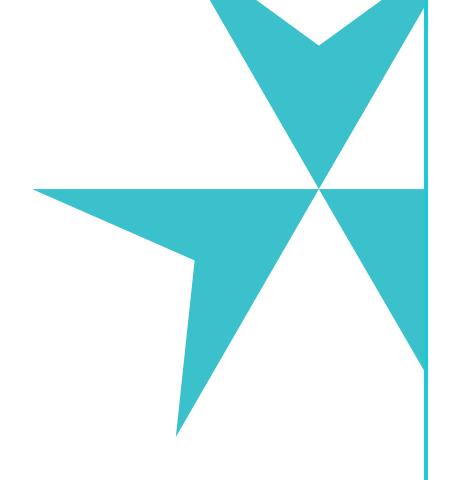
Governmental Accounting Standards Board (GASB) Statement 75 Actuarial Valuation and Review of Other Postemployment Benefits (OPEB) for Reporting Date June 30, 2021 Measured as of June 30, 2020



This report has been prepared at the request of the State of Connecticut to assist in administering the Plan. This valuation report may not otherwise be copied or reproduced in any form without the consent of the State of Connecticut Office of the State Comptroller 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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Segal





June 21, 2021

Thomas C. Woodruff, PhD
Director
Healthcare Policy and Benefits Services Division
Office of the State Comptroller
165 Capitol Avenue
Hartford, Connecticut, 06106

Dear Dr. Woodruff:

We are pleased to submit this Actuarial Valuation and Review of Other Postemployment Benefits (OPEB) as of June 30, 2021 under Governmental Accounting Standards Board Statement No. 75. The report discloses the Net OPEB Liability (NOL) measured as of June 30, 2020 to be reported as of June 30, 2021. Except as otherwise noted, please refer to the State of Connecticut State Employee OPEB Plan GASB Statement No. 75 Actuarial Valuation and Review of OPEB for Reporting Date June 30, 2020 Measured at June 30, 2019 (the "2019 GASB 75 report"), dated October 2, 2020, for the data, assumptions and plan of benefits underlying these calculations. The actuarial calculations were completed under my supervision.

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. Further, in our opinion, the assumptions used in this valuation and described in Section 3, Exhibit II of the 2019 GASB 75 report 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 of the 2019 GASB 75 report, except where otherwise noted.

Sincerely,

Segal

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 State of Connecticut (the "State") State Employee OPEB plan as of June 30, 2020, required by Governmental Accounting Standards Board (GASB) Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other than Pensions*. 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. This valuation is based on:

- The benefit provisions of State of Connecticut SEOPEBP, as administered by the State;
- The characteristics of covered active members, terminated vested members, and retired members and beneficiaries as of June 30, 2019, provided by the Healthcare Policy and Benefits Services Division of the Office of the State Comptroller;
- The assets of the Plan as of June 30, 2020, provided by the Healthcare Policy and Benefits Services Division of the Office of the State Comptroller;
- Economic assumptions regarding future salary increases and investment earnings adopted by the State for the June 30, 2019 retirement plan valuations; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc.

Highlights of the valuation

Accounting and Financial Reporting

- 1. 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.
- 2. The NOL as of June 30, 2020 is \$23,540,906,412, an increase of \$2,858,514,674, from the prior year NOL of \$20,682,391,738. Net unfunded plan obligations had been expected to increase to \$21,434,909,917, due to normal plan operations. The difference between actual and expected unfunded actuarial accrued liabilities was the net effect of several factors:
 - a. An investment experience loss increased the NOL by \$59,771,225.

- b. An actuarial experience gain decreased the NOL by \$179,538,474. This was the net result of gains and losses due to actual 2020 contributions and benefit payments that were different from expected.
- c. Valuation assumption changes increased the Net OPEB Liability by \$2,225,763,744. This was a net result of:
 - 1) A decrease in obligations of \$2,097,476,683 due to reflecting known changes to the Medicare Advantage plan rates for 2022. After the 2019 GASB 75 report was completed, the State negotiated a final renewal with UnitedHealthcare for 2022, resulting in an average rate decrease of less than 2%, significantly less than our initial assumption of 20%. The resulting assumed trend used in the valuation is as follows:

Year Ending June 30	Medicare Trend	Year Ending June 30	Medicare Trend
2020	8.10%	2024	5.00%
2021	-3.90	2025	4.75
2022	11.00	2026+	4.50
2023	5.25		

- 2) An increase of \$4,323,240,427 due to lowering the discount rate from 3.58% to 2.38%. The discount rate is determined in accordance with GASB. It is a blend of the long-term expected rate of return on OPEB Trust assets (6.90%, consistent with the assumption used in the GASB 67/68 reports of the retirement systems), and a yield or index rate for 20-year, taxexempt general obligation municipal bonds with an average rate of AA/Aa or higher (2.21% as of June 30, 2020).
- 3. As of June 30, 2020, the ratio of assets to the Total OPEB Liability (the funded ratio) is 6.13%. This is based on the market value of assets at this point in time.
- 4. The Annual OPEB Expense increased to \$2,323,795,162 for the year ending June 30, 2020, to be reported as of June 30, 2021. The expense was \$1,699,659,072 last year.
- 5. The Coronavirus (COVID-19) pandemic is rapidly evolving and is having a significant impact on the US economy in 2021, 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. We will keep you updated on emerging developments.

Summary of key valuation results

Reporting Date for Employ	ver under GASB 75	June 30, 2021	June 30, 2020
Measurement Date		June 30, 2020	June 30, 2019
Disclosure elements for	Total OPEB Liability	\$25,078,100,032	\$21,878,399,286
fiscal year ending	 Plan Fiduciary Net Position (Assets) 	1,537,193,620	1,196,007,548
June 30:	Net OPEB Liability	23,540,906,412	20,682,391,738
	 Plan Fiduciary Net Position as a percentage of Total OPEB Liability 	6.13%	5.47%
	OPEB Expense	2,323,795,162	1,699,659,072
	Service Cost at Beginning of Year	969,674,270	848,197,922
	 Total Payroll (Reporting Period) 	3,745,802,337	3,619,132,693

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 to 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.

Models

Segal accounting results are based on proprietary actuarial modeling software. The accounting valuation models generate a comprehensive set of liability and cost calculations that are presented to meet accounting standards and client requirements. Our Actuarial Technology and Systems unit, comprising 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 models, and reviews test lives and results, under the supervision of the responsible actuary.

The blended discount rate used for calculating total OPEB liability is based on a model developed by our Actuarial Technology and Systems unit, comprised of both actuaries and programmers. The model allows the client team, under the supervision of the responsible actuary, control over the entry of future expected contribution income, benefit payments and administrative expenses. The projection of fiduciary net position and the discounting of benefits is part of the model.

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.

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. 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. 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.

Actuarial Certification June 21, 2021

This is to certify that Segal has conducted an actuarial valuation of certain benefit obligations of State of Connecticut State Employee OPEB Plan (SEOPEBP)'s 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 Statement 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 and reliance on participant, premium, claims and expense data provided by the Employer or from vendors employed by the State. 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 requirements. Determinations for purposes other than meeting financial accounting 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 my knowledge, this report is complete and accurate and in my opinion presents the information necessary to comply with GASB Statement 75 with respect to the benefit obligations addressed. The signing actuary is a member of the Society of Actuaries and the American Academy of Actuaries and meets the "General Qualification Standards for Statements of Actuarial Opinions" to render the actuarial opinion contained herein.

Daniel J. Rhodes, FSA, MAAA

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Vice President and Consulting Actuary

GASB 75 Information

General information about the OPEB plan

Plan Description

Plan administration. The State Comptroller's Healthcare Policy and Benefits Division under the Direction of the Connecticut State Employees Retirement Commission administers the State Employee OPEB plan. The SEOPEBP is a single-employer defined benefit OPEB plan that covers retired employees of the State who are receiving benefits from any State-sponsored retirement system, except the Teachers' Retirement System and the Municipal Employees' Retirement System.

Plan membership. At June 30, 2019, State plan membership consisted of the following:

Retired members or beneficiaries currently receiving benefits	77,141
Vested terminated members entitled to but not yet receiving benefits	649
Active members	48,015
Total	125,805

Benefits provided. The plan provides healthcare and life insurance benefits to eligible retirees and their spouses, and other plan provisions are described in Section 5-257 and 5-259 of the Connecticut General Statutes.

State Contributions. The contribution requirements of plan members and the State are established and may be amended by State legislature, or by agreement between the State and employees' unions, upon approval by the State legislature. The cost of providing plan benefits is financed approximately 100 percent by the State on a pay-as-you-go basis through an annual appropriation in the General fund. Administrative costs of the plan are financed by the State.

Net OPEB liability

Reporting Date for Employer under GASB 75	June 30, 2021	June 30, 2020
Measurement Date	June 30, 2020	June 30, 2019
Components of the Net OPEB Liability		
Total OPEB Liability	\$25,078,100,032	\$21,878,399,286
Plan Fiduciary Net Position	1,537,193,620	1,196,007,548
Net OPEB Liability	23,540,906,412	20,682,391,738
Plan Fiduciary Net Position as a percentage of the Total OPEB Liability	6.13%	5.47%

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 an actuarial valuation using data as of June 30, 2019.

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

Inflation	2.50%
Payroll growth rate	3.50%
Salary increases	3.25% to 4.50%, vary by service and retirement system, including inflation
Discount rate	2.38% as of June 30, 2020 and 3.58% as of June 30, 2019
Healthcare cost trend rates:	
Medical and prescription drug ¹	6.00% graded to 4.50% over 6 years
Dental ²	3.00%
Part B	4.50%
Administrative costs ³	3.00%

¹ Short term rates were altered for participants under 65 to reflect the impact of new retirees receiving 2017 SEBAC changes upon retirement and for the Medicare-eligible participants to reflect known MAPD rates through 2022 and anticipated increases in 2023.

² Short term rates were altered to reflect rate caps and guarantees through 2023.

³ Short term rates were altered to reflect known rates through 2025.

Mortality rates:	
SERS, PJERS, JFSMCCRS, ARP, HYBRID, OTHER	Pre-Retirement: RP-2014 White Collar Employee Mortality Table projected to 2020 with Scale BB at 60% for males and 55% for females Healthy Annuitant: RP-2014 White Collar Healthy Annuitant Mortality Table projected to 2020 with Scale BB at 100% for males and at 95% for females Disabled Annuitant: RP-2014 Disabled Retiree Mortality Table at 65% for males and 85% for females
STRS	Pre-Retirement and Healthy Annuitant: Headcount-Weighted RP-2014 White Collar Mortality Table with employee and annuitant rates blended from ages 50 to 80 projected to 2020 with Scale BB and further adjusted to grade in increases (5% for females and 8% for males) for rates over age 80 Disabled Annuitant: Headcount-Weighted RP-2014 Disabled Retiree projected to 2017 with Scale MP-2014

The demographic assumptions used in this valuation are the same as those used in the most recent pension valuation reports or experience studies available, completed by Cavanaugh Macdonald Consulting, LLC. Given that the participants in this Plan are a subset of the participants in the respective pension plans, we have no reason to doubt the reasonableness of these specific assumptions for this valuation. Other assumptions were determined by Segal.

Detailed information regarding all actuarial assumptions can be found in Section 3, Exhibit II in the 2019 GASB 75 report.

Determination of discount rate and investment rates of return

The long-term expected rate of return on OPEB plan investments was determined by Cavanaugh MacDonald Consulting, LLC in their GASB Statement No. 68 Report for the Connecticut State Employees' Retirement System prepared as of June 30, 2020. These returns are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and adding expected inflation. The target allocation and projected arithmetic real rates of return for each major asset class, after deducting inflation, but before investment expenses, used in the derivation of the long-term expected investment rate of return assumption are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Domestic Equity Fund	20.0%	5.6%
Developed Market International Stock Fund	11.0%	6.0%
Emerging Markets International Stock Fund	9.0%	7.9%
Core Fixed Income	16.0%	2.1%
Inflation Linked Bond Fund	5.0%	1.1%
Emerging Market Debt Fund	5.0%	2.7%
High Yield Bond Fund	6.0%	4.0%
Real Estate Fund	10.0%	4.5%
Private Equity	10.0%	7.3%
Alternative Investments	7.0%	2.9%
Liquidity Fund	1.0%	0.4%

Discount rate. The discount rates used to measure the Total OPEB Liability (TOL) were 2.38% and 3.58% as of June 30, 2020 and June 30, 2019, respectively. The discount rate is a blend of the long-term expected rate of return on OPEB Trust assets and a yield or index rate for 20-year, text-exempt general obligation municipal bonds with an average rate of AA/Aa or higher (2.21% as of June 30, 2020 and 3.50% as of June 30, 2019). The blending is based on the sufficiency of projected assets to make projected benefit payments.

Sensitivity

The following presents the NOL of 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 (1.38%) or 1-percentage-point higher (3.38%) 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 (1.38%)	Current Discount Rate (2.38%)	1% Increase (3.38%)
Net OPEB Liability (Asset)	\$27,690,935,471	\$23,540,906,412	\$20,204,775,789
	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)	\$19,734,968,346	\$23,540,906,412	\$28,435,279,538

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

Reporting Date for Employer under GASB 75	June 30, 2021	June 30, 2020
Measurement Date	June 30, 2020	June 30, 2019
Total OPEB Liability		
Service cost	\$969,674,270	\$848,197,922
Interest	806,905,542	737,298,453
Change of benefit terms		
Differences between expected and actual experience	-179,538,474	-645,590,429
Changes of assumptions	2,225,763,744	3,417,608,963
Benefit payments, including refunds of member contributions	<u>-623,104,336</u>	-593,402,623
Net change in Total OPEB Liability	\$3,199,700,746	\$3,764,112,286
Total OPEB Liability – beginning	<u>21,878,399,286</u>	18,114,287,000
Total OPEB Liability – ending	<u>\$25,078,100,032</u>	\$21,878,399,286
Plan Fiduciary Net Position		
Contributions – employer	\$867,222,367	\$752,941,470
Contributions – employee	159,376,805	116,538,679
Net investment income	33,372,852	68,847,399
Benefit payments, including refunds of member contributions	-623,104,336	-593,402,623
Administrative expense		
Other	<u>-95,681,616</u>	<u>1,193,623</u>
Net change in Plan Fiduciary Net Position	\$341,186,072	\$346,118,548
Plan Fiduciary Net Position – beginning	<u>1,196,007,548</u>	849,889,000
Plan Fiduciary Net Position – ending	\$1,537,193,620	\$1,196,007,548
Net OPEB Liability – ending	\$23,540,906,412	\$20,682,391,738
Plan Fiduciary Net Position as a percentage of the Total OPEB Liability	6.13%	5.47%
Covered payroll	\$3,745,802,337	\$3,619,132,693
Plan Net OPEB Liability as percentage of covered payroll	628.46%	571.47%

Notes to Schedule:

Benefit changes: None

Changes of assumptions: The following changes in assumptions are applicable to the current measurement date:

• The discount rate was updated in accordance with GASB Statement No. 75 to 2.38% as of June 30, 2020.

• The trends for Medicare-eligible retiree costs were updated as described on page 5 of this report to reflect final negotiated changes in Medicare Advantage rates for calendar year 2022.

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 of assumptions or other inputs	\$3,907,552,463	\$2,762,894,602
Net difference between projected and actual earnings on OPEB plan investments	46,419,457	0
Difference between expected and actual experience in the Total OPEB Liability	<u>0</u>	<u>0</u>
Total Deferred Outflows of Resources	\$3,953,971,920	\$2,762,894,602
Deferred Inflows of Resources		
Changes of assumptions or other inputs	\$457,146,000	\$684,991,000
Net difference between projected and actual earnings on OPEB plan investments	0	4,487,364
Difference between expected and actual experience in the Total OPEB Liability	<u>543,381,905</u>	<u>521,914,102</u>
Total Deferred Inflows of Resources	\$1,000,527,905	\$1,211,392,466
Deferred outflows of resources and deferred inflows of resources related to OPEB will be recognized	ed as follows:	
Reporting Date for Employer under GASB 75 Year Ended June 30:		
2021	N/A	\$300,103,193
2022	\$704,052,616	300,101,193
2023	763,625,616	359,674,193
2024	878,746,616	474,795,193
2025	520,779,787	116,828,364
2026	86,239,380	0
Thereafter	0	0

The average of the expected service lives of all employees is determined by:

- Calculating each active employee's expected remaining service life as the present value of \$1 per year of future service at zero percent interest.
- Setting the remaining service life to zero for each nonactive or retired member.
- Dividing the sum of the above amounts by the total number of active employee, nonactive and retired members.

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	\$0	N/A	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2019	0	N/A	0	0	0	0	0	0	0	0
2020	-645,590,429	5.22	-123,676,327	-123,676,327	-123,676,327	-123,676,327	-123,676,327	-27,208,794	0	0
2021	-179,538,474	5.22	N/A	<u>-34,394,344</u>	<u>-34,394,344</u>	<u>-34,394,344</u>	<u>-34,394,344</u>	-34,394,344	<u>-7,566,754</u>	<u>0</u>
Net increase (de	crease) in OPEB	expense	N/A	-\$158,070,671	-\$158,070,671	-\$158,070,671	-\$158,070,671	-\$61,603,138	-\$7,566,754	\$0

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	-\$510,781,000	5.42	-\$94,240,000	-\$94,240,000	-\$94,240,000	-\$39,581,000	\$0	\$0	\$0	\$0
2019	-724,140,000	5.42	-133,605,000	-133,605,000	-133,605,000	-133,605,000	-56,115,000	0	0	0
2020	3,417,608,963	5.22	654,714,361	654,714,361	654,714,361	654,714,361	654,714,361	144,037,158	0	0
2021	2,225,763,744	5.22	N/A	426,391,522	426,391,522	426,391,522	426,391,522	426,391,522	93,806,134	<u>0</u>
Net increase (de	crease) in OPEB e	expense	N/A	\$853,260,883	\$853,260,883	\$907,919,883	\$1,024,990,883	\$570,428,680	\$93,806,134	\$0

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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	-\$24,567,000	5.00	-\$4,913,000	-\$4,913,000	-\$4,915,000	\$0	\$0	\$0	\$0	\$0
2019	9,754,000	5.00	1,951,000	1,951,000	1,951,000	1,950,000	0	0	0	0
2020	-639,203	5.00	-127,839	-127,841	-127,841	-127,841	-127,841	0	0	0
2021	59,771,225	5.00	N/A	11,954,245	<u>11,954,245</u>	11,954,245	<u>11,954,245</u>	<u>11,954,245</u>	<u>0</u>	<u>0</u>
Net increase (ded	crease) in OPEB ex	rpense	N/A	\$8,864,404	\$8,862,404	\$13,776,404	\$11,826,404	\$11,954,245	\$0	\$0

Total Increase (Decrease) in OPEB Expense

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	-\$535,348,000	-\$99,153,000	-\$99,153,000	-\$99,155,000	-\$39,581,000	\$0	\$0	\$0	\$0
2019	-714,386,000	-131,654,000	-131,654,000	-131,654,000	-131,655,000	-56,115,000	0	0	0
2020	2,771,379,331	530,910,195	530,910,193	530,910,193	530,910,193	530,910,193	116,828,364	0	0
2021	2,105,996,495	N/A	403,951,423	403,951,423	403,951,423	<u>403,951,423</u>	403,951,423	86,239,380	<u>0</u>
Net increase (dee expense	crease) in OPEB	N/A	\$704,054,616	\$704,052,616	\$763,625,616	\$878,746,616	\$520,779,787	\$86,239,380	\$0

OPEB expense

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	\$969,674,270	\$848,197,922
Interest on the Total OPEB Liability	806,905,542	737,298,453
Current-period benefit changes		
Expensed portion of current-period difference between expected and actual experience in the Total OPEB Liability	-34,394,344	-123,676,327
Expensed portion of current-period changes of assumptions or other inputs	426,391,522	654,714,361
Member contributions	-159,376,805	-116,538,679
Projected earnings on plan investments	-93,144,077	-68,208,196
Expensed portion of current-period differences between actual and projected earnings on plan investments	11,954,245	-127,839
Administrative expense		
Other	95,681,616	-1,193,623
Recognition of beginning of year deferred outflows of resources as OPEB expense	656,665,361	1,951,000
Recognition of beginning of year deferred inflows of resources as OPEB expense	-356,562,168	-232,758,000
OPEB Expense	\$2,323,795,162	\$1,699,659,072

Schedule of reconciliation of Net OPEB Liability

Reporting Date for Employer under GASB 75	June 30, 2021	June 30, 2020
Measurement Date	June 30, 2020	June 30, 2019
Beginning Net OPEB Liability	\$20,682,391,738	\$17,264,398,000
OPEB expense	2,323,795,162	1,699,659,072
Employer contributions	-867,222,367	-752,941,470
New net deferred inflows/outflows	1,702,045,072	2,240,469,136
Recognition of prior deferred inflows/outflows	-300,103,193	230,807,000
Ending Net OPEB Liability	\$23,540,906,412	\$20,682,391,738

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 Payroll	Contributions as a Percentage of Covered Payroll
2011					
2012					
2013	(Histor	rical information prior to	o implementation of G	ASB 74/75 is not req	uired.)
2014					
2015					
2016					
2017	\$1,043,143,000	\$667,401,000	\$375,742,000	N/A	N/A
2018	1,157,121,000	801,893,000	355,228,000	\$3,743,995,000	21.42%
2019	1,203,406,000	752,941,470	450,464,530	3,875,035,000	19.43%
2020	1,287,059,000	867,222,367	419,836,633	3,619,132,693	23.96%

Notes to Schedule:

Methods and assumptions used to establish "actuarially determined contribution" rates:

Valuation date	Actuarially determined contribution was determined with the June 30, 2019 actuarial valuation
Actuarial cost method	Entry Age Normal
Amortization method	Level percent of growing payroll, closed, 30 years
Remaining amortization period	18 years as of June 30, 2020
Asset valuation method	Market value
Investment rate of return	6.90%
Payroll growth rate	3.50%

GASB 75 Agency Calculations for Reporting Date June 30, 2021 Measured at June 30, 2020

Allocation Calculation

Prior Year	Current Year

Groups	Fiscal Year 2019 Employer Contributions	Proportionate Share	Share of NOL Measured at June 30, 2019	Fiscal Year 2020 Employer Contributions	Proportionate Share	Share of NOL Measured at June 30, 2020
Primary Government	\$741,147,561	98.433622%	\$20,358,427,319	\$855,730,480	98.674863%	\$23,228,957,082
Component Units						
Connecticut Airport Authority	3,544,807	0.470794%	97,371,562	3,505,904	0.404268%	95,168,392
Connecticut Green Bank	1,036,994	0.137726%	28,484,971	872,660	0.100627%	23,688,513
Connecticut Innovations Inc.	1,226,106	0.162842%	33,679,649	1,227,990	0.141600%	33,334,008
Connecticut Lottery Corporation	2,453,812	0.325897%	67,403,249	2,472,823	0.285143%	67,125,223
Capital Region Development Authority	301,562	0.040051%	8,283,543	311,279	0.035894%	8,449,724
Connecticut Port Authority	78,432	0.010417%	2,154,432	53,005	0.006112%	1,438,830
Paid Family and Medical Leave Authority	<u>0</u>	0.000000%	<u>0</u>	<u>13,755</u>	<u>0.001586%</u>	<u>373,382</u>
Total Component Units	\$8,641,713	1.147727%	\$237,377,406	\$8,457,416	0.975230%	\$229,578,072
Grand Total	\$752.941.470	100.000000%	\$20.682.391.738	\$867,222,367	100.000000%	\$23.540.906.412

GASB 75 Agency Calculations for Reporting Date June 30, 2021 Measured at June 30, 2020

OPEB Expense

Groups	Service cost	Interest on the Total OPEB Liability	Expensed portion of current-period changes in proportion	Expensed portion of current-period benefit changes	Expensed portion of current-period difference between expected and actual experience in the Total OPEB Liability	Expensed portion of current-period changes of assumptions or other inputs	Employee contributions	Projected earnings on plan investments	Expensed portion of current-period differences between actual and projected earnings on plan investments	Administrative expense	Other	Recognition of beginning of year deferred outflows of resources as OPEB expense	year deferred inflows of resources as	Net amortization of past-period amounts from changes in proportion	OPEB Expense
Primary Government	\$956,824,756	\$796,212,937	\$8,841,279	\$0	(\$33,938,572)	\$420,741,250	(\$157,264,844)	(\$91,909,790)	\$11,795,834	\$0	\$94,413,702	\$647,963,643	(\$351,837,230)	(\$5,225,628)	\$2,296,617,337
Component Units															
Connecticut Airport Authority	3,920,084	3,262,062	(2,438,137)	0	(139,045)	1,723,765	(644,310)	(376,552)	48,327	0	386,810	2,654,689	(1,441,467)	2,219,448	9,175,674
Connecticut Green Bank	975,754	811,965	(1,359,638)	0	(34,610)	429,065	(160,376)	(93,728)	12,029	0	96,282	660,783	(358,798)	(18,684)	960,044
Connecticut Innovations Inc.	1,373,062	1,142,581	(778,494)	0	(48,703)	603,772	(225,678)	(131,892)	16,927	0	135,486	929,841	(504,893)	318,922	2,830,931
Connecticut Lottery Corporation	2,764,957	2,300,834	(1,493,598)	0	(98,073)	1,215,825	(454,452)	(265,594)	34,087	0	272,829	1,872,435	(1,016,712)	802,808	5,935,346
Capital Region Development Authority	348,053	289,629	(152,365)	0	(12,345)	153,048	(57,206)	(33,433)	4,291	0	34,344	235,702	(127,984)	199,336	881,070
Connecticut Port Authority	59,267	49,318	(157,764)	0	(2,102)	26,061	(9,741)	(5,693)	731	0	5,848	40,136	(21,793)	362,873	347,141
Paid Family and Medical Leave Authority	<u>15,380</u>	<u>12,798</u>	<u>58,129</u>	<u>0</u>	<u>(546)</u>	<u>6,763</u>	<u>(2,528)</u>	<u>(1,477)</u>	<u>190</u>	<u>0</u>	<u>1,518</u>	<u>10,415</u>	<u>(5,655)</u>	<u>0</u>	<u>94,987</u>
Total Component Units	\$9,456,557	\$7,869,187	(\$6,321,867)	\$0	(\$335,424)	\$4,158,299	(\$1,554,291)	(\$908,369)	\$116,582	\$0	\$933,117	\$6,404,001	(\$3,477,302)	\$3,884,703	\$20,225,193
Grand Total	\$969,674,270	\$806,905,542	\$0	\$0	(\$34,394,344)	\$426,391,522	(\$159,376,805)	(\$93,144,077)	\$11,954,245	\$0	\$95,681,616	\$656,665,361	(\$356,562,168)	\$0	\$2,323,795,162

GASB 75 Agency Calculations for Reporting Date June 30, 2021 Measured at June 30, 2020

Deferred Outflows of Resources and Deferred Inflows of Resources

Deferred Outflows of Resources Deferred Inflows of Resources

Groups	Changes in proportion	Changes of assumptions	Net difference between projected and actual earnings on OPEB Plan investments	Difference between expected and actual experience in the Total OPEB Liability	Total Deferred Outflows of Resources	Changes in proportion	Changes of assumptions	Net difference between projected and actual earnings on OPEB Plan investments	Difference between expected and actual experience in the Total OPEB Liability	Total Deferred Inlows of Resources
Primary Government	\$43,105,905	\$3,855,772,028	\$45,804,335	\$0	\$3,944,682,268	\$24,436,345	\$451,088,189	\$0	\$536,181,348	\$1,011,705,882
Component Units										
Connecticut Airport Authority	8,034,832	15,796,991	187,659	0	24,019,482	10,901,313	1,848,096	0	2,196,720	14,946,129
Connecticut Green Bank	235,806	3,932,054	46,711	0	4,214,571	6,220,743	460,012	0	546,789	7,227,544
Connecticut Innovations Inc.	2,922,860	5,533,108	65,730	0	8,521,698	4,156,110	647,320	0	769,431	5,572,861
Connecticut Lottery Corporation	6,368,007	11,142,108	132,362	0	17,642,477	9,524,796	1,303,519	0	1,549,415	12,377,730
Capital Region Development Authority	710,733	1,402,569	16,662	0	2,129,964	677,753	164,087	0	195,040	1,036,880
Connecticut Port Authority	1,168,452	238,831	2,837	0	1,410,120	665,765	27,941	0	33,212	726,918
Paid Family and Medical Leave Authority	<u>245,306</u>	<u>61,978</u>	<u>736</u>	<u>0</u>	308,020	<u>0</u>	<u>7,251</u>	<u>0</u>	<u>8,619</u>	<u>15,870</u>
Total Component Units	\$19,685,996	\$38,107,639	\$452,697	\$0	\$58,246,332	\$32,146,480	\$4,458,226	\$0	\$5,299,226	\$41,903,932
Grand Total	\$69.144.210	\$3,907,552,463	\$46,419,457	\$0	\$4.023.116.130	\$69,144,210	\$457.146.000	\$0	\$543,381,905	\$1.069.672.115

GASB 75 Agency Calculations for Reporting Date June 30, 2021 Measured at June 30, 2020

Deferred Outflows of Resources and Deferred Inflows of Resources Projected Recognition

Groups	2022	2023	2024	2025	2026	Thereafter	Total
Primary Government	\$698,338,603	\$757,154,993	\$869,385,169	\$521,055,946	\$87,041,675	\$0	\$2,932,976,386
Component Units							
Connecticut Airport Authority	2,627,572	2,900,400	3,516,963	216,172	(187,754)	0	9,073,353
Connecticut Green Bank	(669,855)	(706,226)	(579,065)	(845,488)	(212,339)	0	(3,012,973)
Connecticut Innovations Inc.	537,369	977,428	1,340,861	142,335	(49,156)	0	2,948,837
Connecticut Lottery Corporation	1,316,766	1,324,262	2,307,116	399,288	(82,685)	0	5,264,747
Capital Region Development Authority	299,682	330,918	381,929	83,121	(2,566)	0	1,093,084
Connecticut Port Authority	248,141	251,782	258,818	(46,101)	(29,438)	0	683,202
Paid Family and Medical Leave Authority	<u>69,296</u>	<u>70,241</u>	<u>72,067</u>	<u>66,389</u>	<u>14,157</u>	<u>0</u>	<u>292,150</u>
Total Component Units	\$4,428,971	\$5,148,805	\$7,298,689	\$15,716	(\$549,781)	\$0	\$16,342,400
Grand Total	\$704,052,616	\$763,625,616	\$878,746,616	\$520,779,787	\$86,239,380	\$0	\$2,953,444,015

GASB 75 Agency Calculations for Reporting Date June 30, 2021 Measured at June 30, 2020

Projected Recognition Schedules of Deferred Outflows of Resources and Deferred Inflows of Resources

Changes in Proportion

Groups	2021 Outstanding Balance of Deferred Outflows of Resources	2022 Recognition of Deferred Outflows	2023 Recognition of Deferred Outflows	2024 Recognition of Deferred Outflows	2025 Recognition of Deferred Outflows	2026 Recognition of Deferred Outflows	Recognition of Deferred Outflows Thereafter	Total	2021 Outstanding Balance of Deferred Inflows of Resources	2022 Recognition of Deferred Inflows	2023 Recognition of Deferred Inflows	2024 Recognition of Deferred Inflows	2025 Recognition of Deferred Inflows	2026 Recognition of Deferred Inflows	Recognition of Deferred Inflows Thereafter	Total
Primary Government	\$43,105,905	\$11,236,201	\$11,236,201	\$9,847,138	\$8,841,279	\$1,945,086	\$0	\$43,105,905	(\$24,436,345)	(\$7,620,550)	(\$7,587,736)	(\$7,563,986)	(\$1,664,073)	\$0	\$0	(\$24,436,345)
Component Units																
Connecticut Airport Authority	8,034,832	2,495,290	2,495,290	2,495,290	548,962	0	0	8,034,832	(10,901,313)	(2,713,979)	(2,681,985)	(2,530,820)	(2,438,137)	(536,392)	0	(10,901,313)
Connecticut Green Bank	235,806	166,062	69,744	0	0	0	0	235,806	(6,220,743)	(1,544,384)	(1,544,384)	(1,463,322)	(1,369,533)	(299,120)	0	(6,220,743)
Connecticut Innovations Inc.	2,922,860	932,205	932,205	875,047	183,403	0	0	2,922,860	(4,156,110)	(1,391,777)	(1,036,074)	(778,494)	(778,494)	(171,271)	0	(4,156,110)
Connecticut Lottery Corporation	6,368,007	2,134,137	1,971,765	1,854,186	407,919	0	0	6,368,007	(9,524,796)	(2,824,927)	(2,824,927)	(2,052,754)	(1,493,598)	(328,590)	0	(9,524,796)
Capital Region Development Authority	710,733	220,725	220,725	220,725	48,558	0	0	710,733	(677,753)	(173,754)	(163,901)	(154,211)	(152,365)	(33,522)	0	(677,753)
Connecticut Port Authority	1,168,452	362,873	362,873	362,873	79,833	0	0	1,168,452	(665,765)	(157,764)	(157,764)	(157,764)	(157,764)	(34,709)	0	(665,765)
Paid Family and Medical Leave Authority	<u>245,306</u>	<u>58,129</u>	<u>58,129</u>	<u>58,129</u>	<u>58,129</u>	<u>12,790</u>	0	245,306	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Component Units	\$19,685,996	\$6,369,421	\$6,110,731	\$5,866,250	\$1,326,804	\$12,790	\$0	\$19,685,996	(\$32,146,480)	(\$8,806,585)	(\$8,409,035)	(\$7,137,365)	(\$6,389,891)	(\$1,403,604)	\$0	(\$32,146,480)
Grand Total	\$69.144.210	\$19.743.847	\$19.313.483	\$17.555.628	\$10.573.376	\$1.957.876	\$0	\$69.144.210	(\$69.144.210)	(\$19.743.847)	(\$19.313.483)	(\$17.555.628)	(\$10.573.376)	(\$1.957.876)	\$0	(\$69.144.210)

GASB 75 Agency Calculations for Reporting Date June 30, 2021 Measured at June 30, 2020

Schedule of Reconciliation of Net OPEB Liability - Current Year

Groups	1. Beginning Net OPEB Liability	2. OPEB expense	3. Employer contributions	4. New net deferred inflows/outflows	5. Change in allocation of prior deferred inflows/outflows	6. New net deferred inflows/outflows due to change in proportion	7. Recognition of prior deferred inflows/outflows	8. Recognition of prior deferred inflows/outflows due to change in proportions	9. Ending Net OPEB Liability
Primary Government	\$20,358,427,316	\$2,296,617,337	(\$855,730,480)	\$1,679,490,639	\$3,742,853	\$37,310,202	(\$296,126,414)	\$5,225,628	\$23,228,957,081
Component Units									
Connecticut Airport Authority	97,371,564	9,175,674	(3,505,904)	6,880,826	(1,032,158)	(10,288,940)	(1,213,222)	(2,219,448)	95,168,392
Connecticut Green Bank	28,484,974	960,044	(872,660)	1,712,717	(575,587)	(5,737,672)	(301,985)	18,684	23,688,515
Connecticut Innovations Inc.	33,679,649	2,830,931	(1,227,990)	2,410,102	(329,567)	(3,285,247)	(424,947)	(318,922)	33,334,009
Connecticut Lottery Corporation	67,403,246	5,935,346	(2,472,823)	4,853,261	(632,297)	(6,302,982)	(855,723)	(802,808)	67,125,220
Capital Region Development Authority	8,283,543	881,070	(311,279)	610,928	(64,502)	(642,982)	(107,718)	(199,336)	8,449,724
Connecticut Port Authority	2,154,433	347,141	(53,005)	104,030	(66,787)	(665,765)	(18,342)	(362,873)	1,438,832
Paid Family and Medical Leave Authority	<u>0</u>	<u>94,987</u>	<u>(13,755)</u>	<u> 26,996</u>	<u>24,608</u>	<u>245,306</u>	<u>(4,760)</u>	<u>0</u>	<u>373,382</u>
Total Component Units	\$237,377,409	\$20,225,193	(\$8,457,416)	\$16,598,860	(\$2,676,290)	(\$26,678,282)	(\$2,926,697)	(\$3,884,703)	\$229,578,074
Grand Total	\$20,682,391,738	\$2,323,795,162	(\$867,222,367)	\$1,702,045,072	\$0	\$0	(\$300,103,193)	\$0	\$23,540,906,412

GASB 75 Agency Calculations for Reporting Date June 30, 2021 Measured at June 30, 2020

Discount Rate and Trend Sensitivity

Groups	NOL at Current Discount Rate (2.38%)	1% Decrease in Discount Rate (1.38%)	1% Increase in Discount Rate (3.38%)	1% Decrease in Trend Rates	1% Increase in Trend Rates
Primary Government	\$23,228,957,082	\$27,323,992,560	\$19,937,034,770	\$19,473,452,922	\$28,058,473,045
Component Units					
Connecticut Airport Authority	95,168,392	111,945,638	81,681,477	79,782,195	114,954,784
Connecticut Green Bank	23,688,513	27,864,563	20,331,464	19,858,711	28,613,574
Connecticut Innovations Inc.	33,334,008	39,210,464	28,610,035	27,944,786	40,264,458
Connecticut Lottery Corporation	67,125,223	78,958,736	57,612,484	56,272,861	81,081,181
Capital Region Development Authority	8,449,724	9,939,326	7,252,260	7,083,628	10,206,500
Connecticut Port Authority	1,438,830	1,692,481	1,234,924	1,206,209	1,737,976
Paid Family and Medical Leave Authority	<u>373,382</u>	<u>439,206</u>	<u>320,468</u>	<u>313,016</u>	<u>451,012</u>
Total Component Units	\$229,578,072	\$270,050,414	\$197,043,112	\$192,461,406	\$277,309,485
Grand Total	\$23,540,906,412	\$27,690,935,471	\$20,204,775,789	\$19,734,968,346	\$28,435,279,538