$2,500.
4. State of Texas Vision Plan



H. Retiree Contributions

1. Health Coverage

a. HealthSelect

Annually, ERS determines the uniform contribution rates for members participating in HealthSelect. The monthly member contribution rates for FY19 are:

	100% State Contributions Current Retirees and Future Retirees with 5+ YOS on September 1, 2014 ¹		Future Retirees with Fewer than 5 YOS on September 1, 2014					
	Full-Time	Part-Time	50% State Contributions Less than 15 YOS at Retirement ²		75% State Contributions At least 15 YOS but less than 20 YOS at Retirement ³		100% State Contributions 20+ YOS at Retirement ⁴	
			Full-Time	Part-Time	Full-Time	Part-Time	Full-Time	Part-Time
Member	\$ 0.00	\$ 311.30	\$ 311.30	\$ 466.95	\$ 155.65	\$ 389.13	\$ 0.00	\$ 311.30
Member plus Spouse	\$ 358.00	\$ 848.30	\$ 848.30	\$ 1,093.45	\$ 603.15	\$ 970.88	\$ 358.00	\$ 848.30
Spouse, if Retiree is deceased	\$ 716.00	\$ 716.00	\$ 716.00	\$ 716.00	\$ 716.00	\$ 716.00	\$ 716.00	\$ 716.00
Member plus Dependent Children	\$ 239.70	\$ 670.85	\$ 670.85	\$ 886.43	\$ 455.27	\$ 778.64	\$ 239.70	\$ 670.85
Dependent Children, if Retiree is deceased	\$ 479.40	\$ 479.40	\$ 479.40	\$ 479.40	\$ 479.40	\$ 479.40	\$ 479.40	\$ 479.40
Member plus Family, if Retiree is alive	\$ 597.70	\$ 1,207.85	\$ 1,207.85	\$ 1,512.93	\$ 902.77	\$ 1,360.39	\$ 597.70	\$ 1,207.85
Spouse plus Children, if Retiree is deceased	\$ 1,195.40	\$ 1,195.40	\$ 1,195.40	\$ 1,195.40	\$ 1,195.40	\$ 1,195.40	\$ 1,195.40	\$ 1,195.40

¹ Actual Retiree Contribution Rates for FY19. Tobacco users pay an additional \$30 per month. These rates will also apply to ERS - Elected Class members, JRS I and II members, and disabled members from any class, irrespective of those members' YOS at September 1, 2014.

² Hypothetical Retiree Contribution Rates for FY19. Tobacco users pay an additional \$30 per month. These rates will not apply to ERS-Elected Class members, JRS I and II members or disabled members from any class, irrespective of those members' YOS at September 1, 2014.

³ Hypothetical Retiree Contribution Rates for FY19. Tobacco users pay an additional \$30 per month. These rates (adjusted for post-FY19 increases) will not be used until FY24, since that will be the first time an employee with less than 5 YOS on September 1, 2014 could retire with 15 YOS. These rates will not apply to ERS-Elected Class members, JRS I and II members or disabled members from any class, irrespective of those members' YOS at September 1, 2014.

⁴ Hypothetical Retiree Contribution Rates for FY19. Tobacco users pay an additional \$30 per month. These rates (adjusted for post-FY19 increases) will not be used until FY29, since that will be the first time an employee with less than 5 YOS on September 1, 2014 could retire with 20 YOS. These rates will not apply to ERS-Elected Class members, JRS I and II members or disabled members from any class, irrespective of those members' YOS at September 1, 2014.



b. HealthSelect Medicare Advantage Plan

Annually, ERS determines the uniform contribution rates for members participating in the HealthSelect Medicare Advantage Plan option. The monthly member contribution rates for calendar year 2019 are:

	100% State Contributions Current Retirees and Future Retirees with 5+ YOS on September 1, 2014 ¹		Future Retirees with Fewer than 5 YOS on September 1, 2014					
	<u>Full-Time</u>	<u>Part-Time</u>	50% State Contributions Less than 15 YOS at Retirement ²		75% State Contributions At least 15 YOS but less than 20 YOS at Retirement ³		100% State Contributions 20+ YOS at Retirement ⁴	
			<u>Full-Time</u>	<u>Part-Time</u>	<u>Full-Time</u>	<u>Part-Time</u>	<u>Full-Time</u>	<u>Part-Time</u>
Member	\$ 0.00	\$ 140.92	\$ 140.92	\$ 211.38	\$ 70.46	\$ 176.15	\$ 0.00	\$ 140.92
Member plus Spouse	\$ 140.92	\$ 352.30	\$ 352.30	\$ 457.99	\$ 246.61	\$ 405.15	\$ 140.92	\$ 352.30
Spouse, if Retiree is deceased	\$ 281.84	\$ 281.84	\$ 281.84	\$ 281.84	\$ 281.84	\$ 281.84	\$ 281.84	\$ 281.84
Member plus Dependent Children Dependent Children, if Retiree is deceased	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Member plus Family, if Retiree is alive	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Spouse plus Children, if Retiree is deceased	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

2. Annually, ERS determines the retiree contribution rate for basic life insurance. The monthly member contribution rates for FY19 are:

<u>Basic Life Insurance (\$2,500 of Coverage) for</u>	<u>All Retirees Except</u>	<u>Part-time</u>
<u>Retiree</u>	<u>Part-time Retirees</u>	<u>Retirees</u>
	\$ 0	\$ 1.11

¹ Actual Retiree Contribution Rates for CY19. Tobacco users pay an additional \$30 per month. These rates will also apply to ERS - Elected Class members, JRS I and II members, and disabled members from any class, irrespective of those members' YOS at September 1, 2014.

² Hypothetical Retiree Contribution Rates for CY19. Tobacco users pay an additional \$30 per month. These rates will not apply to ERS-Elected Class members, JRS I and II members or disabled members from any class, irrespective of those members' YOS at September 1, 2014.

³ Hypothetical Retiree Contribution Rates for CY19. Tobacco users pay an additional \$30 per month. These rates (adjusted for post-CY19 increases) will not be used until FY24, since that will be the first time an employee with less than 5 YOS on September 1, 2014 could retire with 15 YOS. These rates will not apply to ERS-Elected Class members, JRS I and II members or disabled members from any class, irrespective of those members' YOS at September 1, 2014.

⁴ Hypothetical Retiree Contribution Rates for CY19. Tobacco users pay an additional \$30 per month. These rates (adjusted for post-CY19 increases) will not be used until FY29, since that will be the first time an employee with less than 5 YOS on September 1, 2014 could retire with 20 YOS. These rates will not apply to ERS-Elected Class members, JRS I and II members or disabled members from any class, irrespective of those members' YOS at September 1, 2014.



I. Funding Mechanism

1. HealthSelect Medical and Prescription Drug benefits are self-funded. Medical benefits under the HealthSelect Medicare Advantage Plan are fully insured.
2. Basic Life Insurance benefits are fully insured under a minimum premium funding arrangement.
3. Dental
 - a. State of Texas Dental Choice Plan is self-funded through contributions made by employees and retirees.
 - b. Dental HMO is fully insured through contributions made by employees and retirees.
 - c. The State does not contribute toward dental coverage.
4. Optional Group Term Life Insurance and Dependent Group Term Life Insurance are fully insured under a minimum premium funding arrangement. Such coverages are fully funded by employee and retiree contributions. The State does not contribute toward these coverages.
5. Vision
 - a. State of Texas Vision Plan is self-funded through contributions made by employees and retirees.
 - b. The State does not contribute toward vision coverage.



J. Health Benefits Chart Out-of-Pocket Expenses in effect September 1, 2018

1. Medical Benefits a. HealthSelect (Non-Medicare primary)

Benefits	HealthSelect SM of Texas		HealthSelect Out-of-State		Consumer Directed HealthSelect SM	
	Network	Non-Network	Network	Non-Network	Network	Non-Network
Annual deductible	None	\$500 per person ¹ \$1,500 per family ¹	None	\$500 per person ¹ \$1,500 per family ¹	\$2,100 per person ¹ \$4,200 per family ¹	\$4,200 per person ¹ \$8,400 per family ¹
Out-of-pocket coinsurance maximum ²	\$2,000 per person per calendar year ¹	\$7,000 per person per calendar year ¹	\$2,000 per person per calendar year ¹	\$7,000 per person per calendar year ¹	None	None
Total out-of-pocket maximum (including deductibles, coinsurance and copays) ^{4,5}	\$6,650 per person ¹ \$13,300 per family ¹	None	\$6,650 per person ¹ \$13,300 per family ¹	None	**\$6,650 per person ¹ \$13,300 per family ¹	None
Primary care physician required	Yes	No	No	No	No	No
Primary care physicians' office visit	\$25 copay	40%*	\$25 copay	40%*	20%**	40%*
Mental health care						
a. Outpatient physician or mental health provider office visits	\$25 copay	40%*	20%	40%*	20%**	40%*
b. Hospital mental health inpatient stay ⁶	\$150/day copay plus 20% (\$750 copay max, up to 5 days per hospital stay. \$2,250 copay max per calendar year per person)	\$150/day copay plus 40%* (\$750 copay max, up to 5 days per hospital stay. \$2,250 copay max per calendar year per person)	\$150/day copay plus 20% (\$750 copay max, up to 5 days per hospital stay. \$2,250 copay max per calendar year per person)	\$150/day copay plus 40%* (\$750 copay max, up to 5 days per hospital stay. \$2,250 copay max per calendar year per person)	20%**	40%*
c. Outpatient facility care (partial hospitalization/ day treatment and extensive outpatient treatment) ⁷	20%	40%*	20%	40%*	20%**	40%*
Physicals ⁸	No charge	40%*	No charge	40%*	No charge	40%*
Specialty physicians' office visits	\$40	40%*	\$40	40%*	20%**	40%*
Routine eye exam, one per year per participant	\$40	40%*	\$40	40%*	20%**	40%*
Routine preventive care [#]	No charge	40%*	No charge	40%*	No charge	40%*
Diagnostic x-rays, lab tests, and mammography	20%	40%*	20%	40%*	20%**	40%*
Office surgery and diagnostic procedures	20%	40%*	20%	40%*	20%**	40%*
High-tech radiology (CT scan, MRI, and nuclear medicine) ^{7,8,9}	\$100 copay plus 20%	\$100 copay plus 40%*	\$100 copay plus 20%	\$100 copay plus 40%*	20%**	40%*
Urgent care clinic	\$50 copay plus 20%	40%*	\$50 copay plus 20%	40%*	20%**	40%*

See footnotes on following page.



Benefits	HealthSelect SM of Texas		HealthSelect Out-of-State		Consumer Directed HealthSelect SM	
	Network	Non-Network	Network	Non-Network	Network	Non-Network
Maternity care doctor charges only⁴; inpatient hospital copays will apply	No charge for routine prenatal appointments \$25 or \$40 for first post-natal visit ⁶	40%*	No charge for routine prenatal appointments \$25 or \$40 for first post-natal visit ⁶	40%*	No charge for routine prenatal appointments 20%** for first post-natal visit	40%*
Chiropractic care						
a. Coinsurance	20%; \$40 copay plus 20% with office visit	40%*	20%; \$40 copay plus 20% with office visit	40%*	20%**	40%*
b. Maximum benefit per visit	\$75	\$75	\$75	\$75	\$75	\$75
c. Maximum visits Each participant Per calendar year	30	30	30	30	30	30
Inpatient hospital (semi-private room and day's board, and intensive care unit)⁹	\$150/day copay plus 20% (\$750 copay max-up to 5 days per hospital stay, \$2,250 copay max per calendar year per person)	\$150/day copay plus 40%* (\$750 copay max-up to 5 days per hospital stay, \$2,250 copay max per calendar year per person)	\$150/day copay plus 20% (\$750 copay max-up to 5 days per hospital stay, \$2,250 copay max per calendar year per person)	\$150/day copay plus 40%* (\$750 copay max-up to 5 days per hospital stay, \$2,250 copay max per calendar year per person)	20%**	40%*
Emergency care	\$150 plus 20% (if admitted copay will apply to hospital copay)	\$150 plus 20% (if admitted copay will apply to hospital copay) ¹²	\$150 plus 20% (if admitted copay will apply to hospital copay)	\$150 plus 20% (if admitted copay will apply to hospital copay) ¹²	20%**	20%*** ¹²
Outpatient surgery other than in physician's office⁹	\$100 copay plus 20%	\$100 copay plus 40%*	\$100 copay plus 20%	\$100 copay plus 40%*	20%**	40%*
Bariatric surgery^{9,10,11}	a. Deductible \$5,000 b. Coinsurance 20% c. Lifetime max \$13,000	Not covered	a. Deductible \$5,000 b. Coinsurance 20% c. Lifetime max \$13,000	Not covered	Not covered	Not covered
Hearing aids	Plan pays up to \$1,000 per ear every three years (no deductible).				Plan pays up to \$1,000 per ear every three years (after deductible is met).	
Durable medical equipment⁹	20%	40%*	20%	40%*	20%**	40%*
Ambulance services (non-emergency)⁹	20%	20%	20%	20%	20%**	20%**

*Note: 40% coinsurance after you meet the annual out-of-network deductible **Note: 20% coinsurance after you meet the annual in-network deductible
¹ Applies to calendar year, January 1 - December 31. ² Does not include copays. ³ Applies to plan year, September 1 - August 31. ⁴ Out-of-pocket maximums are not mutually exclusive from other out-of-pocket limits. This means that a participant's total network out-of-pocket maximum could contain a combination of coinsurance and/or copayments. ⁵ Includes medical and prescription drug copays, coinsurance and deductibles. Excludes non-network and bariatric services. ⁶ Copay depends on whether treatment is given by PCP or specialist. ⁷ Outpatient testing only. Does not apply to inpatient services. ⁸ No copay if high-tech radiology is performed during ER visit or inpatient admission. ⁹ Preauthorization required. ¹⁰ Active employees only; see health plan for additional requirements/limitations. ¹¹ The deductible and coinsurance paid for bariatric surgery does not apply to the total out-of-pocket maximum. ¹² Benefits shown do not apply to out-of-network freestanding ERs. For information about this coverage, see the Master Benefit Plan Document. ¹³ Under the Affordable Care Act, certain preventive and women's health services are paid at 100% (at no cost to the participant) dependent upon physician billing and diagnosis. In some cases, the participant will still be responsible for payment on some services.



b. HealthSelect (Medicare primary) and HealthSelect Medicare Advantage Plan (Medicare primary)

Benefit	Original Medicare ⁴ (Medicare rates are subject to change)	HealthSelect MA PPO (No coordination with Medicare is necessary)	Medicare Primary, HealthSelect Secondary (HealthSelect and Medicare coordinate benefits for you)	Medicare Primary, GBP HMO Secondary (GBP HMO plans coordinate benefits with Medicare for you)		KelseyCare Advantage MA HMO (No coordination with Medicare is necessary)
				Community First, Scott and White	KelseyCare powered by Community Health Choice	
Calendar year deductible	\$183	None	\$200 per individual \$600 per family	None	None	None
Office visits in conjunction with an illness or injury	20%	\$0	\$0 copay / 30% ^{4,7} coinsurance	\$0 copay / \$25 ⁷ copay	\$0 copay / \$15 ⁷ copay	\$0
Specialty physician office visit	20%	\$0	\$0 copay / 30% ^{4,7} coinsurance	\$0 copay / \$40 ⁷ copay	\$0 copay / \$25 ⁷ copay	\$0
Diagnostic tests and x-rays, including allergy testing	20%	\$0	\$0 copay / 30% ^{4,7} coinsurance	\$0 copay / 20% ⁷ coinsurance	\$0 copay for diagnostic tests / x-rays. Allergy testing: \$15 PCP or \$25 specialist copay ^{6,7}	\$0
Diagnostic mammography	20%	\$0	\$0 copay / 30% ^{4,7} coinsurance	\$0 copay / 20% ⁷ coinsurance	\$0 copay ⁷	\$0
Diagnostic lab services	\$0	\$0	\$0 copay / 30% ^{4,7} coinsurance	\$0 copay / 20% ⁷ coinsurance	\$0 copay ⁷	\$0
Preventive services* (such as screening mammogram, physical, well woman exam, prostate cancer screening, etc.)	\$0 ^{1,3} Does not cover lab tests	\$0 ^{1,3} Covers screening lab tests	\$0*	\$0 ¹	\$0 ¹	\$0 ^{1,3}
Mental health and substance use disorder						
a. Outpatient physician or mental health provider office visits	20%	\$0	\$0 copay / 30% ^{4,7} coinsurance	\$25	\$25	\$0
b. Hospital—Inpatient stay (semi-private room and days board, and intensive care unit)	\$0 ⁵ after the following amounts for each benefit period: \$1,316 deductible for days 1-60 \$329 copay per day (days 61-90) \$658 copay per lifetime reserve day (days 91-150)	\$0 per admission	\$0 ⁸ If provider doesn't accept Part A, then coverage is \$150 copay/day up to \$750 per admission and \$2,250 per Calendar Year. 30% ^{4,7} after copay	\$0 copay / 30% insurance	20% coinsurance (plus \$150 a day copay per admission)	\$0
c. Outpatient facility care (partial hospitalization/ day treatment and extensive outpatient treatment)	20%	\$0	\$0 copay / 30% ^{4,7} coinsurance	Community First: \$25 copay (prior authorization required) Scott&White: \$25 copay (covered as any other illness)	\$25 copay	\$0
Office surgery and diagnostic procedures	20%	\$0	\$0 copay / 30% ^{4,7} coinsurance	Community First: 20% coinsurance ⁷ Scott&White: \$100 copay / 20% coinsurance	\$0 / \$15 PCP or \$25 specialist copay ^{6,7}	\$0
Immunizations*	\$0	\$0	\$0	\$0	\$0	\$0
High-tech radiology (CT scan, MRI, nuclear medicine)	20%	\$0	\$0 copay / 30% insurance	\$0 copay / \$100 ⁷ copay plus 20% coinsurance	\$150 ⁷ copay/scan type/ day	\$0
Allergy injections and serum	20%	\$0	\$0 copay / 30% ^{4,7} coinsurance	\$0 copay / 20% ⁷ coinsurance	Allergy Serum: \$0 Without office visit: \$0 With office visit: \$15 PCP or \$25 specialist copay ^{6,7}	\$0

Chart_2018_MedicareComparison

10/23/2018



Benefit	Original Medicare ⁴ (Medicare rates are subject to change)	HealthSelect MA PPO (No coordination with Medicare is necessary)	Medicare Primary, HealthSelect Secondary (HealthSelect and Medicare coordinate benefits for you)	Medicare Primary, GBP HMO Secondary (GBP HMO plans coordinate benefits with Medicare for you)		KelseyCare Advantage MA HMO (No coordination with Medicare is necessary)
				Community First, Scott and White	KelseyCare powered by Community Health Choice	
Routine eye exam	Does not cover	\$0 ¹	30% ^{4,1} coinsurance	\$40 copay ²	\$25 copay ²	\$0 ¹
Vision (Contact lens fitting exams are not covered)	Frames: You pay 100% for non-covered services 20% for one pair of eyeglasses after each cataract surgery with an intraocular lens. Contacts: You pay 100% for non-covered services 20% for one set of contact lenses after each cataract surgery with an intraocular lens.	\$0 for one pair of eyeglasses or contact lenses after each cataract surgery that includes insertion of an intraocular lens. \$0 for one pair of eyeglasses or contact lenses after each cataract surgery that includes insertion of an intraocular lens.	Frames: Does not cover Contacts: Does not cover	Community First: Does not cover Scott & White: Does not cover Community First: You receive a \$125 allowance every 2 years in lieu of glasses ⁹ Scott & White: Does not cover	Does not cover Does not cover	\$150 plan coverage limit for eyewear, glasses, and/or contact lenses every two years unrelated to post-cataract surgery. ¹⁰ Allowance can only be used on date of service.
Routine hearing test	Does not cover	Does not cover	30% ⁴ coinsurance	Without office visit: 20% coinsurance, With office visit: \$40 copay plus 20% coinsurance	Without office visit: \$0 copay / 20% ⁷ coinsurance With office visit: \$0 copay / \$25 copay ⁷ plus 20% coinsurance	\$0 copay for up to one supplemental routine hearing exam every year ^{1,2}
Diagnostic speech and hearing testing	20%	\$0	\$0 copay / 30% ^{4,7} coinsurance	Without office visit: \$0 copay / 20% ⁷ coinsurance With office visit: \$0 copay / \$40 copay ⁷ plus 20% coinsurance	Without office visit: \$0 copay / 20% ⁷ coinsurance With office visit: \$0 copay / \$25 copay ⁷ plus 20% coinsurance	\$0 for Medicare-covered diagnostic hearing exams
Speech and hearing therapy	20%	\$0	\$0 copay / 30% ^{4,7} coinsurance	Without office visit: \$0 copay / 20% ⁷ coinsurance With office visit: \$0 copay / \$40 copay ⁷ plus 20% coinsurance	Without office visit: \$0 copay / 20% ⁷ coinsurance With office visit: \$0 copay / \$25 copay ⁷ plus 20% coinsurance	\$0
Hearing aids	Does not cover	\$1,000 benefit allowance per ear every 3 years	\$1,000 benefit allowance per ear every 3 years	\$1,000 benefit allowance per ear every 3 years (Repairs not covered)	\$1,000 benefit allowance per ear every 3 years (Repairs not covered)	\$1,500 plan coverage limit for hearing aids every 2 years (Does not include battery replacement) \$0 copayment for up to one hearing aid fitting/evaluation every 2 years ²
Chiropractic care	20% for Medicare-covered chiropractic services	30% for specialist office visit for routine services, up to a maximum of a \$75 benefit per visit. Benefit is limited to 30 visits per plan year. \$0 Medicare-covered chiropractic services.	\$0 copay / 30% ^{4,7} coinsurance	Community First: \$0 copay / \$40 copay ⁷ Benefit is limited to 30 visits per plan year. Scott & White: Without office visit: 20% ⁷ ; with office visit: \$40 plus 20% ⁷ . Benefit is limited to 35 visits per calendar year; 5 per month	\$0 copay / \$25 copay ⁷ Benefit is limited to 30 visits per calendar year.	\$0 for each Medicare-covered visit
Urgent care clinic	20%	\$0	\$0 copay / 30% ^{4,7} coinsurance	\$0 copay / \$50 copay ⁷ + 20% coinsurance	\$0 copay / \$50 copay ⁷ + 20% coinsurance	\$0
Emergency room care	20% Plus emergency room copay (waived if admitted to hospital within 3 days of emergency room visit)	In U.S.: \$0 Outside U.S. and Puerto Rico: 20% after \$100 deductible. Limited to \$25,000 per plan year or 60 consecutive days, which ever is greater.	\$0 copay/30% ^{4,7} coinsurance	\$0 copay / \$150 copay ⁷ plus 20% In area and out-of-area covered at listed copayment	\$0 copay / \$150 copay ⁷ plus 20% In area and out-of-area covered at listed copayment	In U.S.: \$0 Outside U.S.: 20% after \$250 deductible



Benefit	Original Medicare ⁴ (Medicare rates are subject to change)	HealthSelect MA PPO (No coordination with Medicare is necessary)	Medicare Primary, HealthSelect Secondary (HealthSelect and Medicare coordinate benefits for you)	Medicare Primary, GBP HMO Secondary (GBP HMO plans coordinate benefits with Medicare for you)		KelseyCare Advantage MA HMO (No coordination with Medicare is necessary)
				Community First, Scott and White	KelseyCare powered by Community Health Choice	
Inpatient hospital (semi-private room and days board, and intensive care unit)	\$0 after the following amounts for each benefit period ³ : \$1,316 deductible for days 1-60 \$329 copay per day (days 61-90) \$658 copay per lifetime reserve day (days 91-150)	\$0	\$0 copay / 30% ^{4,7} insurance	\$0 ⁸ If provider doesn't accept Part A, then coverage is \$150 copay/day up to \$750 per admission and \$2,250 per Calendar Year. 20% after copay	\$0 ⁸ If provider doesn't accept Part A, then coverage is \$150 copay/day up to \$750 per admission and \$2,250 per Calendar Year. 20% after copay	\$0 No limit to the number of days covered by the plan each benefit period ³
Outpatient surgery	20% Specified copay for outpatient hospital facility charges	\$0	\$0 copay / 30% ^{4,7} insurance	\$0 copay / \$100 copay ⁷ plus 20%	\$150 copay ⁷	\$0
Skilled nursing facility	Days 1-20: \$0 (3-day hospital stay required) Days 21-100: \$164.50 coinsurance per day Per benefit period ⁵	\$0 up to 100 days per benefit period (no 3-day hospital stay is required) You pay 100% after 100 days	No deductible Plan pays 100%	\$0 copay / 20% ⁷ coinsurance	\$0 copay / 20% ⁷ coinsurance	Days 1-100: \$0 copayment per day Plan covers up to 100 days each benefit period ³ No prior hospital stay is required
Home health care	\$0	\$0	\$0 copay/30% ^{4,7} coinsurance for home infusion therapy Plan pays 100% for all other home health care services with a maximum of 100 visits per calendar year	\$0 copay / 20% ⁷ coinsurance	\$0 copay / 20% ⁷ coinsurance	\$0
Hospice	5% of the Medicare-approved amount for inpatient respite care \$5 copay for pain management drugs	Same benefits as under Original Medicare	\$0 copay / 30% ^{4,7} coinsurance	\$0 copay / 20% ⁷ coinsurance	\$0 copay / 20% ⁷ coinsurance	Same benefits as under Original Medicare You must receive care from a Medicare-certified hospice
Ambulance	20%	\$0	\$0 copay/30% ^{4,7} coinsurance Emergency care only. Not applicable to non-emergent transportation services.	\$0 copay / 20% ⁷ coinsurance	\$0 copay / 20% ⁷ coinsurance	\$0
Private duty nursing	Does not cover	30% Pays a maximum benefit of \$8,000 per calendar year	30% ⁴ Unlimited hours Preauthorization is required	\$0 copay / 20% ⁷ coinsurance	\$0 copay / 20% ⁷ coinsurance	Does not cover

*Under the Affordable Care Act, certain preventive health and women's services are paid at 100% (at no cost to the participant) conditioned upon physician billing and diagnosis. In some cases, you may still be responsible for payment on some services. Some age requirements may apply.

¹ One per calendar year.

² One per plan year.

³ No copayment for a pap smear once every 24 months; once every 12 months for those at high risk.

⁴ After payment of deductible. HealthSelect note: Medicare and HealthSelect deductibles run concurrently. Participant may be responsible for some charges when the provider does not accept Medicare assignment.

⁵ A "benefit period" starts the day you go into the hospital. It ends after 60 days in a row without returning to hospital care. If you go into the hospital after one benefit period has ended, a new benefit period will begin. You must pay the inpatient hospital deductible for each benefit period. There is no limit to the number of benefit periods you may have.

⁶ Copayment amount depends on whether treatment is provided by a PCP or specialist.

⁷ Payment amount is dependent upon the coordination of benefits (COB) between your carrier (HealthSelect, Community First, KelseyCare powered by Community Health Choice, Scott & White) and Original Medicare. Sometimes this means your expense is \$0, but charges will vary depending upon COB. Please reference your Summary of Benefits and Coverage for more information.

⁸ In the event that the provider/facility does not accept Medicare assignment (so the charges are not covered by Medicare and therefore not subject to COB); you may be responsible for copay(s) and/or a coinsurance. Please see your Summary of Benefits and Coverage for more information.

⁹ ERS cannot and does not guarantee the length of time that a specific type of "Value-Added" product shall be offered. Any questions or concerns about these products should be directed to your carrier.

¹⁰ Does not count toward out-of-pocket maximum.



2. Prescription Drug Benefits (HealthSelect and HealthSelect Medicare Advantage)

	HealthSelect of Texas	Consumer Directed HealthSelect	HMOs
Deductible	\$50 for each covered individual (January 1 - December 31)	\$2,100 per individual and \$4,200 per family (in combined medical and pharmacy expenses) using in-network pharmacies (January 1 - December 31)	\$50 for each covered individual (September 1 - August 31)
Copays: In-network	Up to a 30-day supply of Non-maintenance medications: Tier 1: \$10, Tier 2: \$35, Tier 3: \$60 Maintenance medications*: Tier 1: \$10, Tier 2: \$45, Tier 3: \$75	20% coinsurance after the annual deductible is met	Up to a 30-day supply of Non-maintenance medications: Tier 1: \$10, Tier 2: \$35, Tier 3: \$60 Maintenance medications*: Tier 1: \$10, Tier 2: \$45, Tier 3: \$75
Copays: Out-of-network	Copay plus 40% coinsurance for all three tiers	40% coinsurance after the annual out-of-network deductible is met	Does not apply
Extended Days' Supply (EDS)**	90-day supply: Tier 1: \$30, Tier 2: \$105, Tier 3: \$180	20% coinsurance after the annual deductible is met.	Does not apply
Mail order	Yes	Yes	Yes
Brand-name drug payment	If a generic drug is available and you choose the brand-name drug, you will pay the Tier 1 copay or coinsurance, as applicable, plus the difference in cost to the plan between the brand-name drug and the generic drug.		

*A retail maintenance fee is an additional charge for filling a 30-day supply or less of maintenance medications, which are prescriptions you take regularly.

**An Extended Days' Supply (EDS) means a pharmacy can dispense up to a 90-day supply of maintenance prescription drugs at one time.



Section VIII - Detailed Valuation Results

A. Actuarial Valuation Date: August 31, 2018

B. Summary of Results as of August 31, 2018

	Number of Members	Actuarial Present Value of Projected Benefit Payments	Total OPEB Liability	Normal Cost	Payroll
Actives	231,911	\$ 29,526,857,382	\$ 15,579,240,316	\$1,206,105,801	\$ 12,047,166,658
Deferred Vesteds	11,564	1,662,386,687	1,662,386,687	-	-
Retirees & Nominees	122,350	12,776,544,983	12,776,544,983	-	-
Total	365,825	\$ 43,965,789,052	\$ 30,018,171,986	\$1,206,105,801	\$ 12,047,166,658



C. Summary of Active Member Census

State Agency Employees¹

Age and Service Table for Actives as of August 31, 2018

Current Age	Current Years of Benefit Service									Age Totals	Percent of Total
	t < 5	5 <= t < 10	10 <= t < 15	15 <= t < 20	20 <= t < 25	25 <= t < 30	30 <= t < 35	35 <= t < 40	40 <= t		
x < 20	1,121									1,121	0.76%
20 <= x < 25	7,945	166								8,111	5.53%
25 <= x < 30	12,210	2,398	83							14,691	10.02%
30 <= x < 35	9,940	5,248	1,908	62						17,158	11.70%
35 <= x < 40	7,936	4,671	3,969	1,332	113					18,021	12.29%
40 <= x < 45	6,394	3,777	3,381	2,647	1,433	90				17,722	12.09%
45 <= x < 50	5,943	3,642	3,293	2,891	3,351	1,695	66			20,881	14.24%
50 <= x < 55	4,722	3,418	3,163	2,465	2,508	1,986	513	26		18,801	12.82%
55 <= x < 60	3,863	3,119	2,799	2,232	1,722	1,090	617	170	10	15,622	10.66%
60 <= x < 65	2,016	2,216	2,107	1,455	943	622	320	156	36	9,871	6.73%
65 <= x < 70	631	870	750	466	330	227	124	39	22	3,459	2.36%
x >= 70	228	264	241	171	126	67	31	9	12	1,149	0.78%
Service Totals	62,949	29,789	21,694	13,721	10,526	5,777	1,671	400	80	146,607	100.00%
Percent of Total	42.94%	20.32%	14.80%	9.36%	7.18%	3.94%	1.14%	0.27%	0.05%	100.00%	

1) Excludes 2612 Return-to-Work Retirees.



Higher Education Employees¹

Age and Service Table for Actives as of August 31, 2018

Current Age	Current Years of Benefit Service									Age Totals	Percent of Total	
	t < 5	5 <= t < 10	10 <= t < 15	15 <= t < 20	20 <= t < 25	25 <= t < 30	30 <= t < 35	35 <= t < 40	40 <= t			
x < 20	15										15	0.02%
20 <= x < 25	1,545	15									1,560	2.04%
25 <= x < 30	4,659	742	15								5,416	7.10%
30 <= x < 35	4,690	2,634	652	15							7,991	10.47%
35 <= x < 40	3,904	2,661	1,994	534	39						9,132	11.96%
40 <= x < 45	3,058	2,232	1,875	1,413	411	17					9,006	11.80%
45 <= x < 50	2,706	1,987	1,921	1,830	979	205	10	1			9,639	12.63%
50 <= x < 55	2,324	1,712	1,692	2,062	1,155	285	76	12			9,318	12.21%
55 <= x < 60	1,951	1,663	1,617	2,623	1,192	287	52	54	3		9,442	12.37%
60 <= x < 65	1,311	1,328	1,516	2,522	929	222	36	42	2		7,908	10.36%
65 <= x < 70	564	655	799	1,644	454	130	13	28	6		4,293	5.62%
x >= 70	273	340	395	320	934	328	7	6	6		2,609	3.42%
Service Totals	27,000	15,969	12,476	12,963	6,093	1,474	194	143	17		76,329	100.00%
Percent of Total	35.37%	20.92%	16.35%	16.98%	7.98%	1.93%	0.25%	0.19%	0.02%		100.00%	

1) Excludes 98 Return-to-Work Retirees.



Other Employees (i.e., Employees of TMRS, TCDRS, TTA and CSCD)¹

Age and Service Table for Actives as of August 31, 2018

Current Age	Current Years of Benefit Service									Age Totals	Percent of Total	
	t<5	5 <= t < 10	10 <= t < 15	15 <= t < 20	20 <= t < 25	25 <= t < 30	30 <= t < 35	35 <= t < 40	40 <= t			
x < 20	35										35	0.57%
20 <= x < 25	256	5									261	4.19%
25 <= x < 30	498	84	3								584	9.38%
30 <= x < 35	419	224	69	2							712	11.44%
35 <= x < 40	345	206	176	48	3						778	12.49%
40 <= x < 45	277	164	148	107	46	3					744	11.95%
45 <= x < 50	257	179	140	117	116	59	4				871	13.99%
50 <= x < 55	198	160	135	121	110	94	24	2			845	13.57%
55 <= x < 60	166	134	139	108	76	55	34	11	1		723	11.61%
60 <= x < 65	88	98	106	68	42	32	19	10	2		464	7.46%
65 <= x < 70	27	38	36	20	15	11	7	2	1		158	2.54%
x >= 70	9	12	12	7	5	3	1	0	1		51	0.82%
Service Totals	2,574	1,303	963	598	413	257	89	25	4		6,227	100.00%
Percent of Total	41.34%	20.93%	15.47%	9.60%	6.64%	4.12%	1.42%	0.41%	0.07%		100.00%	

1) Excludes 38 Return-to-Work Retirees.



D. Summary of Deferred Vested Member Census by Age and Employer

Vested Members By Age and Employer as of August 31, 2018

<i>Current Age</i>	<i>Employer</i>			<i>Age Totals</i>	<i>Percent of Total</i>
	<i>State Agency</i>	<i>Higher Education</i>	<i>Other¹</i>		
<i>x < 35</i>	74	40	0	114	0.99%
<i>35 <= x < 40</i>	423	273	0	696	6.02%
<i>40 <= x < 45</i>	826	528	0	1,354	11.71%
<i>45 <= x < 50</i>	1,530	665	0	2,195	18.98%
<i>50 <= x < 55</i>	1,939	814	0	2,753	23.81%
<i>55 <= x < 60</i>	1,843	883	0	2,726	23.57%
<i>60 <= x < 65</i>	609	700	3	1,312	11.35%
<i>x >=65</i>	136	278	0	414	3.58%
<i>Employer Totals</i>	7,380	4,181	3	11,564	100.00%
<i>Percent of Total</i>	63.82%	36.16%	0.03%	100.00%	

¹ *Employees of TMRS, TCDRS, TTA and CSCD.*



E. Summary of Retiree and Nominee Member Census by Age and Employer

<i>Current Age</i>	<i>Employer²</i>			<i>Age Totals</i>	<i>Percent of Total</i>
	<i>State Agency</i>	<i>Higher Education</i>	<i>Other³</i>		
<i>x < 40</i>	54	6	0	60	0.05%
<i>40 <= x < 45</i>	53	7	3	63	0.05%
<i>45 <= x < 50</i>	282	21	30	333	0.27%
<i>50 <= x < 55</i>	3,858	146	147	4,151	3.39%
<i>55 <= x < 60</i>	9,734	756	312	10,802	8.83%
<i>60 <= x < 65</i>	15,862	2,334	529	18,725	15.30%
<i>65 <= x < 70</i>	21,080	5,126	614	26,820	21.92%
<i>70 <= x < 75</i>	18,283	6,239	439	24,961	20.40%
<i>75 <= x < 80</i>	11,595	5,162	151	16,908	13.82%
<i>80 <= x < 85</i>	7,049	3,412	42	10,503	8.58%
<i>85 <= x < 90</i>	3,765	2,004	9	5,778	4.72%
<i>90 <= x < 95</i>	1,642	841	5	2,488	2.03%
<i>95 <= x < 100</i>	454	210	2	666	0.54%
<i>x >= 100</i>	62	30	0	92	0.08%
<i>Employer Totals</i>	93,773	26,294	2,283	122,350	100.00%
<i>Percent of Total</i>	76.64%	21.49%	1.87%	100.00%	

1) Comprised of 62749 retirees and nominees enrolled in HealthSelect Medicare Advantage, 55440 retirees and nominees enrolled in HealthSelect and 4161 retirees who receive the Opt-Out Credit in lieu of health benefits.

2) Includes 3469 State Agency Retirees, 644 Higher Education Retirees and 48 Other Retirees receiving the Opt-Out Annuity.

3) Employees of TMRS, TCDRS, TTA and CSCD.

Section IX - Glossary

Actuarial Accrued Liability (Past Service Liability): See Total OPEB Liability.

Actuarial Gain or Loss: From one plan year to the next, if the experience of the plan differs from that anticipated by the actuarial assumptions, an actuarial gain or loss occurs.

Actuarial Present Value of Projected Benefit Payments: Projected benefit payments include all benefits estimated to be payable to plan members (retirees and beneficiaries, terminated employees entitled to benefits but not yet receiving them, and current active members) as a result of their service through the valuation date and their expected future service. The actuarial present value of projected benefit payments as of the valuation date is the present value of the cost to finance benefits payable in the future, discounted to reflect the expected effects of the time value (present value) of money and the probabilities of payment. Expressed another way, it is the amount that would have to be invested on the valuation date so that the amount invested plus investment earnings will provide sufficient assets to pay total projected benefits when due.

Actuarial Value of Assets: See Fiduciary Net Position.

Discount Rate: The single rate of return that, when applied to all projected benefit payments, results in an actuarial present value of projected benefit payments equal to the total of the actuarial present values determined using (a) the long-term rate of return for the periods during which the plan's fiduciary net position is sufficient to make the projected benefit payments and (b) the municipal bond rate for the remaining periods of the projection.

Entry Age Actuarial Cost Method: A method under which the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit age(s). The portion of this actuarial present value allocated to a valuation year is called the Normal Cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is called the Total OPEB Liability (or Actuarial Accrued Liability).

Fiduciary Net Position: Assets plus deferred outflows of resources minus liabilities minus deferred inflows of resources. (Also known as the Actuarial Value of Assets.)

Healthcare Cost Trend Rates: The rates of change in per capita health claims costs over time as a result of factors such as medical inflation, utilization of healthcare services, plan design and technological developments.

Long-Term Expected Rate of Return: The expected return on OPEB plan investments that are expected to be used to finance the payment of benefits.

Municipal Bond Rate: A yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher (or equivalent quality on another rating scale).



Net OPEB Liability: The liability of employers and nonemployer contributing entities to plan members for benefits provided through a defined benefit OPEB plan that is administered through a trust that meets the criteria in paragraph 4 of GASB No. 75. The Net OPEB Liability is equal to the Total OPEB Liability reduced by the Fiduciary Net Position. (Also known as the Unfunded Actuarial Accrued Liability.)

Nonemployer Contributing Entities: For arrangements in which OPEB is provided through an OPEB plan that is administered through a trust that meets the criteria in paragraph 4 of GASB No. 75, entities that make contributions, including amounts for OPEB as the benefits come due, to an OPEB plan that is used to provide OPEB to the employees of other entities. For arrangements in which OPEB is provided through an OPEB plan that is not administered through a trust that meets the criteria in paragraph 4 of GASB No. 75, entities that make benefit payments as OPEB comes due for employees of other entities, whether directly or through the use of the entity's assets held by others for the purpose of providing OPEB. For purposes of GASB No. 75, plan members are not considered nonemployer contributing entities.

Normal Cost: Computed differently under different actuarial cost methods, the Normal Cost generally represents the portion of the Actuarial Present Value of Total Projected Plan Benefits attributed to the current year of service for active employees.

Total OPEB Liability: The portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service in conformity with the requirements of GASB No. 75. The total OPEB liability is the liability of employers and nonemployer contributing entities to plan members for benefits provided through a defined benefit OPEB plan that is not administered through a trust that meets the criteria in paragraph 4 of GASB No. 75. (Also known as the Actuarial Accrued Liability.)

Unfunded Actuarial Accrued Liability: See Net OPEB Liability.



Appendix A

Amortization Schedules of Outflows and Inflows of Resources



A. Schedule of Differences between Expected and Actual Experience

In accordance with Paragraph No. 86a of GASB No. 75, the effects of differences between expected and actual experience should be included in OPEB expense, beginning in the current measurement period, using a systematic and rational method over a closed period equal to the average of the expected remaining service lives of all employees that are provided with OPEB through the OPEB plan (active and inactive employees) determined as of the beginning of the measurement period. The following table illustrates the application of this requirement.

Increase (Decrease) in OPEB Expense Arising from the Effects of Differences between Expected and Actual Experience (Measurement Period Ended 8/31)

Measurement Period Ended 8/31	Differences Between Expected and Actual Experience ¹	Average Expected Remaining Service Lives (Years)	Increase (Decrease) in OPEB Expense Arising from the Effects of Differences between Expected and Actual Experience (Measurement Period Ended 8/31)									
			2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
2017	\$ (501,666,343)	5.44	\$ (92,218,078)	\$ (92,218,078)	\$ (92,218,078)	\$ (92,218,078)	\$ (92,218,078)	\$ (40,575,953)	\$ 0	\$ 0	\$ 0	\$ 0
2018	\$ (935,688,538)	5.60		(167,087,239)	(167,087,239)	(167,087,239)	(167,087,239)	(167,087,239)	(100,252,343)	0	0	0
Net increase (decrease) in OPEB expense			<u>\$ (92,218,078)</u>	<u>\$ (259,305,317)</u> ²	<u>\$ (259,305,317)</u>	<u>\$ (259,305,317)</u>	<u>\$ (259,305,317)</u>	<u>\$ (207,663,192)</u>	<u>\$ (100,252,343)</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>

¹ See the Schedule of Changes in the Net OPEB Liability in Section IV.A. Positive amounts represent actual experience that increases the total OPEB liability greater than projected or decreases the total OPEB liability less than projected (experience losses) and result in increases in OPEB expense and deferred outflows of resources. Negative amounts represent actual experience that increases the total OPEB liability less than projected or decreases the total OPEB liability greater than projected (experience gains) and result in decreases in OPEB expense and increases in deferred inflows of resources.

² Amount included in OPEB expense for measurement period ended August 31, 2018. See differences between expected and actual experience in Section II.D.1.



B. Schedule of Changes of Assumptions

In accordance with Paragraph No. 86a of GASB No. 75, the effects of changes of assumptions should be included in OPEB expense, beginning in the current measurement period, using a systematic and rational method over a closed period equal to the average of the expected remaining service lives of all employees that are provided with OPEB through the OPEB plan (active and inactive employees) determined as of the beginning of the measurement period. The following table illustrates the application of this requirement.

Measurement Period Ended 8/31	Changes of Assumptions ¹	Average Expected Remaining Service Lives (Years)	Increase (Decrease) in OPEB Expense Arising from the Effects of Changes of Assumptions (Measurement Period Ended 8/31)									
			2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
2017	\$(8,728,820,673)	5.44	\$(1,604,562,624)	\$(1,604,562,624)	\$(1,604,562,624)	\$(1,604,562,624)	\$(1,604,562,624)	\$(706,007,553)	\$ 0	\$ 0	\$ 0	\$ 0
2018	\$(5,924,044,741)	5.60		(1,057,865,132)	(1,057,865,132)	(1,057,865,132)	(1,057,865,132)	(1,057,865,132)	(634,719,081)	0	0	0
Net increase (decrease) in OPEB expense			<u>\$(1,604,562,624)</u>	<u>\$(2,662,427,756)²</u>	<u>\$(2,662,427,756)</u>	<u>\$(2,662,427,756)</u>	<u>\$(2,662,427,756)</u>	<u>\$(1,763,872,685)</u>	<u>\$(634,719,081)</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>

¹ See the Schedule of Changes in the Net OPEB Liability in Section IV.A. Positive amounts represent increases in the total OPEB liability from assumption changes and result in increases in OPEB expense and deferred outflows of resources. Negative amounts represent decreases in the total OPEB liability from assumption changes and result in decreases in OPEB expense and increases in deferred inflows of resources.

² Amount included in OPEB expense for measurement period ended August 31, 2018. See changes of assumptions in Section II.D.1.



C. Schedule of Differences between Projected and Actual Earnings on OPEB Plan Investments

In accordance with Paragraph No. 86b of GASB No. 75, the effects of differences between projected and actual earnings on OPEB plan investments should be included in OPEB expense using a systematic and rational method over a closed five-year period, beginning in the current measurement period. The following table illustrates the application of this requirement.

Increase (Decrease) in OPEB Expense Arising from the Differences between Projected and Actual Earnings on OPEB Plan Investments (Measurement Period Ended 8/31)

Measurement Period Ended 8/31	Differences between Projected and Actual Earnings on OPEB Plan Investments ¹	Closed Five-Year Period	Increase (Decrease) in OPEB Expense Arising from the Differences between Projected and Actual Earnings on OPEB Plan Investments (Measurement Period Ended 8/31)									
			2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
2017	\$ 12,609,851	5.00	\$ 2,521,970	\$ 2,521,970	\$ 2,521,970	\$ 2,521,970	\$ 2,521,971	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
2018	\$ 8,086,517	5.00		1,617,303	1,617,303	1,617,303	1,617,303	1,617,305	0	0	0	0
Net increase (decrease) in OPEB expense			<u>\$ 2,521,970</u>	<u>\$ 4,139,273</u> ²	<u>\$ 4,139,273</u>	<u>\$ 4,139,273</u>	<u>\$ 4,139,274</u>	<u>\$ 1,617,305</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>

¹ Amounts are equal to net investment income (see the Schedule of Changes in the Net OPEB Liability in Section IV.A.) less projected earnings (see the projected earnings on OPEB plan investments in Section II.D.1.). Positive amounts represent investment returns that are less than projected and, therefore, increase OPEB expense. Negative amounts represent investment returns that are greater than projected and, therefore, decrease OPEB expense.

² Amount included in OPEB expense for measurement period ended August 31, 2018. See differences between projected and actual earnings on OPEB plan investments in Section II.D.1.



Appendix B

Determination of Balances of Deferred Outflows of Resources and Deferred Inflows of Resources Related to OPEB at August 31, 2018 Measurement Date



A. Deferred Outflows of Resources and Deferred Inflows of Resources Arising from Differences between Expected and Actual Experience

Measurement Period Ended 8/31	Experience Losses ¹ (a)	Experience Gains ¹ (b)	Amounts Included in OPEB Expense through 8/31/2017 ² (c)	Balances at 8/31/2017 ³		Amounts Included in OPEB Expense through 8/31/2018 ⁴ (d)	Balances at 8/31/2018 ³	
				Deferred Outflows of Resources (a) – (c)	Deferred Inflows of Resources (b) – (c)		Deferred Outflows of Resources (a) – (d)	Deferred Inflows of Resources (b) – (d)
2017	N/A	\$ (501,666,343)	\$ (92,218,078)	N/A	\$ (409,448,265)	\$ (184,436,156)	N/A	\$ (317,230,187)
2018	N/A	(935,688,538)	N/A	N/A	N/A	(167,087,239)	N/A	(768,601,299)
				\$ 0	\$ (409,448,265)	\$ (351,523,395)	\$ 0	\$ (1,085,831,486)

- ¹ See the Schedule of Changes in the Net OPEB Liability in Section IV.A. or the Schedule of Differences between Expected and Actual Experience in Appendix A. Experience losses are presented as positive amounts. Experience gains are presented as negative amounts.
- ² Amounts are equal to the sum of increases (decreases) in OPEB expense through the measurement year ending August 31, 2017 due to the differences between expected and actual experience in column (a) or column (b). Positive amounts increase OPEB expense and decrease deferred outflows of resources balances. Negative amounts decrease OPEB expense and decrease deferred inflows of resources balances.
- ³ Deferred outflows of resources are presented as positive amounts. Deferred inflows of resources are presented as negative amounts.
- ⁴ Amounts are equal to the sum of increases (decreases) in OPEB expense through the measurement year ending August 31, 2018 due to the differences between expected and actual experience in column (a) or column (b). Positive amounts increase OPEB expense and decrease deferred outflows of resources balances. Negative amounts decrease OPEB expense and decrease deferred inflows of resources balances.

B. Deferred Outflows of Resources and Deferred Inflows of Resources Arising from Changes of Assumptions

Measurement Period Ended 8/31	Increases in the Total OPEB Liability ¹ (a)	Decreases in the Total OPEB Liability ¹ (b)	Amounts Included in OPEB Expense through 8/31/2017 ² (c)	Balances at 8/31/2017 ³		Amounts Included in OPEB Expense through 8/31/2018 ⁴ (d)	Balances at 8/31/2018 ³	
				Deferred Outflows of Resources (a) – (c)	Deferred Inflows of Resources (b) – (c)		Deferred Outflows of Resources (a) – (d)	Deferred Inflows of Resources (b) – (d)
2017	N/A	\$ (8,728,820,673)	\$(1,604,562,624)	N/A	\$(7,124,258,049)	\$ (3,209,125,248)	N/A	\$ (5,519,695,425)
2018	N/A	(5,924,044,741)	N/A	N/A	N/A	(1,057,865,132)	N/A	(4,866,179,609)
				\$ 0	\$ (7,124,258,049)	\$ (4,266,990,380)	\$ 0	\$ (10,385,875,034)

- ¹ See the Schedule of Changes in the Net OPEB Liability in Section IV.A. or the Schedule of Changes of Assumptions in Appendix A.
- ² Amounts are equal to the sum of increases (decreases) in OPEB expense through the measurement year ending August 31, 2017 due to the changes of assumptions in column (a) or column (b). Positive amounts increase OPEB expense and decrease deferred outflows of resources balances. Negative amounts decrease OPEB expense and decrease deferred inflows of resources balances.
- ³ Deferred outflows of resources are presented as positive amounts. Deferred inflows of resources are presented as negative amounts.
- ⁴ Amounts are equal to the sum of increases (decreases) in OPEB expense through the measurement year ending August 31, 2018 due to the changes of assumptions in column (a) or column (b). Positive amounts increase OPEB expense and decrease deferred outflows of resources balances. Negative amounts decrease OPEB expense and decrease deferred inflows of resources balances.



C. Deferred Outflows of Resources and Deferred Inflows of Resources Arising from Differences between Projected and Actual Earnings on OPEB Plan Investments

Measurement Period Ended 8/31	Investment Earnings Less Than Projected ¹ (a)	Investment Earnings Greater Than Projected ¹ (b)	Amounts Included in OPEB Expense through 8/31/2017 ² (c)	Balances at 8/31/2017 ³		Amounts Included in OPEB Expense through 8/31/2018 ⁴ (d)	Balances at 8/31/2018 ³	
				Deferred Outflows of Resources (a) – (c)	Deferred Inflows of Resources (b) – (c)		Deferred Outflows of Resources (a) – (d)	Deferred Inflows of Resources (b) – (d)
2017	\$ 12,609,851	N/A	\$ 2,521,970	\$ 10,087,881	N/A	\$,5,043,940	\$ 7,565,911	N/A
2018	8,086,517	N/A	N/A	N/A	N/A	1,617,303	6,469,214	N/A
				<u>\$ 10,087,881</u>	<u>\$ 0</u>	<u>\$ 6,661,243</u>	<u>\$ 14,035,125</u>	<u>\$ 0</u>

¹ Amounts equal to net investment income (see the Schedule of Changes in the Net OPEB Liability in Section IV.A.) less projected earnings (see the projected earnings on OPEB plan investments in Section II.D.1.). See the Schedule of Differences between Projected and Actual Earnings on OPEB Plan Investments in Appendix A. Investment earnings less than projected are presented as positive amounts. Investment earnings greater than projected are presented as negative amounts.

² Amounts are equal to the sum of increases (decreases) in OPEB expense through the measurement year ending August 31, 2017 due to the differences between projected and actual earnings on OPEB plan investments in column (a) or column (b). Positive amounts increase OPEB expense and decrease deferred outflows of resources balances. Negative amounts decrease OPEB expense and decrease deferred inflows of resources balances.

³ Deferred outflows of resources are presented as positive amounts. Deferred inflows of resources are presented as negative amounts. In conformity with Paragraph No. 86b of GASB No. 75, deferred outflows of resources and deferred inflows of resources arising from differences between projected and actual earnings on OPEB plan investments in different measurement periods are aggregated and reported as a net deferred outflow of resources or a net deferred inflow of resources. Therefore, at August 31, 2017, there is a net deferred outflow of resources arising from differences between projected and actual earnings on OPEB plan investments of \$10,087,881, calculated as the deferred outflow balance of \$10,087,881 net of the deferred inflow balance of \$0. At August 31, 2018, there is a net deferred outflow of resources arising from differences between projected and actual earnings on OPEB plan investments of \$14,035,125, calculated as the deferred outflow balance of \$14,035,125 net of the deferred inflow balance of \$0.

⁴ Amounts are equal to the sum of increases (decreases) in OPEB expense through the measurement year ending August 31, 2018 due to the differences between projected and actual earnings on OPEB plan investments in column (a) or column (b). Positive amounts increase OPEB expense and decrease deferred outflows of resources balances. Negative amounts decrease OPEB expense and decrease deferred inflows of resources balances.



D. Statement of Outflows and Inflows Arising from Current and Prior Measurement Periods for Measurement Year Ending August 31, 2018 to be used for Governmental Employer Reporting for 2019 Fiscal Years Ending on or before August 31, 2019

1. New Deferred Outflows and Inflows of Resources by Source Established in Fiscal Year

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
a. Differences between expected and actual experience	\$ 0	\$ 935,688,538	\$ (935,688,538)
b. Changes of assumptions	0	5,924,044,741	(5,924,044,741)
c. Net difference between projected and actual earnings on OPEB plan investments	<u>8,086,517</u>	<u>0</u>	<u>8,086,517</u>
d. Total	\$ 8,086,517	\$ 6,859,733,279	\$ (6,851,646,762)

2. Outflows and Inflows of Resources by Source to be Recognized in Current OPEB Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
a. Differences between expected and actual experience	\$ 0	\$ 259,305,317	\$ (259,305,317)
b. Changes of assumptions	0	2,662,427,756	(2,662,427,756)
c. Net difference between projected and actual earnings on OPEB plan investments	<u>4,139,273</u>	<u>0</u>	<u>4,139,273</u>
d. Total	\$ 4,139,273	\$ 2,921,733,073	\$ (2,917,593,800)

3. Deferred Outflows and Deferred Inflows of Resources by Source to be Recognized in Future OPEB Expenses

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
a. Differences between expected and actual experience	\$ 0	\$ 1,085,831,486	\$ (1,085,831,486)
b. Changes of assumptions	0	10,385,875,034	(10,385,875,034)
c. Net difference between projected and actual earnings on OPEB plan investments ¹	<u>14,035,125</u>	<u>0</u>	<u>14,035,125</u>
d. Total	\$ 14,035,125	\$ 11,471,706,520	\$ (11,457,671,395)

¹ Contributions made after the measurement date of August 31, 2018 and before the cost-sharing employer's Fiscal Year End need to be recognized as deferred outflows in accordance with Paragraph No. 68 of GASB No. 75. At the end of FY19, each reporting entity shall determine their contributions during this period and add this amount to their allocated portion of these deferred outflows.



4. Deferred Outflows and Deferred Inflows of Resources by Year to be Recognized in Future OPEB Expenses

Measurement Year End	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
2019	\$ 4,139,273	\$ 2,921,733,073	\$ (2,917,593,800)
2020	4,139,273	2,921,733,073	(2,917,593,800)
2021	4,139,274	2,921,733,073	(2,917,593,799)
2022	1,617,305	1,971,535,877	(1,969,918,572)
2023	0	734,971,424	(734,971,424)
Thereafter	<u>0</u>	<u>0</u>	<u>0</u>
Total	\$ 14,035,125	\$11,471,706,520	\$(11,457,671,395)