

North Carolina State Health Plan

**Actuarial Valuation and Review of
Other Postemployment Benefits (OPEB)
Measured at June 30, 2020, with a
Reporting Date of June 30, 2021, in
accordance with GASB Statement No. 75**



This report has been prepared at the request of the Committee on Actuarial Valuations of Retired Employees' Health Benefits (OPEB) to assist in administering the Plan. This valuation report may not otherwise be copied or reproduced in any form without the consent of the Committee on Actuarial Valuations of Retired Employees' Health Benefits (OPEB) and may only be provided to other parties in its entirety. The measurements shown in this actuarial valuation may not be applicable for other purposes.

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February 17, 2021

Committee on Actuarial Valuation of Retired Employees' Health Benefits (OPEB)
State of North Carolina
430 N. Salisbury St.
Raleigh, North Carolina 27603

Dear Committee Members:

We are pleased to submit this Actuarial Valuation and Review of Other Postemployment Benefits (OPEB) as of June 30, 2020 under Governmental Accounting Standards Board Statement No. 75. The report summarizes the actuarial data used in the valuation, discloses the Net OPEB Liability (NOL), and analyzes the preceding year's experience. This report was based on the census data provided by the Department of the State Treasurer, the financial information prepared by the Department of the State Treasurer, and the terms of the Plan. The actuarial calculations were completed under the supervision of Daniel J. Rhodes, FSA, MAAA, Vice President and Consulting Actuary, and Peter Wang, PhD, ASA, FCA, MAAA, Associate Actuary.

The measurements shown in this actuarial valuation may not be applicable for other purposes. 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; and changes in plan provisions or applicable law.

The actuarial valuation has been completed in accordance with generally accepted actuarial principles and practices. To the best of our knowledge, the information supplied in this actuarial valuation is complete and accurate. The demographic assumptions were prescribed by the OPEB Valuation Committee to be consistent with the TSERS pension valuation where assumptions overlap. Further, in our opinion, the assumptions used in this valuation and described in Section 3, Exhibit II are reasonably related to the experience of and the expectations for the Plan. The actuarial projections are based on these assumptions and the plan of benefits as summarized in Section 3, Exhibit III.

Sincerely,

Segal

A handwritten signature in black ink that reads "Daniel J. Rhodes". The signature is written in a cursive style and is positioned above a horizontal line.

Daniel J. Rhodes, FSA, MAAA

Vice President and Consulting Actuary

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Actuarial Valuation Summary

Purpose and basis

This report presents the results of our actuarial valuation of the North Carolina State OPEB plan as of June 30, 2020, required by Governmental Accounting Standards Board (GASB) Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefit Plans Other than Pension Plans*. The actuarial computations made are for purposes of fulfilling plan accounting requirements. Determinations for purposes other than meeting financial accounting requirements may be significantly different from the results reported here.

Highlights of the valuation

Accounting and Financial Reporting

- For GASB 75 reporting as of June 30, 2021, the Net OPEB Liability (NOL) was measured as of June 30, 2020. The Plan's Fiduciary Net Position (plan assets) and the Total OPEB Liability (TOL) were valued as of the measurement date. Consistent with the provisions of GASB 75, the assets and liabilities measured as of June 30, 2020 are not adjusted or rolled forward to the June 30, 2021 reporting date.
- The collective NOL as of the beginning of the employer fiscal year ending June 30, 2020 is \$31,639,499,497, based on a measurement as of June 30, 2019. The NOL as of the employer fiscal year ending June 30, 2021 is \$27,740,851,234, based on a measurement as of June 30, 2020.
- The collective GASB 75 OPEB expense of -\$783,003,255 is based on the change in the NOL during the employers' fiscal year ending June 30, 2021, corresponding with a Measurement Period of July 1, 2019 to June 30, 2020. The expense is the change in the NOL, excluding changes related to employer contributions and adjusted to reflect the effect of deferred recognition of certain changes in the liability and assets. A summary of the calculation of the OPEB expense and a summary of the outstanding deferred outflows and inflows can be found in Section 2.
- As of June 30, 2020, the ratio of assets to the Total OPEB Liability (the funded ratio) is 6.92%. This is based on the market value of assets on June 30, 2020.

Section 1: Actuarial Valuation Summary

- For the purposes of applying the cost-sharing provisions of GASB 75, the proportionate share for each employer is determined based on the present value of future salary for current employees as of the Measurement Date based on the demographic assumptions, salary increase assumptions, and discount rate assumption used for the corresponding measurement of the Total OPEB Liability. Tables of the proportionate share calculations and allocated results in accordance with these proportionate shares are provided in the appendix to this report.

The Coronavirus (COVID-19) pandemic is rapidly evolving and is having a significant impact on the US economy in 2020, including most retiree health plans, and will likely continue to have an impact in the future. Our results do not include the impact of the following:

- Direct or indirect effects of COVID-19 on short-term health plan costs
- Changes in the market value of plan assets since June 30, 2020
- Changes in interest rates since June 30, 2020
- Short-term or long-term impacts on mortality of the covered population
- The potential for federal or state fiscal relief

Each of the above factors could significantly impact these results. Given the high level of uncertainty and fluidity of the current events, you may wish to consider updated estimates to monitor the plan's financial status. We will keep you updated on emerging developments.

Section 1: Actuarial Valuation Summary

Summary of key valuation results

Measurement Date		June 30, 2020	June 30, 2019
Disclosure elements for fiscal year ending June 30:	• Total OPEB Liability	\$29,802,158,533	\$33,095,182,920
	• Plan Fiduciary Net Position (Assets)	2,061,307,299	1,455,683,423
	• Net OPEB Liability	27,740,851,234	31,639,499,497
	• Plan Fiduciary Net Position as a percentage of Total OPEB Liability	6.92%	4.40%
Key items for fiscal year ending June 30:	• Annual OPEB Expense	(\$783,003,255)	(\$467,045,916)
	• Service Cost at Beginning of Year	1,824,174,672	1,539,091,679
	• Covered Payroll	17,975,000,000	17,622,000,000

Exhibits relating to GASB 74 information in this report are consistent with comparable exhibits of the report dated August 28, 2020, with one exception. The total employer contributions were \$1,162,966,849 (see page 16 of the GASB 74 report). A portion of the contribution was not allocated to employers, due to timing differences. As such, in this report the contributions appear as \$1,163,115,169 (page 15 of this report), and the \$148,320 difference is included in Other Changes.

The \$475.2 million additional contribution (described on page 11 of this report) is classified as a “Non-Employer Contribution” on page 15 of this report.

Section 1: Actuarial Valuation Summary

Important information about actuarial valuations

An actuarial valuation is a budgeting tool with respect to defining future uncertain obligations of a postretirement health plan. As such, it will never forecast the precise future stream of benefit payments. It is an estimated forecast – the actual cost of the plan will be determined by the benefits and expenses paid, not by the actuarial valuation.

In order to prepare a valuation, Segal relies on a number of input items. These include:

Plan of benefits	Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. Even where they appear precise, outside factors may change how they operate. For example, a plan may provide health benefits to post-65 retirees that coordinates with Medicare. If so, changes in the Medicare law or administration may change the plan's costs without any change in the terms of the plan itself. It is important for the State to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan summary included in our report to confirm that Segal has correctly interpreted the plan of benefits.
Participant data	An actuarial valuation for a plan is based on data provided to the actuary by the plan. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is not necessary to have perfect data for an actuarial valuation: the valuation is an estimated forecast, not a prediction. The uncertainties in other factors are such that even perfect data does not produce a "perfect" result. Notwithstanding the above, it is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
Assets	The valuation is based on the market value of assets as of the valuation date, as provided by the State.
Actuarial assumptions	In preparing an actuarial valuation, Segal starts by developing a forecast of the benefits to be paid on behalf of existing plan participants for the rest of their lives and the lives of their beneficiaries. To determine the future costs of benefits, Segal collects claims, premiums, and enrollment data in order to establish a baseline cost for the valuation measurement, and then develops short- and long-term health care cost trend rates to project increases in costs in future years. This forecast also requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of each participant for each year, as well as forecasts of the plan's benefits for each of those events. The forecasted benefits are then discounted to a present value, typically based on an estimate of the rate of return that will be achieved on the plan's assets or, if there are no assets, a rate of return based on 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). All of these factors are uncertain and unknowable. Thus, there will be a range of reasonable assumptions, and the results may vary materially based on which assumptions the actuary selects within that range. That is, there is no right answer (except with hindsight). It is important for any user of an actuarial valuation to understand and accept this constraint. The actuarial model necessarily uses approximations and estimates that may lead to significant changes in our results but will have no impact on the actual cost of the plan. In addition, the actuarial assumptions may change over time, and while this can have a significant impact on the reported results, it does not mean that the previous assumptions or results were unreasonable or wrong.

Section 1: Actuarial Valuation Summary

The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

The actuarial valuation is prepared for use by the State financial officers. It includes information for compliance with accounting standards and for the plan's auditor. Segal is not responsible for the use or misuse of its report, particularly by any other party.

If the State is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.

An actuarial valuation is a measurement at a specific date – it is not a prediction of a plan's future financial condition. Accordingly, Segal did not perform an analysis of the potential range of financial measurements, except where otherwise noted. The actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

Sections of this report include actuarial results that are not rounded, but that does not imply precision.

Critical events for a plan include, but are not limited to, decisions about changes in benefits and contributions. The basis for such decisions needs to consider many factors such as the risk of changes in plan enrollment, emerging claims experience, health care trend, and investment losses, not just the current valuation results.

Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. The State should look to their other advisors for expertise in these areas.

While Segal maintains extensive quality assurance procedures, an actuarial valuation involves complex computer models and numerous inputs. In the event that an inaccuracy is discovered after presentation of Segal's valuation, Segal may revise that valuation or make an appropriate adjustment in the next valuation.

Segal's report shall be deemed to be final and accepted by the State upon delivery and review. The State should notify Segal immediately of any questions or concerns about the final content.

As Segal has no discretionary authority with respect to the management or assets of the Plan, it is not a fiduciary in its capacity as actuaries and consultants with respect to the Plan.

Section 1: Actuarial Valuation Summary

Actuarial Certification

February 17, 2021

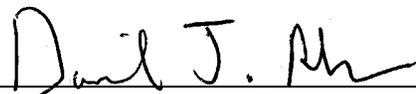
This is to certify that Segal has conducted an actuarial valuation of certain benefit obligations of the State Health Plan of North Carolina other postemployment benefit programs as of June 30, 2020, in accordance with generally accepted actuarial principles and practices. The actuarial calculations presented in this report have been made on a basis consistent with our understanding of GASB Statements 75 for the determination of the liability for postemployment benefits other than pensions.

The actuarial valuation is based on the plan of benefits verified by the State Health Plan and reliance on participant, premium, claims and expense data provided by the Plan or from vendors employed by the Plan. Segal does not audit the data provided. The accuracy and comprehensiveness of the data is the responsibility of those supplying the data. Segal, however, does review the data for reasonableness and consistency.

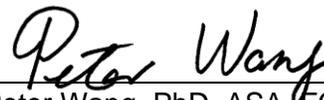
The actuarial computations made are for purposes of fulfilling plan accounting and funding requirements. Determinations for purposes other than meeting financial accounting and funding requirements may be significantly different from the results reported here. Accordingly, additional determinations may be needed for other purposes, such as judging benefit security at termination of the plan, or determining short-term cash flow requirements.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: retiree group benefits program experience or rates of return on assets differing from that anticipated by the assumptions; changes in 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 retiree group benefits program provisions or applicable law. 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. The scope of the assignment did not include performing an analysis of the potential change of such future measurements except where noted.

To the best of our knowledge, this report is complete and accurate and in our opinion presents the information necessary to comply with GASB Statements 75 with respect to the benefit obligations addressed. The signing actuaries are members of the Society of Actuaries, the American Academy of Actuaries, and other professional actuarial organizations and collectively meet the "General Qualification Standards for Statements of Actuarial Opinions" to render the actuarial opinion contained herein.



Daniel J. Rhodes, FSA, MAAA
Vice President and Consulting Actuary



Peter Wang, PhD, ASA, FCA, MAAA
Associate Actuary

GASB 75 Information

General information about the OPEB plan

Plan Description

Plan administration. The State administers the OPEB plan—a multiple employer cost-sharing OPEB plan that is used to provide postemployment benefits other than pensions for permanent full-time general employees. Management of the OPEB plan is governed by North Carolina General Statutes.

Plan membership. Plan membership consisted of the following:

	As of December 31, 2019	As of December 31, 2018
Number of retirees	209,980	205,490
Number of spouses	18,367	17,523
Number of surviving spouses	2,877	2,973
Number of inactive vested	45,096	43,908
Number of actives	348,905	346,173
Total number of participants and spouses	625,225	616,067

Benefits provided. The Plan benefits employees and former employees of the State, the University of North Carolina System, community colleges, and certain other component units. In addition, Local Education Agencies (LEAs), charter schools, and some select local governments that are not part of the financial reporting entity also participate.

Health benefit programs and premium rates are determined by the State Treasurer upon approval of the Board of Trustees. Plan benefits received by retired employees and disabled employees are other postemployment benefits (OPEB). The healthcare benefits for retired and disabled employees who are not eligible for Medicare are the same as for active employees, a choice between the self-funded 80/20 and 70/30 Preferred Provider Organization (PPO) Plans. The plan options change when former employees become eligible for Medicare. Medicare retirees have the option of selecting one of two fully insured Medicare Advantage/Prescription Drug Plan (MA-PDP) options or the self-funded 70/30 PPO plan option that is also offered to non-Medicare members. If the 70/30 Plan is selected by a Medicare retiree, the self-funded State Health Plan coverage is secondary to Medicare.

Section 2: GASB 75 Information

State Contributions. The Plan is funded by both employer contributions and premiums charged to retirees and their spouses and dependents. A percent of pay is charged to each participating employer; the rate was 6.27% for fiscal 2019, 6.47% for fiscal 2020, and is 6.68% for fiscal 2021. Premiums are charged to retirees, and vary based on the coverage selected. The premiums for spouses are much higher than the premiums for retirees. An additional contribution of \$475.2 million was made in FY 2020, and is not assumed to recur in the future. The RHBTF may also be funded through the Unfunded Liability Solvency Reserve as stated in G.S 143C-4-10. As of June 30, 2020, there has been no increase in the Plan Fiduciary Net Position sourced from the Unfunded Liability Solvency Reserve.

Section 2: GASB 75 Information

Net OPEB liability

Measurement Date	June 30, 2020	June 30, 2019
Components of the Net OPEB Liability		
Total OPEB Liability	\$29,802,158,533	\$33,095,182,920
Plan Fiduciary Net Position	2,061,307,299	1,455,683,423
Net OPEB Liability	27,740,851,234	31,639,499,497
Plan Fiduciary Net Position as a percentage of the Total OPEB Liability	6.92%	4.40%

The Net OPEB Liability was measured as of June 30, 2020 and 2019. Plan Fiduciary Net Position (plan assets) was valued as of the measurement dates and the Total OPEB Liability was determined from actuarial valuations using data as of December 31, 2019 and 2018, respectively.

Actuarial assumptions. The Total OPEB Liability was measured by an actuarial valuation as of December 31, 2019, and rolled forward to June 30, 2020, using the following actuarial assumptions, applied to all periods included in the measurement, unless otherwise specified:

Inflation	3.00%
Salary increases	Teachers and Other Education Employees: 7.55% grading down to 3.50% Law Enforcement Officers: 8.10% grading down to 3.50% General Employees: 5.50% grading down to 3.50%
Discount rate	2.21% for fiscal 2020, 3.50% for fiscal 2019
Healthcare cost trend rates	
Medical (Non-MA)	6.50% grading down to 5.00% by 2024
Prescription drug (Non-MA)	9.50% grading down to 5.00% by 2029
Medicare Advantage	Rates are guaranteed for 2021-2025; 5.00% for years after 2026
Administrative costs	3.00%
Mortality rates	RP-2014 Healthy Annuitant Mortality Table for males and females, adjusted for Collar for some Participants, further adjusted with scaling factors varying before and after age 78, and projected for mortality improvement using Scale MP-2015

Section 2: GASB 75 Information

The actuarial assumptions used in the June 30, 2020 measurement valuation were based on the results of an actuarial experience study performed by Buck (formerly known as Buck Consultants and Conduent HR Services) for the period ending December 31, 2014.

The Plan does not have a funding policy that covers both the Normal Cost and a payment toward the unfunded liability. The plan is funded based on contributions set each year to target the projected benefit payments for the year and investment returns and current plan assets do not fund a material portion of long-term projected benefits. As such, we have not calculated a blended discount rate.

Detailed information regarding all actuarial assumptions can be found in Section 3, Exhibit II.

Section 2: GASB 75 Information

Sensitivity

The following presents the NOL of the State as well as what the State's NOL would be if it were calculated using a discount rate that is 1-percentage-point lower (1.21%) or 1-percentage-point higher (3.21%) than the current rate. Also, shown is the NOL as if it were calculated using healthcare cost trend rates that were 1-percentage-point lower or 1-percentage-point higher than the current healthcare trend rates.

	1% Decrease (1.21%)	Current Discount Rate (2.21%)	1% Increase (3.21%)
Net OPEB Liability (Asset)	\$32,898,894,187	\$27,740,851,234	\$23,585,187,858
	1% Decrease in Health Care Cost Trend Rates	Current Health Care Cost Trend Rates	1% Increase in Health Care Cost Trend Rates
Net OPEB Liability (Asset)	\$22,364,142,021	\$27,740,851,234	\$34,927,546,972

Section 2: GASB 75 Information

Schedule of changes in Net OPEB Liability – Last two fiscal years

Measurement Date	June 30, 2020	June 30, 2019
Total OPEB Liability		
Service cost	\$1,824,174,672	\$1,539,091,679
Interest	1,203,195,818	1,192,810,301
Change of benefit terms	224,085,629	(72,358,137)
Differences between expected and actual experience	30,157,435	(156,654,727)
Changes of assumptions	(5,489,969,489)	1,824,891,986
Benefit payments, including refunds of member contributions	<u>(1,084,668,452)</u>	<u>(1,030,956,211)</u>
Net change in Total OPEB Liability	<u>(\$3,293,024,387)</u>	<u>\$3,296,824,891</u>
Total OPEB Liability – beginning	<u>33,095,182,920</u>	<u>29,798,358,029</u>
Total OPEB Liability – ending	<u>\$29,802,158,533</u>	<u>\$33,095,182,920</u>
Plan Fiduciary Net Position		
Contributions – employer	\$1,163,115,169	\$1,103,026,709
Contributions – employee	0	0
Non-employer contribution ¹	475,200,000	0
Net investment income	52,286,927	71,780,132
Benefit payments, including refunds of member contributions	(1,084,668,452)	(1,030,956,211)
Administrative expense	(161,448)	(214,656)
Other ²	<u>(148,320)</u>	<u>1,874,899</u>
Net change in Plan Fiduciary Net Position	\$605,623,876	\$145,510,873
Plan Fiduciary Net Position – beginning	<u>1,455,683,423</u>	<u>1,310,172,550</u>
Plan Fiduciary Net Position – ending	<u>\$2,061,307,299</u>	<u>\$1,455,683,423</u>
Net OPEB Liability – ending	<u>\$27,740,851,234</u>	<u>\$31,639,499,497</u>
Plan Fiduciary Net Position as a percentage of the Total OPEB Liability	6.92%	4.40%
Covered employee payroll ³	\$17,975,000,000	\$17,622,000,000
Plan Net OPEB Liability as percentage of covered employee payroll	154.33%	179.55%

¹ See notes to schedule.

² The difference between the total contributions to the Plan and the amount attributable to each employer may be different due to timing issues and employers that drop off. The GASB 74 contribution is \$1,162,966,849.

³ Covered payroll is estimated for both 2019 and 2020.

Section 2: GASB 75 Information

Notes to Schedule:

Benefit Changes reflected in the June 30, 2020 Net OPEB Liability:

Effective January 1, 2020:

- For the 80/20 Plan:
 - Inpatient Mental Health/Substance Abuse copay changed from \$450 plus deductible and coinsurance to \$300 plus deductible and coinsurance
- For the 70/30 Plan:
 - Deductible changed from \$1,080/\$3,240 to \$1,500/\$4,500
 - Out-of-Pocket Maximum changed from Medical of \$4,388/\$13,164 and Rx of \$3,360/\$10,080 to Combined Medical and Rx of \$5,900/\$16,300
 - Preventive care covered at 100% (\$0 copay)
 - Primary Care Provider copay changed from \$40 to \$45 (for non-designated Blue Option) and (\$30 for designated Blue Option)
 - Pharmacy Tier changes as follows:
 - Tier 3: from \$74 to deductible and coinsurance
 - Tier 4: from 10% up to \$100 to \$200
 - Tier 5: from 25% up to \$103 to \$350
 - Tier 6: from 25% up to \$133 to deductible and coinsurance

Effective January 1, 2021:

- For the 80/20 Plan:
 - Copays for designated PCP, Specialists, and Therapy changed from \$10/\$80/\$52 to \$0/\$40/\$26, respectively, for Clear Pricing Project (CPP) Providers
 - Preferred and non-preferred insulin changed from coverage as Tier 2/Tier 3 drug to coverage at 100% (\$0 copay)
- For the 70/30 Plan:
 - Copays for designated PCP, Specialists, and Therapy changed from \$30/\$94/\$72 to \$0/\$47/\$36, respectively, for CPP Providers
 - Preferred and non-preferred insulin changed from coverage as Tier 2/Tier 3 drug to coverage at 100% (\$0 copay)

Section 2: GASB 75 Information

- For the Medicare Advantage Enhanced Plan:
 - Primary Care Provider copay changed from \$15 to \$10
 - Inpatient Hospitalization copay changed from \$150 for days 1-10 to \$125
 - Pharmacy Tier 1 mail copay changed from \$20 to \$24
 - Pharmacy Tier 2 retail copay changed from \$35 to \$40 and mail copay from \$70 to \$80
- Contribution rates reflect legislative changes in employer funding adopted at the end of fiscal year 2020

Changes in assumptions reflected in the June 30, 2020 Net OPEB Liability:

- The discount rate was updated, changing from 3.50% to 2.21%, based on changes in the Bond Buyer 20-year GO index rate, as selected by the State's OPEB Valuation Committee.
- The medical and prescription drug claims cost were changed based on most recent experience.
- Medical and prescription drug trend rates were changed to current schedule, which include the impact of savings from the Medicare Advantage RFP, the pharmacy benefit manager market check, and the TPA RFP.
- The impact of the excise tax was removed, as the tax has been repealed.

Non-Employer Contribution reflected in the June 30, 2020 Net OPEB Liability:

A one-time transfer of excess funding from the Public Employees Health Benefits Fund to the State Health Plan of North Carolina OPEB Fund.

Benefit Changes reflected in the June 30, 2019 Net OPEB Liability:

Effective January 1, 2019:

- For the 80/20 Plan:
 - Out-of-Pocket maximum changed from \$4,350/\$10,300 for in-network and \$8,700/\$26,100 for out-of-network to \$4,890/\$14,670 for in-network and \$9,780/\$29,340 for out-of-network.
 - Specialist copay changed from \$85 to \$80.
 - In-network inpatient hospitalization changed from \$450 plus deductible and coinsurance or \$0 plus deductible and coinsurance for designated Blue Options hospitals to \$300 plus deductible and coinsurance for all hospitals.

Plan Changes effective January 1, 2020 were known at the time of the June 30, 2019, report, and were expected to be cost neutral.

Section 2: GASB 75 Information

Changes in assumptions reflected in the June 30, 2019 Net OPEB Liability:

- The discount rate changed from 3.87% to 3.50%, based on changes in the Bond Buyer 20-year GO index rate, as selected by the State's OPEB Valuation Committee.
- Disability rates were adjusted to the non-grandfathered assumptions used in the TSERS pension valuation, to better align with anticipated incidence of disability.
- The medical and prescription drug claims cost were changed based on most recent experience.
- Medical and prescription drug trend rates were changed to the current schedule.
- Enrollment assumptions were updated to model expected migrations among plan options over the next four years.

Section 2: GASB 75 Information

Schedule of contributions – Last ten fiscal years

Year Ended June 30	Actuarially Determined Contributions	Contributions in Relation to the Actuarially Determined Contributions	Contribution Deficiency / (Excess)	Covered- Employee Payroll	Contributions as a Percentage of Covered Employee Payroll
2011	\$2,926,070,000	\$743,659,000	\$2,182,411,000	\$15,176,714,000	4.90%
2012	2,371,490,000	710,027,000	1,661,463,000	14,200,540,000	5.00%
2013	2,072,951,000	813,223,000	1,259,728,000	15,343,830,000	5.30%
2014	2,226,586,000	815,157,000	1,411,429,000	15,095,500,000	5.40%
2015	2,211,436,000	854,383,000	1,357,053,000	15,562,532,000	5.49%
2016	2,516,706,000	880,847,000	1,635,859,000	15,729,411,000	5.60%
2017	2,728,064,000	950,812,690	1,777,251,310	16,365,112,000	5.81%
2018	2,613,258,000	1,018,692,516	1,594,565,484	16,838,000,000	6.05%
2019	2,971,069,000	1,104,901,608	1,866,167,392	17,622,000,000	6.27%
2020	2,823,873,000	1,162,966,849	1,660,906,151	17,975,000,000	6.47%

See accompanying notes to this schedule on next page.

Section 2: GASB 75 Information

Notes to Schedule:

Methods and assumptions used to determine contribution rates:

Valuation date	December 31 prior to the fiscal year end
Actuarial cost method	Projected Unit Credit (for years ended June 30, 2017 and earlier) Entry Age Normal (for years ended June 30, 2018 and after)
Amortization method	Open 30-year level pay
Remaining amortization period	30 years
Asset valuation method	Market value
Discount rate	4.25% (for years ended June 30, 2016 and earlier) Bond Buyer 20-Year GO Index Rate as of fiscal year end (for years ended June 30, 2017 and after)
Timing and Payroll Adjustment	This includes interest, rounding, and an adjustment for the difference between valuation payroll and covered payroll (not applicable for ended June 30, 2017 and earlier)
Payroll increase assumption	3.50%

Section 2: GASB 75 Information

Statement of Fiduciary Net Position

	June 30, 2020	June 30, 2019
Assets		
Cash and deposits	\$858,512,552	\$307,663,939
Receivables		
• Contributions	\$65,880,312	\$57,549,990
• Investment income	544,124	465,942
Total receivables	\$66,424,436	\$58,015,932
Investments	\$1,136,370,311	\$1,090,003,552
Total Assets	\$2,061,307,299	\$1,455,683,423
Liabilities	\$0	\$0
Net position restricted for OPEB	\$2,061,307,299	\$1,455,683,423

Section 2: GASB 75 Information

OPEB expense – Total for All Employers

Reporting Date for Employer under GASB 75	June 30, 2021	June 30, 2020
Measurement Date	June 30, 2020	June 30, 2019
Components of OPEB Expense		
Service cost	\$1,824,174,672	\$1,539,091,679
Interest on the Total OPEB Liability	1,203,195,818	1,192,810,301
Expensed portion of current-period change in proportion and differences between employer's contributions and proportionate share of contributions ¹	17	103
Current-period benefit changes	224,085,629	(72,358,137)
Expensed portion of current-period difference between expected and actual experience in the Total OPEB Liability	5,026,240	(26,109,122)
Expensed portion of current-period changes of assumptions or other inputs	(914,994,914)	304,148,666
Member contributions	- -	- -
Projected earnings on plan investments ²	(104,632,633)	(94,292,654)
Expensed portion of current-period differences between actual and projected earnings on plan investments	10,469,142	4,502,506
Administrative expense	161,448	214,656
Other ³	148,320	(1,874,899)
Recognition of beginning of year deferred outflows of resources as OPEB expense	311,701,781	3,050,613
Recognition of beginning of year deferred inflows of resources as OPEB expense	(3,342,338,749)	(3,316,229,628)
Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	<u>(26)</u>	<u>0</u>
OPEB Expense⁴	(\$783,003,255)	(\$467,045,916)

¹ Aggregate net result of rounding individually allocated deferred inflow and outflow balances for changes in proportion and differences between employer's contributions and proportionate share of contributions. Derivation of the amortization periods based on Average Expected Future Service are presented on page 28.

² Calculated based on expected return of 7.00% applied to beginning of year assets of \$1,455,683,423 and net external cash flows (contributions, benefits, administrative expenses and other income) of \$78,136,949, assumed to occur mid-year.

³ Results from Other cash flows on the reconciliation of the Fiduciary Net Position. This results from the difference between the total contributions recorded by the Plan and the total of the contributions recorded from participating employers allocated Net OPEB Liability.

⁴ Per direction from GASB, the non-employer contribution consisting of a one-time transfer of excess funding from the Public Employees Health Benefits Fund to the Retiree Health Benefit Trust Fund in the amount of \$475.2 million was isolated from the OPEB expense and allocated to participating employers as a separate revenue item.

Section 2: GASB 75 Information

Deferred outflows of resources and deferred inflows of resources

Reporting Date for Employer under GASB 75	June 30, 2021	June 30, 2020
Measurement Date	June 30, 2020	June 30, 2019
Deferred Outflows of Resources		
Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$1,518,369,563	\$1,653,733,682
Changes of assumptions or other inputs	1,216,594,656	1,520,743,320
Net difference between projected and actual earnings on OPEB plan investments	58,439,071	21,069,392
Difference between expected and actual experience in the Total OPEB Liability	<u>25,131,195</u>	<u>0</u>
Total Deferred Outflows of Resources	\$2,818,534,485	\$3,195,546,394
Deferred Inflows of Resources		
Changes in proportion and differences between employer's contributions and proportionate share of contributions ¹	\$1,518,369,710	\$1,653,733,820
Changes of assumptions or other inputs	11,257,675,421	9,512,220,241
Net difference between projected and actual earnings on OPEB plan investments	0	0
Difference between expected and actual experience in the Total OPEB Liability	<u>1,085,256,228</u>	<u>1,595,029,350</u>
Total Deferred Inflows of Resources	\$13,861,301,359	\$12,760,983,411
Deferred outflows of resources and deferred inflows of resources related to OPEB will be recognized as follows:		
Reporting Date for Employer under GASB 75 Year Ended June 30:		
2021	N/A	(\$3,030,636,994)
2022	(\$3,930,136,535)	(3,030,636,993)
2023	(3,927,090,301)	(3,027,590,759)
2024	(1,654,111,330)	(754,611,788)
2025	(621,460,025)	278,039,517
2026	(909,968,683)	0
Thereafter	0	0

¹ Calculated in accordance with Paragraphs 54 and 55 of GASB 75

Section 2: GASB 75 Information

Schedule of recognition of change in total Net OPEB Liability

Increase (Decrease) in OPEB Expense Arising from the Recognition of the Effects of Differences between Expected and Actual Experience on Total OPEB Liability

Reporting Date for Employer under GASB 75 Year Ended June 30	Differences between Expected and Actual Experience	Recognition Period (Years)	2020	2021	2022	2023	2024	2025	2026	Thereafter
2018	(\$2,821,033,540)	6.00	(\$470,172,257)	(\$470,172,257)	(\$470,172,257)	(\$470,172,255)	\$0	\$0	\$0	\$0
2019	(80,950,466)	6.00	(13,491,744)	(13,491,744)	(13,491,744)	(13,491,744)	(13,491,744)	0	0	0
2020	(156,654,727)	6.00	(26,109,122)	(26,109,121)	(26,109,121)	(26,109,121)	(26,109,121)	(26,109,121)	0	0
2021	30,157,435	6.00	N/A	<u>5,026,240</u>	<u>5,026,239</u>	<u>5,026,239</u>	<u>5,026,239</u>	<u>5,026,239</u>	<u>5,026,239</u>	<u>0</u>
Net increase (decrease) in OPEB expense			N/A	(\$504,746,882)	(\$504,746,883)	(\$504,746,881)	(\$34,574,626)	(\$21,082,882)	\$5,026,239	\$0

Section 2: GASB 75 Information

Increase (Decrease) in OPEB Expense Arising from the Recognition of the Effects of Assumption Changes

Reporting Date for Employer under GASB 75 Year Ended June 30	Assumption Changes	Recognition Period (Years)	2020	2021	2022	2023	2024	2025	2026	Thereafter
2018	(\$10,835,144,027)	6.00	(\$1,805,857,338)	(\$1,805,857,338)	(\$1,805,857,338)	(\$1,805,857,337)	\$0	\$0	\$0	0
2019	(6,141,972,342)	6.00	(1,023,662,057)	(1,023,662,057)	(1,023,662,057)	(1,023,662,057)	(1,023,662,057)	0	0	0
2020	1,824,891,986	6.00	304,148,666	304,148,664	304,148,664	304,148,664	304,148,664	304,148,664	0	0
2021	(5,489,969,489)	6.00	N/A	<u>(914,994,914)</u>	<u>(914,994,915)</u>	<u>(914,994,915)</u>	<u>(914,994,915)</u>	<u>(914,994,915)</u>	<u>(914,994,915)</u>	<u>0</u>
Net increase (decrease) in OPEB expense			N/A	(\$3,440,365,645)	(\$3,440,365,646)	(\$3,440,365,645)	(\$1,634,508,308)	(\$610,846,251)	(\$914,994,915)	\$0

Section 2: GASB 75 Information

Increase (Decrease) in OPEB Expense Arising from the Recognition of the Effects of Differences between Projected and Actual Earnings on OPEB Plan Investments

Reporting Date for Employer under GASB 75 Year Ended June 30	Differences between Projected and Actual Earnings	Recognition Period (Years)	2020	2021	2022	2023	2024	2025	2026	Thereafter
2018	(\$15,231,159)	5.00	(\$3,046,232)	(\$3,046,232)	(\$3,046,231)	\$0	\$0	\$0	\$0	\$0
2019	15,253,063	5.00	3,050,613	3,050,613	3,050,613	3,050,613	0	0	0	0
2020	22,512,522	5.00	4,502,506	4,502,504	4,502,504	4,502,504	4,502,504	0	0	0
2021	52,345,706	5.00	N/A	<u>10,469,142</u>	<u>10,469,141</u>	<u>10,469,141</u>	<u>10,469,141</u>	<u>10,469,141</u>	<u>0</u>	<u>0</u>
Net increase (decrease) in OPEB expense			N/A	\$14,976,027	\$14,976,027	\$18,022,258	\$14,971,645	\$10,469,141	\$0	\$0

Section 2: GASB 75 Information

Total Increase (Decrease) in OPEB Expense¹

Reporting Date for Employer under GASB 75 Year Ended June 30	Total Increase (Decrease) in OPEB Expense	2020	2021	2022	2023	2024	2025	2026	Thereafter
2018	(\$13,671,408,726)	(\$2,279,075,827)	(\$2,279,075,827)	(\$2,279,075,826)	(\$2,276,029,592)	\$0	\$0	\$0	\$0
2019	(6,207,669,745)	(1,034,103,188)	(1,034,103,188)	(1,034,103,188)	(1,034,103,188)	(1,037,153,801)	0	0	0
2020	1,690,749,781	282,542,050	282,542,047	282,542,047	282,542,047	282,542,047	278,039,543	0	0
2021	(5,407,466,348)	N/A	<u>(899,499,532)</u>	<u>(899,499,535)</u>	<u>(899,499,535)</u>	<u>(899,499,535)</u>	<u>(899,499,535)</u>	<u>(909,968,676)</u>	<u>0</u>
Net increase (decrease) in OPEB expense		N/A	(\$3,930,136,500)	(\$3,930,136,502)	(\$3,927,090,268)	(\$1,654,111,289)	(\$621,459,992)	(\$909,968,676)	\$0

¹ Projected recognition of changes in proportion and differences between employers' contributions and proportionate share of contributions is not included. These items are included in the individual employers' projected recognition and the aggregate recognition of these inflows and outflows nets to nearly zero in each projection year. As a result, figures shown here are slightly different than those shown on page 23.

Supporting Information

Exhibit I: Summary of Participant Data

	As of December 31, 2019	As of December 31, 2018
Number of retirees	209,980	205,490
Average age of retirees	71.0	70.7
Number of spouses	18,367	17,523
Average age of spouses	69.0	68.6
Number of surviving spouses	2,877	2,973
Average age	79.9	80.0
Number inactive vested	45,096	43,908
Average age	48.6	48.5
Number of actives	348,905	346,173
Average age	45.1	45.0
Average service	10.9	10.4
Total Future Service for Active Participants	3,497,394	3,478,643
Total Number of Participants (excludes spouses)	603,981	595,571
GASB 75 Amortization Period for recognition of liability gains and losses and assumption changes (rounded)¹	6 years	6 years

¹ Recognition periods for deferred inflows and outflows related to changes in experience and assumptions are based on the average service lifetime for the population rounded to the nearest integer increment. For the employer fiscal year ending June 30, 2020 this is six years. The amortization period for recognition of investment gains and losses is fixed at 5 years, as mandated by GASB 75

Section 3: Supporting Information

Exhibit II: Actuarial Assumptions and Actuarial Cost Method

Data:	Detailed census data, premium rates, claim experience, and summary plan descriptions for OPEB were provided by the State.
Actuarial Cost Method:	Entry Age, Level Percentage of Pay. Decrements are assumed to occur mid-year.
Asset Valuation Method:	Market Value
Basis for Demographic Assumptions:	The demographic assumptions are based on a study performed by Buck (formerly known as Buck Consultants and Conduent HR Services) for the period ending December 31, 2014. The study was presented to the Board of Trustees for the Teachers' and State Employees' Retirement System of North Carolina in October 2015 and was approved for use. Participants in the Consolidated Judicial Retirement System, the Legislative Retirement System, the University Employees' Optional Retirement Program, and eligible local governments are valued using the General Employees' assumptions. All demographic assumptions were prescribed by the OPEB Valuation Committee to be consistent with the TSERS pension valuation.
Census Valuation Date:	December 31, 2019. Employees that become participants after the valuation date are excluded. Participating employers for sake of the valuation are determined at the beginning of the fiscal year (i.e., included in the total OPEB liability). Allocations to employers are determined based on whether the employer has made contributions during the fiscal year and prior to the valuation date.
Measurement Date:	Liabilities were rolled forward to June 30, 2020. The Entry Age Actuarial Accrued Liability was adjusted from the Valuation Date to the Measurement Date using half the service cost, half the interest cost, and half the expected benefit payments. Financial data was collected as of this date.
Allocations to Employers:	Pro rata allocation of the NOL based on the Present Value of Future Salaries for employers that made contributions to the Trust during the fiscal year.
Discount Rate:	2.21%. The discount rate is based on the Bond Buyer 20-year GO index as of June 30, 2020. The Plan is funded essentially on a "pay-as-you-go" basis, and any prefunding that results from employer and retiree contributions in excess of benefit payments is not material. The additional contribution of \$475.2 million in FY 2020 was not assumed to recur. As such, a blended discount rate is not applicable.
Salary increases based on service:	Teachers and Other Education Employees: 7.55% grading down to 3.50% Law Enforcement Officers: 8.10% grading down to 3.50% General Employees: 5.50% grading down to 3.50%
Investment Return:	7.00%. This rate is provided by the State and the Building Blocks table used for GASB disclosures is provided by the Investment Management Division of the Department of the State Treasurer.

Section 3: Supporting Information

Pre- Retirement Mortality:	Teachers and other education employees use RP-2014 White Collar Employee. All other employees use the RP-2014 Employee table without adjustment.		
Post-Disablement Mortality:	RP-2014 Mortality tables for disabled annuitants multiplied by 103% for males and by 99% for females.		
Post-Retirement Mortality:	Retirees	Adjustments to the RP-2014 Healthy Annuitant Base Table	
		Prior to Age 78	After Age 78
	Male General	108% of Male	124% of Male
	Female General	81% of Female	113% of Female
	Male Teachers	92% of White Collar Male	120% of White Collar Male
	Female Teachers	78% of White Collar Female	108% of White Collar Female
	Male Other	92% of White Collar Male	120% of White Collar Male
	Female Other	78% of White Collar Female	108% of White Collar Female
	Male Law Enforcement	100% of Male	100% of Male
	Female Law Enforcement	100% of Female	100% of Female
Spouses	123% of the Male and Female Retiree Tables		
Mortality Projection Scale:	MP-2015		
Disability Rates:		Rate	
	Age	Male	Female
	20-24	0.000621	0.000779
	25-29	0.000684	0.000889
	30-34	0.000802	0.001186
	35-39	0.001045	0.001766
	40-44	0.001529	0.002309
	45-49	0.002649	0.003444
	50-54	0.004826	0.005307
	55-59	0.008551	0.007696
60-64	0.012054	0.009040	

These rates are the non-grandfathered rates used in the TSERS pension valuation. The number of members eligible for transitional disability coverage provisions under G.S. 135-112 ("grandfathered") is a relatively small group of individuals.

Section 3: Supporting Information

Turnover Rates:

Teachers - Male						
Age	Service					
	0	1	2	3	4	≥5
<=24	0.190	0.160	0.140	0.120	0.095	0.080
25 to 29	0.190	0.160	0.140	0.120	0.095	0.080
30 to 34	0.190	0.160	0.140	0.120	0.095	0.070
35 to 39	0.190	0.160	0.140	0.120	0.095	0.045
40 to 44	0.190	0.160	0.140	0.120	0.095	0.035
45 to 49	0.190	0.160	0.140	0.120	0.095	0.0325
>=50	0.190	0.160	0.140	0.120	0.095	0.0325

Teachers - Female						
Age	Service					
	0	1	2	3	4	≥5
<=24	0.170	0.145	0.135	0.120	0.100	0.090
25 to 29	0.170	0.145	0.135	0.120	0.100	0.090
30 to 34	0.170	0.145	0.135	0.120	0.100	0.075
35 to 39	0.170	0.145	0.135	0.120	0.100	0.045
40 to 44	0.170	0.145	0.135	0.120	0.100	0.034
45 to 49	0.170	0.145	0.135	0.120	0.100	0.0325
>=50	0.170	0.145	0.135	0.120	0.100	0.0325

General - Male						
Age	Service					
	0	1	2	3	4	≥5
<=24	0.180	0.155	0.130	0.110	0.090	0.080
25 to 29	0.180	0.155	0.130	0.110	0.090	0.080
30 to 34	0.180	0.155	0.130	0.110	0.090	0.070
35 to 39	0.180	0.155	0.130	0.110	0.090	0.0525
40 to 44	0.180	0.155	0.130	0.110	0.090	0.040
45 to 49	0.180	0.155	0.130	0.110	0.090	0.035
>=50	0.180	0.155	0.130	0.110	0.090	0.035

General - Female						
Age	Service					
	0	1	2	3	4	≥5
<=24	0.195	0.170	0.145	0.115	0.100	0.110
25 to 29	0.195	0.170	0.145	0.115	0.100	0.110
30 to 34	0.195	0.170	0.145	0.115	0.100	0.085
35 to 39	0.195	0.170	0.145	0.115	0.100	0.060
40 to 44	0.195	0.170	0.145	0.115	0.100	0.045
45 to 49	0.195	0.170	0.145	0.115	0.100	0.0375
>=50	0.195	0.170	0.145	0.115	0.100	0.0375

Other - Male						
Age	Service					
	0	1	2	3	4	≥5
<=24	0.190	0.160	0.130	0.115	0.100	0.080
25 to 29	0.190	0.160	0.130	0.115	0.100	0.080
30 to 34	0.190	0.160	0.130	0.115	0.100	0.060
35 to 39	0.190	0.160	0.130	0.115	0.100	0.045
40 to 44	0.190	0.160	0.130	0.115	0.100	0.040
45 to 49	0.190	0.160	0.130	0.115	0.100	0.040
>=50	0.190	0.160	0.130	0.115	0.100	0.040

Other - Female						
Age	Service					
	0	1	2	3	4	≥5
<=24	0.165	0.135	0.120	0.100	0.085	0.120
25 to 29	0.165	0.135	0.120	0.100	0.085	0.120
30 to 34	0.165	0.135	0.120	0.100	0.085	0.070
35 to 39	0.165	0.135	0.120	0.100	0.085	0.045
40 to 44	0.165	0.135	0.120	0.100	0.085	0.040
45 to 49	0.165	0.135	0.120	0.100	0.085	0.0375
>=50	0.165	0.135	0.120	0.100	0.085	0.0375

Law Enforcement - Male and Female						
Age	Service					
	0	1	2	3	4	≥5
<=24	0.130	0.100	0.090	0.060	0.060	0.040
25 to 29	0.130	0.100	0.090	0.060	0.060	0.040
30 to 34	0.130	0.100	0.090	0.060	0.060	0.035
35 to 39	0.130	0.100	0.090	0.060	0.060	0.030
40 to 44	0.130	0.100	0.090	0.060	0.060	0.030
45 to 49	0.130	0.100	0.090	0.060	0.060	0.040
>=50	0.130	0.100	0.090	0.060	0.060	0.040

Section 3: Supporting Information

Active Retirement Rates:

		General - Male										
		Service										
Age	<=3	4	5	6 to 19	20 to 23	24	25	26 to 28	29	30	>=31	
<=48	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
49	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.325	0.350	0.200	
50	0.000	0.000	0.000	0.000	0.035	0.035	0.080	0.080	0.350	0.350	0.200	
51	0.000	0.000	0.000	0.000	0.035	0.035	0.080	0.080	0.350	0.350	0.200	
52	0.000	0.000	0.000	0.000	0.035	0.035	0.080	0.080	0.250	0.250	0.200	
53	0.000	0.000	0.000	0.000	0.035	0.035	0.080	0.080	0.250	0.300	0.200	
54	0.000	0.000	0.000	0.000	0.035	0.035	0.080	0.080	0.300	0.300	0.150	
55	0.000	0.000	0.000	0.000	0.050	0.050	0.100	0.100	0.325	0.350	0.200	
56	0.000	0.000	0.000	0.000	0.050	0.050	0.100	0.100	0.300	0.275	0.175	
57	0.000	0.000	0.000	0.000	0.050	0.050	0.100	0.100	0.225	0.275	0.200	
58	0.000	0.000	0.000	0.000	0.050	0.050	0.100	0.100	0.275	0.275	0.200	
59	0.000	0.000	0.000	0.000	0.050	0.050	0.100	0.100	0.275	0.275	0.200	
60	0.000	0.000	0.085	0.085	0.085	0.225	0.275	0.275	0.350	0.300	0.225	
61	0.000	0.000	0.135	0.135	0.135	0.250	0.300	0.275	0.275	0.275	0.275	
62	0.000	0.000	0.260	0.260	0.260	0.350	0.350	0.350	0.350	0.350	0.350	
63	0.000	0.000	0.195	0.195	0.195	0.275	0.275	0.275	0.275	0.275	0.275	
64	0.000	0.000	0.195	0.195	0.195	0.200	0.200	0.275	0.275	0.275	0.275	
65	0.000	0.200	0.250	0.275	0.275	0.275	0.275	0.275	0.275	0.275	0.275	
66	0.000	0.175	0.325	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	
67	0.000	0.175	0.325	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	
68	0.000	0.175	0.325	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	
69 to 74	0.000	0.175	0.325	0.225	0.225	0.225	0.225	0.225	0.225	0.225	0.225	
>=75	0.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	

		General - Female										
		Service										
Age	<=3	4	5	6 to 19	20 to 23	24	25	26 to 28	29	30	>=31	
<=48	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
49	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.275	0.350	0.300	
50	0.000	0.000	0.000	0.000	0.035	0.035	0.060	0.060	0.275	0.400	0.300	
51	0.000	0.000	0.000	0.000	0.035	0.035	0.060	0.060	0.275	0.300	0.225	
52	0.000	0.000	0.000	0.000	0.035	0.035	0.060	0.060	0.250	0.275	0.225	
53	0.000	0.000	0.000	0.000	0.035	0.035	0.060	0.060	0.250	0.275	0.225	
54	0.000	0.000	0.000	0.000	0.035	0.035	0.060	0.060	0.250	0.275	0.225	
55 to 59	0.000	0.000	0.000	0.000	0.050	0.050	0.080	0.080	0.300	0.325	0.225	
60	0.000	0.000	0.095	0.095	0.095	0.250	0.250	0.325	0.450	0.300	0.200	
61	0.000	0.000	0.120	0.120	0.120	0.275	0.275	0.250	0.250	0.250	0.250	
62	0.000	0.000	0.215	0.215	0.215	0.425	0.425	0.400	0.400	0.400	0.400	
63	0.000	0.000	0.180	0.180	0.180	0.275	0.375	0.275	0.275	0.275	0.275	
64	0.000	0.000	0.195	0.195	0.195	0.325	0.325	0.250	0.250	0.250	0.250	
65	0.000	0.150	0.400	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.300	
66	0.000	0.150	0.275	0.275	0.275	0.275	0.275	0.275	0.275	0.275	0.275	
67	0.000	0.150	0.400	0.225	0.225	0.225	0.225	0.225	0.225	0.225	0.225	
68	0.000	0.150	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	
69	0.000	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	
70 to 74	0.000	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	
>=75	0	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	

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Active Retirement Rates (continued):

		Teachers - Male										
		Service										
Age	<=3	4	5	6 to 19	20 to 23	24	25	26 to 28	29	30	>=31	
<=48	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
49	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.300	0.300	0.300	
50	0.000	0.000	0.000	0.000	0.025	0.025	0.065	0.065	0.300	0.300	0.300	
51	0.000	0.000	0.000	0.000	0.025	0.025	0.065	0.065	0.300	0.300	0.300	
52	0.000	0.000	0.000	0.000	0.025	0.025	0.065	0.065	0.325	0.325	0.250	
53	0.000	0.000	0.000	0.000	0.025	0.025	0.065	0.065	0.325	0.325	0.250	
54	0.000	0.000	0.000	0.000	0.025	0.025	0.065	0.065	0.325	0.325	0.250	
55	0.000	0.000	0.000	0.000	0.045	0.045	0.090	0.090	0.325	0.325	0.250	
56	0.000	0.000	0.000	0.000	0.045	0.045	0.090	0.090	0.325	0.325	0.250	
57	0.000	0.000	0.000	0.000	0.045	0.045	0.090	0.090	0.325	0.325	0.250	
58	0.000	0.000	0.000	0.000	0.045	0.045	0.090	0.090	0.325	0.325	0.250	
59	0.000	0.000	0.000	0.000	0.045	0.045	0.090	0.090	0.350	0.300	0.250	
60	0.000	0.000	0.120	0.120	0.120	0.300	0.300	0.300	0.400	0.250	0.250	
61	0.000	0.000	0.140	0.140	0.140	0.250	0.250	0.250	0.250	0.250	0.250	
62	0.000	0.000	0.225	0.225	0.225	0.400	0.350	0.350	0.350	0.350	0.350	
63	0.000	0.000	0.180	0.180	0.180	0.500	0.250	0.250	0.250	0.250	0.250	
64	0.000	0.000	0.210	0.210	0.210	0.400	0.250	0.150	0.150	0.150	0.150	
65	0.000	0.300	0.300	0.325	0.325	0.325	0.200	0.200	0.200	0.200	0.200	
66	0.000	0.275	0.275	0.275	0.275	0.275	0.275	0.275	0.275	0.275	0.275	
67	0.000	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	
68	0.000	0.225	0.250	0.225	0.225	0.225	0.225	0.225	0.225	0.225	0.225	
69 to 74	0.000	0.225	0.225	0.225	0.225	0.225	0.225	0.225	0.225	0.225	0.225	
>=75	0.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	

		Teachers - Female										
		Service										
Age	<=3	4	5	6 to 19	20 to 23	24	25	26 to 28	29	30	>=31	
<=48	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
49	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.275	0.275	0.275	
50	0.000	0.000	0.000	0.000	0.035	0.035	0.055	0.055	0.275	0.275	0.275	
51	0.000	0.000	0.000	0.000	0.035	0.035	0.055	0.055	0.275	0.275	0.275	
52	0.000	0.000	0.000	0.000	0.035	0.035	0.055	0.055	0.325	0.400	0.250	
53	0.000	0.000	0.000	0.000	0.035	0.035	0.055	0.055	0.325	0.350	0.250	
54	0.000	0.000	0.000	0.000	0.035	0.035	0.055	0.055	0.325	0.400	0.300	
55	0.000	0.000	0.000	0.000	0.060	0.060	0.095	0.095	0.325	0.400	0.300	
56	0.000	0.000	0.000	0.000	0.060	0.060	0.095	0.095	0.325	0.400	0.275	
57	0.000	0.000	0.000	0.000	0.060	0.060	0.095	0.095	0.325	0.450	0.300	
58	0.000	0.000	0.000	0.000	0.060	0.060	0.095	0.095	0.325	0.450	0.325	
59	0.000	0.000	0.000	0.000	0.060	0.060	0.095	0.095	0.450	0.375	0.300	
60	0.000	0.000	0.135	0.135	0.135	0.300	0.450	0.450	0.450	0.500	0.325	
61	0.000	0.000	0.150	0.150	0.150	0.300	0.400	0.350	0.350	0.350	0.350	
62	0.000	0.000	0.250	0.250	0.250	0.500	0.500	0.425	0.425	0.425	0.425	
63	0.000	0.000	0.190	0.190	0.190	0.500	0.500	0.325	0.325	0.325	0.325	
64	0.000	0.000	0.225	0.225	0.225	0.500	0.500	0.325	0.325	0.325	0.325	
65	0.000	0.150	0.350	0.375	0.375	0.375	0.350	0.350	0.350	0.350	0.350	
66	0.000	0.150	0.375	0.375	0.375	0.375	0.375	0.375	0.375	0.375	0.375	
67	0.000	0.150	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.300	
68	0.000	0.150	0.275	0.275	0.275	0.275	0.275	0.275	0.275	0.275	0.275	
69	0.000	0.150	0.325	0.325	0.325	0.325	0.325	0.325	0.325	0.325	0.325	
70 to 74	0.000	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.300	0.300	
>=75	0.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	

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Active Retirement Rates (continued):

		Other - Male									
		Service									
Age		<=3	4	5	6 to 19	20 to 23	24	25 to 28	29	30	>=31
<=48		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
49		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.300	0.300	0.150
50		0.000	0.000	0.000	0.000	0.035	0.035	0.080	0.300	0.300	0.150
51		0.000	0.000	0.000	0.000	0.035	0.035	0.080	0.300	0.300	0.150
52		0.000	0.000	0.000	0.000	0.035	0.035	0.080	0.250	0.250	0.175
53		0.000	0.000	0.000	0.000	0.035	0.035	0.080	0.250	0.250	0.200
54		0.000	0.000	0.000	0.000	0.035	0.035	0.080	0.150	0.250	0.200
55		0.000	0.000	0.000	0.000	0.040	0.040	0.100	0.250	0.250	0.200
56		0.000	0.000	0.000	0.000	0.040	0.040	0.100	0.250	0.250	0.150
57		0.000	0.000	0.000	0.000	0.040	0.040	0.100	0.250	0.250	0.200
58		0.000	0.000	0.000	0.000	0.040	0.040	0.100	0.250	0.250	0.250
59		0.000	0.000	0.000	0.000	0.040	0.040	0.100	0.250	0.250	0.200
60		0.000	0.000	0.090	0.090	0.090	0.225	0.225	0.250	0.250	0.250
61		0.000	0.000	0.125	0.125	0.125	0.225	0.225	0.225	0.225	0.225
62		0.000	0.000	0.280	0.280	0.280	0.400	0.400	0.400	0.400	0.400
63		0.000	0.000	0.220	0.220	0.220	0.300	0.300	0.300	0.300	0.300
64		0.000	0.000	0.190	0.190	0.190	0.300	0.300	0.300	0.300	0.300
65		0.000	0.150	0.275	0.300	0.300	0.300	0.275	0.275	0.275	0.275
66		0.000	0.150	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250
67		0.000	0.150	0.175	0.175	0.175	0.175	0.175	0.175	0.175	0.175
68		0.000	0.150	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200
69		0.000	0.150	0.225	0.225	0.225	0.225	0.225	0.225	0.225	0.225
70 to 74		0.000	0.225	0.225	0.225	0.225	0.225	0.225	0.225	0.225	0.225
>=75		0	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

		Other - Female										
		Service										
Age		<=3	4	5	6 to 19	20 to 23	24	25	26 to 28	29	30	>=31
<=48		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
49		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.175	0.325	0.225
50		0.000	0.000	0.000	0.000	0.040	0.040	0.055	0.055	0.175	0.325	0.225
51		0.000	0.000	0.000	0.000	0.040	0.040	0.055	0.055	0.175	0.325	0.225
52		0.000	0.000	0.000	0.000	0.040	0.040	0.055	0.055	0.225	0.225	0.225
53		0.000	0.000	0.000	0.000	0.040	0.040	0.055	0.055	0.150	0.300	0.225
54		0.000	0.000	0.000	0.000	0.040	0.040	0.055	0.055	0.225	0.225	0.225
55		0.000	0.000	0.000	0.000	0.050	0.050	0.090	0.090	0.225	0.225	0.225
56 to 59		0.000	0.000	0.000	0.000	0.050	0.050	0.090	0.090	0.250	0.250	0.250
60		0.000	0.000	0.110	0.110	0.110	0.200	0.250	0.275	0.250	0.250	0.250
61		0.000	0.000	0.150	0.150	0.150	0.275	0.275	0.275	0.275	0.275	0.275
62		0.000	0.000	0.270	0.270	0.270	0.375	0.400	0.400	0.400	0.400	0.400
63		0.000	0.000	0.175	0.175	0.175	0.375	0.400	0.300	0.300	0.300	0.300
64		0.000	0.000	0.195	0.195	0.195	0.375	0.400	0.300	0.300	0.300	0.300
65		0.000	0.150	0.250	0.275	0.275	0.275	0.350	0.350	0.350	0.350	0.350
66		0.000	0.150	0.275	0.275	0.275	0.275	0.275	0.275	0.275	0.275	0.275
67		0.000	0.150	0.200	0.225	0.225	0.225	0.225	0.225	0.225	0.225	0.225
68		0.000	0.150	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250
69		0.000	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200
70 to 74		0.000	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250
>=75		0	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Section 3: Supporting Information

Active Retirement Rates (continued):

Law Enforcement - Male and Female

Age	Service					
	<=3	4	5 to 14	15 to 28	29	>=30
<=48	0.000	0.000	0.000	0.000	0.000	0.000
49	0.000	0.000	0.000	0.000	0.750	0.600
50 to 54	0.000	0.000	0.000	0.090	0.750	0.600
55	0.000	0.500	0.500	0.500	0.750	0.500
56 to 59	0.000	0.150	0.175	0.175	0.750	0.500
60 to 64	0.000	0.200	0.200	0.200	0.750	0.500
65	0.000	0.250	0.250	0.250	0.250	0.250
66 to 74	0.000	0.300	0.300	0.300	0.300	0.300
>=75	0.000	1.000	1.000	1.000	1.000	1.000

The eligibility for retirement is determined as of the timing of the assumed decrement (middle of the year), rather than as of the anniversary of the Valuation Date (the beginning of the year). This creates assumed retirements for participants with 4.5, 24.5, and 29.5 years of service as of the anniversary of the Valuation Date.

Inactive Vested Retirement Expected Enrollment Age:

Age 55 with 20 or more years of service; age 63 with 5 or more years of service, but less than 20 years of service

Missing Participant Data:

Actives and terminated vested who do not have plan codes are assumed to be enrolled in plans based on enrollment assumptions.

Missing, invalid, or unreasonable dates of birth are assumed an average value of the group. Invalid gender codes are replaced with the default of male.

Any other missing census item for a given participant was assumed to equal the average value of that item over all other participants of the same status for whom the item is known.

Participation and Coverage Election:

100% of employees eligible to retire and receive subsidized postretirement welfare coverage were assumed to elect medical and prescription drug coverage. All participants are assumed to be enrolled in plans based on enrollment assumptions.

Dependents:

Demographic data was available for spouses of current retirees. For future retirees, husbands were assumed to be four years older than their wives. 10% of future retirees who elect to continue their health coverage at retirement were assumed to have an eligible spouse who also opts for health coverage at that time.

Payroll Increases:

3.50%.

Data Adjustments:

Since child records under split contract were reported as subscribers, we assumed retirees under age 27 were children.

For participants with both an active and terminated vested records, the active record was maintained. For participants with multiple active records from different employers, service was merged, earliest provided membership date was used to determine pre-2006 vs post-2006 status, and (if applicable), the teacher record was used to determine assumptions and plan provisions.

Section 3: Supporting Information

Data Adjustments (continued):

Matching spouses of retirees to retirees when they were covered under split contracts (one Medicare eligible and the other not) was problematic. Additionally, surviving spouses who are not receiving survivor benefits under the retirement plan were not readily distinguishable from retirees. We believe that there are spouses of retirees that we have valued as retirees without paying the spouse premium. No adjustment has been made to the valuation liabilities.

Per Capita Cost Development:

Medical and Prescription Drug: Per capita claims costs were based on actual incurred claim experience for the periods January 1, 2018 through December 31, 2019. Claims were separated by Medicare and Non-Medicare participants, then adjusted as follows:

- Total claims were divided by the number of adult members to yield a per capita claim
- The per capita claim was trended to the midpoint of the valuation year at assumed trend rates
- The per capita claim was adjusted for the effect of any plan changes
- Actuarial factors were then applied to the per capita claims to estimate individual retiree and spouse costs by age and by gender.

Medicare Advantage plans were valued by actuarially adjusting the insured premium rates by age and gender.

As noted in the first quarter 2020 financial projections provided by Segal, the Plan has implemented a custom network, effective January 1, 2020 (the Clear Pricing Project, or “CPP”). The estimated cost associated with the CPP did not have a material impact on the liabilities of the Plan. No explicit adjustment was made to valuation claims costs or trends related to the impact of the CPP.

Administrative Expenses: Administrative expenses were based on a recent quarterly projection prepared by Segal, using detailed administrative expense data provided by the State.

Per Capita Health Costs (2020): Non-Medicare

Age	70/30 Plan		Medical				Prescription Drug			
			Retiree		Spouse		Retiree		Spouse	
	Male	Female	Male	Female	Male	Female	Male	Female		
40	\$3,654	\$4,700	\$2,272	\$3,775	\$1,197	\$1,540	\$744	\$1,237		
45	4,345	5,451	2,695	4,069	1,424	1,786	883	1,333		
50	5,157	5,874	3,602	4,717	1,690	1,925	1,180	1,545		
55	6,125	6,324	4,820	5,460	2,007	2,072	1,579	1,789		
60	7,274	6,816	6,453	6,332	2,383	2,233	2,114	2,075		
65	8,639	7,343	8,639	7,343	2,831	2,406	2,831	2,406		
70	10,012	7,913	10,012	7,913	3,281	2,593	3,281	2,593		
75	10,790	8,518	10,790	8,518	3,535	2,791	3,535	2,791		
80	11,619	9,183	11,619	9,183	3,807	3,009	3,807	3,009		

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Per Capita Health Costs (2020): Non-Medicare (continued)	80/20 Plan	Medical				Prescription Drug			
		Retiree		Spouse		Retiree		Spouse	
	Age	Male	Female	Male	Female	Male	Female	Male	Female
	40	\$5,316	\$6,837	\$3,305	\$5,492	\$1,681	\$2,162	\$1,045	\$1,737
	45	6,321	7,930	3,921	5,919	1,999	2,508	1,240	1,872
	50	7,503	8,546	5,241	6,862	2,372	2,702	1,657	2,170
	55	8,910	9,199	7,013	7,943	2,817	2,909	2,217	2,511
	60	10,582	9,916	9,388	9,212	3,346	3,135	2,968	2,913
	65	12,568	10,682	12,568	10,682	3,974	3,378	3,974	3,378
	70	14,566	11,512	14,566	11,512	4,606	3,640	4,606	3,640
	75	15,697	12,392	15,697	12,392	4,963	3,918	4,963	3,918
	80	16,903	13,359	16,903	13,359	5,345	4,224	5,345	4,224

Per Capita Health Costs (2020): Medicare – Non Medicare Advantage	70/30 Plan	Medical				Prescription Drug			
		Retiree		Spouse		Retiree		Spouse	
	Age	Male	Female	Male	Female	Male	Female	Male	Female
	40	\$511	\$657	\$318	\$528	\$1,197	\$1,540	\$744	\$1,237
	45	607	762	377	569	1,424	1,786	883	1,333
	50	721	821	504	659	1,690	1,925	1,180	1,545
	55	856	884	674	763	2,007	2,072	1,579	1,789
	60	1,017	953	902	885	2,383	2,233	2,114	2,075
	65	1,208	1,027	1,208	1,027	2,831	2,406	2,831	2,406
	70	1,400	1,106	1,400	1,106	3,281	2,593	3,281	2,593
	75	1,508	1,191	1,508	1,191	3,535	2,791	3,535	2,791
	80	1,624	1,284	1,624	1,284	3,807	3,009	3,807	3,009

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Per Capita Health Costs (2020): Medicare – Medicare Advantage	Medicare Advantage (Basic)				Medicare Advantage (Enhanced)				
	Retiree		Spouse		Retiree		Spouse		
	Age	Male	Female	Male	Female	Male	Female	Male	Female
	40	\$532	\$684	\$331	\$549	\$876	\$1,127	\$545	\$905
	45	632	793	392	592	1,042	1,307	646	976
	50	750	855	524	686	1,237	1,409	864	1,131
	55	891	920	701	794	1,469	1,516	1,156	1,309
	60	1,058	992	939	921	1,744	1,634	1,547	1,518
	65	1,257	1,068	1,257	1,068	2,072	1,761	2,072	1,761
	70	1,457	1,151	1,457	1,151	2,401	1,898	2,401	1,898
	75	1,570	1,239	1,570	1,239	2,587	2,043	2,587	2,043
	80	1,691	1,336	1,691	1,336	2,786	2,202	2,786	2,202

Health Care Cost Trend Rates:	Rate (%)				
	Year Ending Dec 31	Medical Non-Medicare	Prescription Drug	Medicare Advantage	Admin.
	2020	6.50%	9.50%	N/A	3.00%
	2021	6.00%	9.00%	N/A	3.00%
	2022	6.00%	8.50%	N/A	3.00%
	2023	5.50%	8.00%	N/A	3.00%
	2024	5.00%	7.50%	N/A	3.00%
	2025	5.00%	7.00%	N/A	3.00%
	2026	5.00%	6.50%	5.00%	3.00%
	2027	5.00%	6.00%	5.00%	3.00%
	2028	5.00%	5.50%	5.00%	3.00%
	2029 & later ¹	5.00%	5.00%	5.00%	3.00%

¹ The ultimate trend rate was used to roll claims backward from the valuation date for purposes of the Entry Age Normal Cost Method

Section 3: Supporting Information

Health Care Cost Trend Rates: (continued)	<p>The trend rate assumptions were based on the trends consistent with the Quarterly Financial Projections, and were developed using Segal's internal guidelines. The guidelines are established each year using data sources such as the 2020 Segal Health Trend Survey, internal client results, trends from other published surveys prepared by the S&P Dow Jones Indices, consulting firms and brokers, and CPI statistics published by the Bureau of Labor Statistics.</p> <p>Adjustments to the base trends above were made as follows:</p> <ul style="list-style-type: none"> • Non-Medicare medical trends for 2020 were adjusted by 0.6% for 70/30 and 0.5% for 80/20 to reflect plan changes effective January 1, 2021. • Drug trends for 2020 were adjusted by -3.6% to reflect the terms of the CVS market check effective January 1, 2021. • MA Base/Enhanced premiums are assumed to be \$0/\$69 for year 2021-2025, per 5-year contract guarantee. Rates are assumed to increase to \$54/\$123 in year 2026. Trends are adjusted relative to 2020 contract rates of \$108/178 to implement this change • An adjustment is applied to 2021 administrative expense trend to account for savings from the TPA contract effective January 1, 2022.
Medicare Part D Subsidy Assumption:	<p>GASB guidelines prohibit the offset of OPEB obligations by the future value of Medicare Part D subsidies. Therefore, these calculations do not include an estimate for retiree prescription drug plan federal subsidies that the North Carolina State Health Plan may be eligible to receive.</p>
Retiree Contribution Increase Rate:	<p>2020 trend on contributions was adjusted to known 2021 contribution rates, including anticipated wellness credits and enrollment migration. A monthly contribution of \$4 was assumed for spouses and contributory retirees in the MA Base plan for years in which the premium is \$0. Retiree/spouse contributions for the 80/20 and 70/30 plans were assumed to remain flat for three years. Employer contributions are assumed to change over the next three years in accordance with the legislative changes adopted at the end of fiscal year 2020. Beyond that point, retiree contributions for medical and prescription drugs were assumed to increase at the same blended trend rate as medical and prescription drug cost. After 10 years, all contributions are assumed to increase at ultimate trend of 5.0%.</p>
Assumption for Tobacco Attestation	<p>The percentage of participants in the 80/20 Plan that complete a Tobacco Attestation is assumed to be 98.5% in all years.</p>
Administrative Expenses:	<p>Administrative expense loads of \$331 per participant (retiree and spouse) for Non-Medicare retiree and of \$84 for Medicare retirees (blended MA & non-MA), increasing at 3.0% per year thereafter were added to projected incurred claims cost in developing the benefit obligations. An adjustment is applied to 2021 Non-Medicare administrative expense trend to account for savings of 23.3% from the TPA contract effective January 1, 2022. (Adjustment is reduced for Medicare expense trend as savings only applies to non-MA participants.)</p>
Plan Design:	<p>Development of plan liabilities was based on the substantive plan of benefits in effect as described in Exhibit III.</p>

Section 3: Supporting Information

Maximum Benefits: There are no annual or lifetime maximum benefits assumed.

Plan Enrollment Assumptions

Based on most recent financial report: Plan Enrollment Assumptions are valued by adjusting the trend for 2020-2023 for enrollment migration.

Non-Medicare Retiree	2020	2021	2022	2023
70/30 Plan	53.2%	52.1%	51.1%	50.0%
80/20 Plan	46.8%	47.9%	48.9%	50.0%
Med Retiree	2020	2021	2022	2023
70/30 Plan	15.6%	14.4%	13.2%	12.0%
MA Base	73.2%	74.5%	75.7%	77.0%
MA Enhanced	11.2%	11.1%	11.1%	11.0%

Health Care Reform Assumption:

This valuation does not include the potential impact of any future changes due to the Patient Protection and Affordable Care Act (PPACA) and the Health Care and Education Reconciliation Act (HCERA) of 2010 other than those previously adopted as of the valuation date.

The PPACA excise tax on high cost health plans was repealed on December 20, 2019, as part of the 2020 federal appropriations bill. The estimated impact of this tax has been removed from the valuation.

The PPACA health insurer fee was also repealed on December 20, 2019. The insured Medicare Advantage rates for 2021 and beyond no longer include this fee.

The PPACA Patient-Centered Outcomes Research Institute (PCORI) fee is included in the assumed administrative expenses.

Actuarial Models

Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative and client requirements. Our Actuarial Technology and Systems Unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user control. The client team programs the assumptions and the plan provisions, validates the model and reviews the test lives and results, under the supervision of the responsible actuary.

Our claims costs assumptions are based on proprietary modeling software as well as models that were developed by others. These models generate per capita claims cost calculations that are used in our valuation software. Our Health Technical Services Unit, comprised of actuaries and programmers, is responsible for the initial development and maintenance of our health models. They are also responsible for testing models that we purchase from other vendors for reasonableness. The client team inputs the paid claims, enrollments, plan provisions and assumptions into these models and reviews the results for reasonableness, under the supervision of the responsible actuary.

Section 3: Supporting Information

Assumption Changes since Prior Valuation:

- The discount rate was updated, changing from 3.50% to 2.21%, based on changes in the Bond Buyer 20-year GO index rate, in accordance with the State's policy for determining the discount rate.
- The medical and prescription drug claims cost were changed based on most recent experience.
- Medical and prescription drug trend rates were changed to current schedule, which include the impact of savings from the Medicare Advantage RFP, the pharmacy benefit manager market check, and the TPA RFP.
- The impact of the health insurer fee and the excise tax was removed, as these have been repealed.

Section 3: Supporting Information

Exhibit III: Summary of Plan

This exhibit summarizes the major benefit provisions as included in the valuation. To the best of our knowledge, the summary represents the substantive plans as of the measurement date. It is not intended to be, nor should it be interpreted as, a complete statement of all benefit provisions.

Eligibility:	<p>Participants in the North Carolina State Health Plan for Teachers and State Employees who retire from the State, the University of North Carolina System, community colleges, local school systems, and certain other component units are eligible to continue to participate in the State Health Plan in retirement if they meet certain criteria. Former employees who are eligible to receive medical benefits are long-term disability beneficiaries of the Disability Income Plan of North Carolina (DIPNC) and retirees of the Teachers' and State Employees' Retirement System (TSERS), the Consolidated Judicial Retirement system (CJRS), the Legislative Retirement System (LRS), the University Employees' Optional Retirement Program (UEORP), and a small number of local governments. General retirement requirements are as follows:</p> <p>Law Enforcement Officer:</p> <ul style="list-style-type: none">• age 50 and 15 years of service;• age 55 and 5 years of service; or• any age with 25 or more years of service. <p>All Others:</p> <ul style="list-style-type: none">• age 50 and 20 years of service;• age 60 and 5 years of service; or• any age with 30 or more years of service. <p>Members achieve vesting at any age with 5 years of service. Members who separate from service after becoming vested and do not withdraw their contributions from the Retirement System may later retire (and enroll in the plan) once they have attained the retirement eligibility age.</p>
Benefit Types:	<p>70/30 and 80/20 Plans are offered to non-Medicare participants, and the 70/30 Plan, Medicare Advantage Base (MA Base) and Medicare Advantage Enhanced (MA Enhanced) plans are offered to Medicare eligible participants. Coverage under 70/30 Plan becomes secondary when former employees become eligible for Medicare.</p>
Duration of Coverage:	<p>Lifetime for retirees and dependents</p>
Dependent Benefits:	<p>Same as retirees</p>

Section 3: Supporting Information

Retiree Contributions:

Monthly contributions, effective January 1, 2020, are shown below.

For Retirees hired prior to October 1, 2006 (February 1, 2007 for legislators):

	Non-Medicare			Medicare		
	70/30 Plan	80/20 Plan		70/30 Plan	MA Base	MA Enhanced
		Tobacco Attest. Not Complete	Tobacco Attest. Complete			
Retiree	\$0.00	\$110.00	\$50.00	\$0.00	\$0.00	\$74.00
Spouse	\$590.00	\$650.00		\$425.00	\$112.00	\$182.00

For Retirees hired on or after October 1, 2006 (February 1, 2007 for legislators), contributions are defined as a percentage of the total premium costs based on the following service based schedule:

Years of Service at Retirement	Retiree Contribution Percentage	Spouse Contribution Percentage
5 – 9.99	100%	100%
10 – 19.99	50%	100%
20 or more	0%	100%

100% and 50% of the total premium costs are shown below:

	Non-Medicare			Medicare		
	70/30 Plan	80/20 Plan		70/30 Plan	MA Base	MA Enhanced
		Tobacco Attest. Not Complete	Tobacco Attest. Complete			
Retiree 100% of Premium	\$532.36	\$642.36	\$582.36	\$413.60	\$112.00	\$182.00
Retiree 50% of Premium	\$266.18	\$376.18	\$316.18	\$206.80	\$112.00	\$182.00
Spouse	\$590.00	\$650.00		\$425.00	\$112.00	\$182.00

Section 3: Supporting Information

Benefit Descriptions (as of January 1, 2020): PPO 70/30 Plan	PPO 70/30 Plan	In-Network	Out-Of-Network
	Medical		
<i>Annual Deductible</i>		\$1,500/\$4,500	\$3,000/\$9,000
<i>Member Coinsurance</i>		30%	50%
<i>Out-of-Pocket Maximum</i>		\$5,900/\$16,300	\$11,800/\$32,600
<i>Primary Care Office Visit Copay</i>		\$45 (\$30 when using PCP on ID card)	Ded. & Coins.
<i>Specialist Office Visit Copay</i>		\$94	Ded. & Coins.
<i>Preventive Care</i>		\$0	N/A
<i>Urgent Care Copay</i>		\$100	\$100
<i>Inpatient Hospitalization Copay</i>		\$337 + Ded. & Coins	\$337 + Ded. & Coins.
<i>Outpatient Hospitalization Copay</i>		Ded. & coins	Ded. & Coins
<i>Emergency Room</i>		\$337 + Ded. & Coins.	same as In-Network
<i>Physical, Occupational, Speech, or Chiropractic Therapy</i>		\$72	Ded. & Coins.
<i>Mental Health and Substance Abuse Office Visit Copay</i>		\$45	Coinsurance
Prescription Drugs (up to 30 day supply – copays are 2x for 31-60 day supply and 3x for 61-90 day supply)			
<i>Tier 1 - Generic</i>		\$16	
<i>Tier 2 - Preferred Brand</i>		\$47	
<i>Tier 3 - Non-Preferred Brand</i>		Ded. & Coins.	
<i>Tier 4 - Generic Specialty</i>		\$200	
<i>Tier 5 - Preferred Specialty</i>		\$350	
<i>Tier 6 - Non-Preferred Specialty</i>		Ded. & Coins.	
<i>Preferred diabetic testing supplies</i>		\$10	
<i>Non-Preferred diabetic testing supplies</i>		Ded. & Coins.	
<i>Out-of-Pocket Maximum</i>		Combined with Medical	

Section 3: Supporting Information

Benefit Descriptions (as of January 1, 2020): PPO 80/20 Plan	PPO 80/20 Plan	In-Network	Out-Of-Network
		Medical	
	<i>Annual Deductible</i>	\$1,250/\$3,750	\$2,500/\$7,500
	<i>Member Coinsurance</i>	20%	40%
	<i>Out-of-Pocket Maximum</i>	\$4,890/\$14,670	\$9,780/\$29,340
	<i>Primary Care Office Visit Copay</i>	\$25 (\$10 when using PCP on ID card)	Ded. & Coins.
	<i>Specialist Office Visit Copay</i>	\$80	Ded. & Coins.
	<i>Preventive Care</i>	\$0	N/A
	<i>Urgent Care Copay</i>	\$70	\$70
	<i>Inpatient Hospitalization Copay</i>	\$300 + Ded. & Coins.	\$300 + Ded. & Coins.
	<i>Outpatient Hospitalization Copay</i>	Ded. & coins	Ded. & Coins
	<i>Emergency Room</i>	\$300 + Ded. & Coins.	same as In-Network
	<i>Physical, Occupational, Speech, or Chiropractic Therapy</i>	\$52	Ded. & Coins.
	<i>Mental Health and Substance Abuse Office Visit Copay</i>	\$25	Coinsurance
	Prescription Drugs (up to 30-day supply – copays are 2x for 31-60 day supply and 3x for 61-90 day supply)		
	<i>Tier 1 - Generic</i>	\$5	
	<i>Tier 2 - Preferred Brand</i>	\$30	
	<i>Tier 3 - Non-Preferred Brand</i>	Ded. & Coins.	
	<i>Tier 4 - Generic Specialty</i>	\$100	
	<i>Tier 5 - Preferred Specialty</i>	\$250	
	<i>Tier 6 - Non-Preferred Specialty</i>	Ded. & Coins.	
	<i>Preferred diabetic testing supplies</i>	\$5	
	<i>Non-Preferred diabetic testing supplies</i>	Ded. & Coins.	
	<i>Out-of-Pocket Maximum</i>	Combined with Medical	

Section 3: Supporting Information

Benefit Descriptions (as of January 1, 2020): Medicare Advantage Plans	Medicare Advantage	MA-PDP Base	MA-PDP Enhanced
	Medical		
	<i>Annual Deductible</i>	\$0	\$0
	<i>Member Coinsurance</i>	20%	20%
	<i>Out-of-Pocket Maximum</i>	\$4,000	\$3,300
	<i>Primary Care Office Visit Copay</i>	\$20	\$15
	<i>Specialist Office Visit Copay</i>	\$40	\$35
	<i>Preventive Care</i>	\$0	\$0
	<i>Urgent Care Copay</i>	\$50	\$40
	<i>Inpatient Hospitalization Copay</i>	Days 1-10: \$160/day; Days 11+: \$0	Days 1-10: \$150/day; Days 11+: \$0
	<i>Outpatient Hospitalization Copay</i>	\$125	\$100
	<i>Emergency Room Copay</i>	\$65	\$65
	<i>Physical, Occupational, Speech, or Chiropractic Therapy</i>	\$20	\$20
	<i>Mental Health and Substance Abuse Office Visit Copay</i>	\$20	\$10
	Prescription Drugs		
	<i>Retail (up to 31 day supply)</i>		
	<i>Tier 1 - Preferred Generic</i>	\$10	\$10
	<i>Tier 2 - Preferred Brand</i>	\$40	\$35
	<i>Tier 3 - Non-Preferred</i>	\$64	\$50
	<i>Tier 4 - Specialty</i>	25% coins., \$100 max.	25% coins., \$100 max.
	<i>Out-of-Pocket Maximum</i>	\$2,500	\$2,500
	<i>Mail Order (up to 90 day supply)</i>		
	<i>Tier 1 - Preferred Generic</i>	\$24	\$20
	<i>Tier 2 - Preferred Brand</i>	\$80	\$70
	<i>Tier 3 - Non-Preferred</i>	\$128	\$100
	<i>Tier 4 - Specialty</i>	25% coins., \$300 max.	25% coins., \$200 max.
	<i>Out-of-Pocket Maximum</i>	\$2,500	\$2,500

Section 3: Supporting Information

Plan Changes since Prior Valuation

Effective January 1, 2020:

- For the 80/20 Plan:
 - Inpatient Mental Health/Substance Abuse copay changed from \$450 plus deductible and coinsurance to \$300 plus deductible and coinsurance
- For the 70/30 Plan:
 - Deductible changed from \$1,080/\$3,240 to \$1,500/\$4,500
 - Out-of-Pocket Maximum changed from Medical of \$4,388/\$13,164 and Rx of \$3,360/\$10,080 to Combined Medical and Rx of \$5,900/\$16,300
 - Preventive care covered at 100% (\$0 copay)
 - Primary Care Provider copay changed from \$40 to \$45 (for non-designated Blue Option) and (\$30 for designated Blue Option)
 - Pharmacy Tier changes as follows:
 - Tier 3: from \$74 to deductible and coinsurance
 - Tier 4: from 10% up to \$100 to \$200
 - Tier 5: from 25% up to \$103 to \$350
 - Tier 6: from 25% up to \$133 to deductible and coinsurance

Effective January 1, 2021:

- For the 80/20 Plan:
 - Copays for designated PCP, Specialists, and Therapy changed from \$10/\$80/\$52 to \$0/\$40/\$26, respectively, for Clear Pricing Project (CPP) Providers
 - Preferred and non-preferred insulin changed from coverage as Tier 2/Tier 3 drug to coverage at 100%
- For the 70/30 Plan:
 - Copays for designated PCP, Specialists, and Therapy changed from \$30/\$94/\$72 to \$0/\$47/\$36, respectively, for CPP Providers
 - Preferred and non-preferred insulin changed from coverage as Tier 2/Tier 3 drug to coverage at 100%
- For the Medicare Advantage Enhanced Plan:
 - Primary Care Provider copay changed from \$15 to \$10
 - Inpatient Hospitalization copay changed from \$150 for days 1-10 to \$125
 - Pharmacy Tier 1 mail copay changed from \$20 to \$24
 - Pharmacy Tier 2 retail copay changed from \$35 to \$40 and mail copay from \$70 to \$80
- Contribution rates reflect legislative changes in employer funding adopted at the end of fiscal year 2020

Section 3: Supporting Information

Exhibit IV: Definition of Terms

Definitions of certain terms as they are used in Statement 75. The terms may have different meanings in other contexts.

Actuarially Determined Contribution:	A target or recommended contribution to an OPEB plan for the reporting period based on the most recent measurement available.
Assumptions or Actuarial Assumptions:	The estimates on which the cost of the Plan is calculated including: <ol style="list-style-type: none">Investment return — the rate of investment yield that the Plan will earn over the long-term future;Mortality rates — the death rates of employees and pensioners; life expectancy is based on these rates;Retirement rates — the rate or probability of retirement at a given age;Turnover rates — the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement.
Covered Employee Payroll:	The payroll of the employees that are provided OPEB benefits
Discount Rate:	The single rate of return, that when applied to all projected benefit payments results in an actuarial present value that is the sum of the following: <ol style="list-style-type: none">the actuarial present value of projected benefit payments projected to be funded by plan assets using a long term rate of return, andthe actuarial present value of projected benefit payments that are not included in (1) using a yield or index rate for 20 year tax exempt general obligation municipal bonds with an average rating of AA/Aa or higher
Entry Age Actuarial Cost Method:	An actuarial cost method where the present value of the projected benefits for an individual is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit age
Healthcare Cost Trend Rates:	The rate of change in per capita health costs over time
Net OPEB Liability:	The Total OPEB Liability less the Plan Fiduciary Net Position
Plan Fiduciary Net Position:	Market Value of Assets
Real Rate of Return:	The rate of return on an investment after removing inflation
Service Cost:	The amount of contributions required to fund the benefit allocated to the current year of service.
Total OPEB Liability:	Present value of all future benefit payments for current retirees and active employees taking into account assumptions about demographics, turnover, mortality, disability, retirement, health care trends, and other actuarial assumptions.
Valuation Date:	The date at which the actuarial valuation is performed

Section 3: Supporting Information

Exhibit V: Accounting Requirements

The Governmental Accounting Standards Board (GASB) issued Statement Number 74 – Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans, and Statement Number 75 – Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions. Under these statements, all state and local government entities that provide other post-employment benefits are required to report the cost of these benefits on their financial statements. The accounting standards supplement cash accounting, under which the expense for postemployment benefits is equal to benefit and administrative costs paid on behalf of retirees and their dependents (i.e., a pay-as-you-go basis).

The statements cover postemployment benefits of medical, prescription drugs, dental, vision and life insurance coverage for retirees; long-term care coverage, life insurance and death benefits that are *not* offered as part of a pension plan; and long-term disability insurance for employees. The benefits valued in this report are limited to those described in Exhibit III of Section 4, which are based on those provided under the terms of the substantive plan in effect at the time of the valuation and on the pattern of sharing costs between the employers and plan members. The projection of benefits is not limited by legal or contractual limits on funding the plan unless those limits clearly translate into benefit limits on the substantive plan being valued.

The new standards prescribe an accrual-basis accounting requirement, thereby recognizing the employer cost of postemployment benefits over an employee's career. The standards also prescribe a consistent accounting requirement for both pension and non-pension benefits.

The total cost of providing postemployment benefits is projected, taking into account assumptions about demographics, turnover, mortality, disability, retirement, health care trends, and other actuarial assumptions. These assumptions are summarized in Exhibit II of Section 4. This amount is then discounted to determine the Total OPEB Liability. The Net OPEB Liability (NOL) is the difference between the Total OPEB Liability and market value of assets in the Plan, called the Plan Fiduciary Net Position.

Once the NOL is determined, the Annual OPEB Expense is determined as the change in NOL from the prior year with deferred recognition of certain elements. In addition, Required Supplementary Information (RSI) must be reported, including historical information about the Net OPEB Liability and the contributions made to the Plan. Exhibit IV of Section 4 contains a definition of terms.

The calculation of an accounting obligation does not, in and of itself, imply that there is any legal liability to provide the benefits valued, nor is there any implication that the plan is required to implement a funding policy to satisfy the projected expense.

Actuarial calculations reflect a long-term perspective, and the methods and assumptions use techniques designed to reduce short-term volatility in accrued liabilities and the actuarial value of assets, if any.

Actuarial valuations involve estimates of the value of reported amounts and assumptions about the probability of events far into the future, and the actuarially determined amounts are subject to continual revision as actual results are compared to past expectations and new estimates are made about the future.

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