Segal Consulting

State of Connecticut State Employee OPEB Plan (SEOPEBP)

Actuarial Valuation and Review of Other Postemployment Benefits (OPEB) for Reporting Date June 30, 2018 Measured at June 30, 2017 in accordance with GASB Statement No. 75

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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October 15, 2018

Thomas C. Woodruff, PhD
Director
Healthcare Policy & Benefits Services Division
Office of the State Comptroller
55 Elm Street
Hartford, CT 06106-1775

Dear Dr. Woodruff:

We are pleased to submit this Actuarial Valuation and Review of Other Postemployment Benefits (OPEB) as of June 30, 2018 under Governmental Accounting Standards Board Statement No. 75. The report summarizes the actuarial data used in the valuation, discloses the Net OPEB Liability (NOL) measured as of June 30, 2017, to be reported as of June 30, 2018, and analyzes the preceding years' experience. This report was based on the census data and financial information provided by the Healthcare Policy & Benefits Services Division of the Office of the State Comptroller 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.

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 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 Consulting, a Member of The Segal Group, Inc.

By: Daniel J. Rh

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

Table of Contents

Section 1: Executive Summary

Section 2: GASB 75 Information

Section 3: Supporting Information

Section 1: Executive 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 Consulting ("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	Part of the cost of a plan will be paid from existing assets – the balance will need to come from future contributions and investment income. The valuation is based on the asset values as of the valuation date, typically reported by the auditor. Some plans include assets, such as private equity holdings, real estate, or hedge funds that are not subject to valuation by reference to transactions in the marketplace.
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.

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. The State should notify Segal immediately of any questions or concerns about the final content.

As Segal Consulting 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.

Purpose

This report presents the results of our actuarial valuation of the State of Connecticut (the "State") OPEB plan as of June 30, 2017, for June 30, 2018 reporting, 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.

Highlights of the Valuation

- This is the first valuation performed under GASB Statement 75. The net OPEB liability and annual OPEB expense in this valuation are calculated using a June 30, 2017 measurement date, to be used for reporting as of June 30, 2018 under Statement 75. The prior year liabilities in this report are based on this valuation rolled back to June 30, 2016 measurement date.
- The **Net OPEB Liability** (NOL) as of June 30, 2017 is $17,362,580,000, an increase of $120,153,000 from the rolled back NOL of $17,242,427,000 as of June 30, 2016. The NOL had been expected to increase to $17,897,928,000 due to normal plan operations. The difference between actual and expected NOL was the net effect of several factors:
  - An **investment experience gain** decreased the NOL by $24,567,000. This was the result of a gain due to fund investment performance (returns greater than expected).
  - **Valuation assumption changes** decreased the NOL by $510,781,000. This was the net result of:
    1) A *decrease* in obligation of $1,947.3 million due to increasing the discount rate from 2.96% to 3.68%. The discount rate is determined in accordance with GASB Statement No. 75. 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, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher (3.58% as of June 30, 2017 and 2.85% as of June 30, 2016).
    2) A net *increase* in obligation of $2,190.6 million due to changes in demographic assumptions as described in *Section 3, Exhibit II*. These assumptions (including morality rates, salary scales, etc.) were updated to match the most recent valuations or experience studies completed by the actuaries of the various retirement plans in which employees participate, including the State Employees Retirement System (SERS); the State Teachers Retirement System (STRS); the Judges, Family Support Magistrates and Compensation Commissioners Retirement System (JFSMCCRS); the Probate Judges and Employees Retirement System (PJERS), the Alternative Retirement Program (ARP), and the Hybrid Defined Benefit/Defined Contribution Plan.
    3) A net *decrease* in obligation of $754.0 million due to updating the valuation-year per capita health costs and contributions and adjusting future trends on such costs and contributions.

- As of June 30, 2017, the ratio of assets to the Total OPEB Liability (the funded ratio) is 3.03%. This is based on the market value of assets at this point in time.
- The **Annual OPEB Expense** for the measurement date of June 30, 2017, to be reported as of June 30, 2018, is $1,223,749,000.
- The Plan has accrued a total of $436,195,000 of deferred inflows as of June 30, 2017. Deferred inflows will decrease future year OPEB expenses as they are recognized over the next five to six years. *Section 2* shows the projected recognition of these deferred inflows. Any deferred outflows or inflows attributable to net contributions (i.e., total retiree benefits paid less recipient contributions) made between the measurement date as of June 30, 2017 and reporting date of June 30, 2018 are unknown as of this report and thus have not been reflected.
- The NOL as of June 30, 2017 reported here for GASB 75 purposes differs from that reported as of June 30, 2017 last year for GASB 74 purposes. The GASB 74 NOL of $17,385,688,000 was based on a valuation as of June 30, 2015, as the 2017 valuation had not been completed at that time. Under GASB 75, a June 30, 2015 valuation would not be permissible for June 30, 2018 reporting, as the 36 months between the valuation date and measurement date exceeds the maximum allowed under the standard.
- The schedule of changes in Net OPEB Liability in the prior GASB 74 report showed an $8.9 billion reduction in NOL due to the changes in benefit terms. This was due to the implementation of the Medicare Advantage plan effective January 1, 2018, as well as various changes to non-Medicare retiree benefits as part of the 2017 SEBAC agreement. For GASB 75 reporting, these plan changes are reflected in the NOL as of June 30, 2016, and thus are not shown in the schedule of changes in Net OPEB Liability in this report. Because changes in benefit terms are recognized immediately in OPEB expense, including these plan changes would turn this year’s $1.2 billion OPEB expense calculated in this report into an OPEB income of approximately $7.6 billion.

Summary of Key Valuation Results

Reporting Date	June 30, 2018	N/A
Measurement Date	**June 30, 2017**	**June 30, 2016**
Discount Rate	3.68%	2.96%
Total OPEB Liability	$17,904,922,000	$17,583,045,000
Plan Fiduciary Net Position (Assets)	542,342,000	340,618,000
Net OPEB Liability	17,362,580,000	17,242,427,000
Plan Fiduciary Net Position as a percentage of Total OPEB Liability	3.03%	1.94%
Annual OPEB Expense	$1,223,749,000	N/A
Service Cost at Beginning of Year	960,992,000	N/A
Total Payroll	3,743,995,000	N/A

Actuarial Certification *October 15, 2018*

This is to certify that Segal Consulting, a Member of The Segal Group, Inc. has conducted an actuarial valuation of certain benefit obligations of the State of Connecticut’s State Employee OPEB Plan (SEOPEBP) as of June 30, 2017, 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 State or from vendors employed by the State. Segal Consulting 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, the American Academy of Actuaries, and other professional actuarial organizations and meets 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

Section 2: GASB 75 Information

General Information about the OPEB Plan

Plan Description

Plan administration. The State Comptroller's Healthcare Policy & Benefits Division under the direction of the Connecticut State Employees Retirement Commission administers this single-employer defined benefit OPEB plan that is used to provide benefits for qualifying employees. Sections 5-257 and 5-259 of the Connecticut General Statues assigns the authority to establish and amend the benefit provisions of the plan.

Plan membership. At June 30, 2017, plan membership consisted of the following:

Retired members or beneficiaries currently receiving benefits[1]	74,579
Vested terminated members entitled to but not yet receiving benefits	256
Active members	49,538
Total	124,373

[1] For purposes of calculating remaining service lives for amortization periods in OPEB expense, 25,010 spouses covered under retired members coverage were excluded.

Benefits provided. The plan provides healthcare and life insurance benefits to eligible retired State employees and their spouses.

Contributions. The plan is primarily funded on a pay-as-you-go basis. The contribution requirements of the State are established and may be amended by the State legislature, or by agreement between the State and employee unions, upon approval by the State legislature.

Net OPEB Liability

Reporting Date for Employer under GASB 75	June 30, 2018	N/A
Measurement Date for Employer under GASB 75	**June 30, 2017**	**June 30, 2016**
Components of the Net OPEB Liability		
Total OPEB Liability	$17,904,922,000	$17,583,045,000
Plan Fiduciary Net Position	542,342,000	340,618,000
Net OPEB Liability	17,362,580,000	17,242,427,000
Plan Fiduciary Net Position as a percentage of the Total OPEB Liability	3.03%	1.94%

The Net OPEB liability was measured as of June 30, 2017 and 2016. 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, 2017.

Actuarial assumptions. The total OPEB liability was measured by an actuarial valuation as of June 30, 2017 using the following actuarial assumptions, applied to all periods included in the measurement, unless otherwise specified:

Payroll growth rate	3.5%
Salary increases	3.25% to 19.50% varying by years of service and retirement system
Discount rate	3.68% as of June 30, 2017 and 2.96% as of June 30, 2016
Healthcare cost trend rates:	
Medical[1]	6.5% graded to 4.5% over 4 years
Prescription drug[1]	8.0% graded to 4.5% over 7 years
Dental and Part B	4.5%
Administrative expense[1]	3.0%

[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 Medicare-eligible participants to reflect MAPD rate guarantees through 2020, as well as known increases in administrative fees. See *Section 3, Exhibit II* for more detail.

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

The demographic assumptions used in this valuation are the same as those used in the most recent pension valuation report or experience study 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 Consulting.

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

Determination of Discount Rate and Investment Rates of Return

Development of Discount Rate

We used the same long-term expected rate of return as the one developed by Cavanaugh MacDonald Consulting, LLC in their GASB Statement No. 67 Report for the Connecticut State Employees' Retirement System prepared as of June 30, 2017. 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 below:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Large Cap U.S. Equities	21.0%	5.8%
Developed Non-U.S. Equities	18.0%	6.6%
Emerging Markets (Non-U.S.)	9.0%	8.3%
Real Estate	7.0%	5.1%
Private Equity	11.0%	7.6%
Alternative Investment	8.0%	4.1%
Fixed Income (Core)	8.0%	1.3%
High Yield Bonds	5.0%	3.9%
Emerging Market Bond	4.0%	3.7%
Inflation Linked Bonds	5.0%	1.0%
Cash	4.0%	0.4%

Nature of Assets: The assets are in an irrevocable OPEB trust.

Development of Blended Discount Rate

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, tax-exempt general obligation municipal bonds with an average rate of AA/Aa or higher (3.58% as of June 30, 2017 and 2.85% as of June 30, 2016). The final discount rate used to measure to total OPEB liability was 3.68% as of June 30, 2017 and 2.96% as of June 30, 2016. The blending is based on the sufficiency of projected assets to make projected benefit payments.

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 (2.68%) or 1-percentage-point higher (4.68%) than the current rate. Also, shown is the NOL as if it were calculated using healthcare cost and contribution trend rates that were 1-percentage-point lower or 1-percentage-point higher than the current trend rates.

	1% Increase in Discount Rate (4.68%)	Current Discount Rate (3.68%)	1% Decrease in Discount Rate (2.68%)
Net OPEB Liability	$15,101,949,000	$17,362,580,000	$20,152,748,000
	1% Increase in Trend Rates	**Current Trend Rates**	**1% Decrease in Trend Rates**
Net OPEB Liability	$20,455,751,000	$17,362,580,000	$14,920,991,000

Schedule of Changes in Net OPEB Liability – Last Two Fiscal Years

Reporting Date for Employer under GASB 75	**June 30, 2018**	**N/A**
Measurement Date for Employer under GASB 75	**June 30, 2017**	**June 30, 2016**
Total OPEB Liability		
• Service cost	$960,992,000	- -
• Interest	511,133,000	- -
• Change of benefit terms	- -	- -
• Differences between expected and actual experience	- -	- -
• Changes of assumptions	-510,781,000	- -
• Benefit payments, including refunds of member contributions	-639,467,000	- -
Net change in Total OPEB Liability	**$321,877,000**	**- -**
Total OPEB Liability – beginning	**$17,583,045,000**	**- -**
(a) Total OPEB Liability – ending	**$17,904,922,000**	**$17,583,045,000**
Plan Fiduciary Net Position		
• Contributions – employer	$667,401,000	- -
• Contributions – employee	120,783,000	- -
• Net investment income	53,194,000	- -
• Benefit payments, including refunds of member contributions	-639,467,000	- -
• Administrative expense	- -	- -
• Other	-187,000	- -
Net change in Plan Fiduciary Net Position	**$201,724,000**	**- -**
Plan Fiduciary Net Position – beginning	**$340,618,000**	**- -**
(b) Net Pension Liability – ending	**542,342,000**	**$340,618,000**
(c) Net OPEB Liability – ending (a) - (b)	**$17,362,580,000**	**$17,242,427,000**
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	3.03%	1.94%
Covered employee payroll	$3,743,995,000	- -
Plan Net Pension Liability as a percentage of covered employee payroll	463.7%	- -

Notes to Schedule:

Benefit changes: None.

Changes of assumptions: See *Section 3, Exhibit II* for changes in actuarial assumptions applicable to the current measurement date.

Deferred Outflows of Resources and Deferred Inflows of Resources

The following charts reflect the deferred inflows and outflows of resources related to OPEB. Deferred inflows and outflows are differences between actual and expected experience that are not reflected in the current year's expenses.

Reporting Date for Employer under GASB 75 Measurement Date for Employer under GASB 75	June 30, 2018 June 30, 2017	N/A June 30, 2016
Deferred Outflows of Resources		
• Changes of assumptions or other inputs	$0	N/A
• Net difference between projected and actual earnings on pension plan investments	0	N/A
• Difference between expected and actual experience in the Total OPEB Liability	0	N/A
Total Deferred Outflows of Resources	$0	N/A
Deferred Inflows of Resources		
• Changes of assumptions or other inputs	$416,541,000	N/A
• Net difference between projected and actual earnings on pension plan investments	19,654,000	N/A
• Difference between expected and actual experience in the Total OPEB Liability	0	N/A
Total Deferred Inflows of Resources	$436,195,000	N/A
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:		
2019	-$99,153,000	N/A
2020	-99,153,000	N/A
2021	-99,153,000	N/A
2022	-99,155,000	N/A
2023	-39,581,000	N/A
Thereafter	0	N/A

Schedule of Recognition of Changes 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:

Reporting Date for Employer under GASB 75 Year Ended June 30	Differences between Expected and Actual Experience	Recognition Period (Years)	2018	2019	2020	2021	2022	2023	Thereafter
2018	$0	5.42	$0	$0	$0	$0	$0	$0	$0
Net increase (decrease) in OPEB expense			$0	$0	$0	$0	$0	$0	$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:

Reporting Date for Employer under GASB 75 Year Ended June 30	Differences between Expected and Actual Experience	Recognition Period (Years)	2018	2019	2020	2021	2022	2023	Thereafter
2018	-$510,781,000	5.42	-$94,240,000	-$94,240,000	-$94,240,000	-$94,240,000	-$94,240,000	-$39,581,000	$0
Net increase (decrease) in OPEB expense			-$94,240,000	-$94,240,000	-$94,240,000	-$94,240,000	-$94,240,000	-$39,581,000	$0

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

Reporting Date for Employer under GASB 75 Year Ended June 30:

Reporting Date for Employer under GASB 75 Year Ended June 30	Differences between Expected and Actual Experience	Recognition Period (Years)	2018	2019	2020	2021	2022	2023	Thereafter
2018	-$24,567,000	5.00	-$4,913,000	-$4,913,000	-$4,913,000	-$4,913,000	-$4,915,000	$0	$0
Net increase (decrease) in OPEB expense			-$4,913,000	-$4,913,000	-$4,913,000	-$4,913,000	-$4,915,000	$0	$0

Total Increase (Decrease) in OPEB Expense

Reporting Date for Employer under GASB 75 Year Ended June 30:

Reporting Date for Employer under GASB 75 Year Ended June 30	Differences between Expected and Actual Experience	Recognition Period (Years)	2018	2019	2020	2021	2022	2023	Thereafter
2018	-$535,348,000		-$99,153,000	-$99,153,000	-$99,153,000	-$99,153,000	-$99,155,000	-$39,581,000	$0
Net increase (decrease) in OPEB expense			-$99,153,000	-$99,153,000	-$99,153,000	-$99,153,000	-$99,155,000	-$39,581,000	$0

OPEB Expense

Reporting Date for Employer under GASB 75	June 30, 2018
Measurement Date for Employer under GASB 75	**June 30, 2017**
Components of OPEB Expense	
• Service cost	$960,992,000
• Interest on the Total OPEB Liability	511,133,000
• 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	-94,240,000
• Member contributions	-120,783,000
• Projected earnings on plan investments	-28,627,000
• Expensed portion of current-period differences between actual and projected earnings on plan investments	-4,913,000
• Administrative expense	- -
• Other	187,000
• Recognition of beginning of year deferred outflows of resources as OPEB expense	- -
• Recognition of beginning of year deferred inflows of resources as OPEB expense	- -
OPEB Expense	**$1,223,749,000**

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
2008	- -	- -	- -	- -	0.00%
2009	- -	- -	- -	- -	0.00%
2010	- -	- -	- -	- -	0.00%
2011	- -	- -	- -	- -	0.00%
2012	- -	- -	- -	- -	0.00%
2013	- -	- -	- -	- -	0.00%
2014	- -	- -	- -	- -	0.00%
2015	- -	- -	- -	- -	0.00%
2016	- -	- -	- -	- -	0.00%
2017(1)	$1,043,143,000	667,401,000	$375,742,000	N/A	N/A

Note: Historical information prior to implementation of GASB 74 and 75 is not required.

(1) "Actuarially Determined Contribution" was determined as the "Annual Required Contribution" under GASB 43 and 45. Please enter covered payroll for fiscal 2017.

Notes to Schedule:

Methods and assumptions used to determine contribution rates for the year ended June 30, 2017:

Valuation date	Actuarially determined contribution for fiscal year ending June 30, 2017 was determined with the July 1, 2015 actuarial valuation in conjunction with plan changes highlighted in the GASB 74 Valuation Report for Reporting Date June 30, 2017 dated January 5, 2018.
Actuarial cost method	Projected Unit Credit Method
Amortization method	Level percent of growing payroll, closed, 30 years

Remaining amortization period	22 years as of June 30, 2016
Asset valuation method	Market value

EXHIBIT I

SUMMARY OF PARTICIPANT DATA AS OF JUNE 30, 2017

	Retirees	Surviving Spouses	Inactive Vesteds	Actives
Number	45,412	4,157	256	49,538
Average Age	70.0	77.5	57.2	48.1
Average Service	N/A	N/A	N/A	12.4
Number of Spouses	25,010	N/A	N/A	N/A
Average Age of Spouses	66.3	N/A	N/A	N/A

EXHIBIT II
ACTUARIAL ASSUMPTIONS AND METHODS

Demographic Assumptions:	The demographic assumptions used in this valuation are the same as those used in the most recent pension valuation report or experience study 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.
Data:	Detailed census data, premium data and/or claim experience, and summary plan descriptions for OPEB were provided by the Healthcare Policy & Benefit Services Division of the Office of the State Comptroller (OSC). Eligible groups for the Plan include State employees covered under the State Employees Retirement System (SERS), State Teachers' Retirement System (STRS), Probate Judges and Employees Retirement System (PJERS), Judges, Family Support Magistrates and Compensation Commissioners Retirement System (JFSMCCRS), Alternative Retirement Program (ARP), and the Hybrid Defined Benefit/Defined Contribution Plan (HYBRID). In addition, there are other State employees not covered under the retirement systems who are eligible for this program (OTHER). Actuarial assumptions that differ by group are noted.
Actuarial Cost Method:	Entry Age Normal – Level Percentage of Payroll
Asset Valuation Method:	Market Value
Measurement Date:	June 30, 2017
Discount Rate:	3.68% as of June 30, 2017 and 2.96% as of June 30, 2016 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, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher (3.58% as of June 30, 2017 and 2.85% as of June 30, 2016). The blending is based on the sufficiency of projected assets to make projected benefit payment. Assets as of June 30, 2017, as previously provided from OSC
Expected Return:	6.90% - consistent with the rate developed in the GASB 67 report for the SERS prepared as of June 30, 2017 by Cavanaugh MacDonald Consulting, LLC.

Salary Increases:

SERS, ARP, HYBRID, OTHER Rates are 3.50% less than table for 2018 and 2019

Rates vary by years of service as follows:

Years of Service	Rate	Years of Service	Rate
0	9.50%	5	5.25%
1	19.50	6-9	5.00
2	9.50	10-14	4.50
3	5.75	15+	3.50
4	5.50		

STRS Rates vary by years of services as follows:

Years of Service	Rate	Years of Service	Rate
0-1	6.50%	17	4.25%
2-9	6.25	18	4.00
10-11	5.50	19	3.75
12-14	5.00	20	3.50
15	4.75	21+	3.25
16	4.50		

PJERS 4.75%

JFSMCCRS 4.50%

Total Payroll Growth Rate: 3.50%

Mortality Rates:

Healthy:

SERS, PJERS, JFSMCCRS, ARP, HYBRID, OTHER

RP-2014 White Collar Mortality Table projected to 2020 by Scale BB at 100% for males and 95% for females.

STRS Headcount-Weighted RP-2014 White Collar Mortality Table with employee and annuitant rates blended from ages 50 to 80 projected to year 2020 under Scale BB and further adjusted to grade in increases (5% for females and 8% for males) to rates over age 80

Disabled:

SERS, PJERS, JFSMCCRS, ARP, HYBRID, OTHER

RP-2014 Disabled Retiree Mortality Table at 65% for males and 85% for females.

STRS Headcount-Weighted RP-2014 Disabled Retiree Mortality Table projected to 2017 with Scale BB

The above tables were selected based on the most recent pension valuations or experience studies available for each group and were assumed to contain provision appropriate to reasonably reflect future mortality improvement based on a review by the pension actuary of the mortality experience. We have no reason to doubt their applicability here.

Termination Rates before Retirement:

SERS

	Rate (%)						
			Disability[1]		Withdrawal[2]		
	Mortality				Non-Hazardous		
Age	Male	Female	Hazardous	Non-Hazardous	Male	Female	Hazardous
25	0.0333	0.0136	0.0000	0.0000	5.0000	4.0000	1.2500
35	0.0360	0.0225	0.1200	0.0500	3.0000	3.0000	1.2500
45	0.0670	0.0517	0.3500	0.1200	2.0000	2.5000	1.2500
55	0.1920	0.1302	0.5000	0.4000	2.0000	2.0000	1.2500
65	0.5399	0.2756	0.8000	0.6000	2.0000	2.0000	1.2500

[1] 20% of disabilities are assumed to be in-service. Rates cutoff at early retirement eligibility.

[2] Higher select period turnover rates varying by age and gender are used for participants with less than 10 years of service. Rates cutoff at early retirement age.

STRS

	Rate (%)					
	Mortality		Disability[1]		Withdrawal[2]	
Age	Male	Female	Male	Female	Male	Female
25	0.0412	0.0162	0.0341	0.0500	1.5000	4.0000
35	0.0448	0.0272	0.0341	0.0410	1.5000	3.5000
45	0.0818	0.0622	0.1219	0.1200	1.5900	1.5000
55	0.2800	0.1927	0.5363	0.4380	3.4400	2.5000
65	0.7214	0.4747	0.9604	0.5000	0.0000	0.0000

[1] Rates cutoff at early retirement eligibility.

[2] Higher select period turnover rates varying by age and gender are used for participants with less than 10 years of service.

Termination Rates before Retirement (continued):

PJERS

	Rate (%)					
	Mortality		Disability[1]		Withdrawal	
Age	Male	Female	Male	Female	Male	Female
25	0.0333	0.0136	0.0400	0.0400	5.0000	7.5000
35	0.0360	0.0225	0.0800	0.0800	5.0000	5.0000
45	0.0670	0.0517	0.1900	0.1900	5.0000	5.0000
55	0.1920	0.1302	0.5200	0.5200	5.0000	5.0000
65	0.5399	0.2756	0.0000	0.0000	5.0000	5.0000

[1] Rates cutoff at early retirement eligibility.

JFSMCCRS

	Rate (%)			
	Mortality			
Age	Male	Female	Disability[1]	Withdrawal[2]
25	0.0333	0.0136	0.0256	0.0000
35	0.0360	0.0225	0.0442	0.0000
45	0.0670	0.0517	0.1079	0.0000
55	0.1920	0.1302	0.3027	0.0000
65	0.5399	0.2756	0.0000	0.0000

[1] Rates cutoff at normal retirement eligibility.

[2] No pre-retirement withdrawal is assumed.

Termination Rates before Retirement (continued):

ARP, OTHER, HYBRID

	Rate (%)				
	Mortality			Withdrawal[2]	
Age	Male	Female	Disability[1]	Male	Female
25	0.0333	0.0136	0.0000	5.0000	4.0000
35	0.0360	0.0225	0.0500	3.0000	3.0000
45	0.0670	0.0517	0.1200	2.0000	2.5000
55	0.1920	0.1302	0.4000	2.0000	2.0000
65	0.5399	0.2756	0.6000	2.0000	2.0000

[1] Rates cutoff at early retirement eligibility.

[2] Higher select period turnover rates varying by age and gender are used for participants with less than 10 years of service. Rates cut off at early retirement eligibility.

Actives' Retirement Rates:

SERS, HYBRID Rates are 20% more than tables for 2021.

Tier I

Hazardous			Non-Hazardous			
Age	First Year Eligible	All Years After	Age	Early	First Year	Other Years
40	50%	50%	55	6.0%	28.0%	
41	30	40	56	6.0	10.0	15.0%
42	30	35	57	6.0	10.0	12.5
43	30	30	58 - 59	6.0	10.0	10.0
44	30	25	60		12.5	12.5
45 - 47	40	25	61		15.0	12.5
48 - 49	40	15	62		10.0	20.0
50 - 52	40	20	63		35.0	15.0
53 - 56	40	25	64		45.0	10.0
57	40	15	65		65.0	15.0
58	40	25	66		65.0	20.0
59	40	20	67		65.0	22.0
60 - 64	50	30	68 - 69		65.0	15.0
65 - 69	50	50	70 - 79		100.0	15.0
70 - 79	100	30	80+		100.0	100.0
80+	100	100				

Actives' Retirement Rates (continued):

Tier II & IIA, OTHER

Hazardous			Non-Hazardous			
Age	First Year Eligible	All Years After	Age	Early	First Year	Other Years
40	50%	50%	55	4.5%		
41	30	40	56 - 59	4.0		
42	30	35	60	4.0	13.5%	
43	30	30	61	4.0	15.0	13.0%
44	30	25	62		15.0	24.0
45 - 47	40	25	63 - 64		15.0	15.0
48 - 49	40	15	65		25.0	15.0
50 - 52	40	20	66		25.0	21.0
53 - 56	40	25	67		25.0	24.0
57	40	15	68 - 69		25.0	18.0
58	40	25	70		50.0	20.0
59	40	20	71		50.0	24.0
60 - 64	50	30	72 - 74		50.0	22.0
65 - 69	50	50	75		100.0	22.0
70 - 79	100	30	76		100.0	25.0
80+	100	100	77		100.0	22.0
			78		100.0	25.0
			79		100.0	22.0
			80+		100.0	100.0

Actives' Retirement Rates (continued):

Tier III

Hazardous		Non-Hazardous			
Age	All Years	Age	Early	First Year	Other Years
40 - 79	20%	58	5.0%		
80+	100	59	7.0		
		60	9.0		
		61	10.0		
		62	12.0		
		63	12.0	32.0%	
		64	12.0	30.0	30.0%
		65		28.0	25.0
		66 - 68		25.0	35.0
		69		25.0	30.0
		70 - 74		50.0	30.0
		75 - 79		100.0	30.0
		80+		100.0	100.0

Actives' Retirement Rates (continued):

STRS

Age	Unreduced		Proratable		Reduced	
	Male	Female	Male	Female	Male	Female
50	27.5%	27.5%			1.0%	1.00%
51	27.5	27.5			1.0	1.25
52	27.5	27.5			1.0	1.75
53	27.5	27.5			2.0	2.25
54	27.5	27.5			3.0	2.75
55	38.5	27.5			4.0	4.75
56	38.5	27.5			6.0	6.25
57	38.5	27.5			7.0	6.75
58	38.5	27.5			8.0	7.25
59	38.5	27.5			11.0	8.50
60	22.0	27.5	6.0%	5.5%		
61	25.3	27.5	6.0	6.5		
62	25.3	27.5	9.0	7.5		
63	27.5	27.5	11.0	7.5		
64	27.5	27.5	10.0	8.0		
65	36.3	32.5	13.0	12.5		
66 - 67	27.5	32.5	20.0	12.5		
68	27.5	32.5	20.0	12.0		
69	27.5	32.5	30.0	14.5		
70 - 73	100.0	32.5	30.0	14.5		
74 - 79	100.0	32.5	30.0	18.0		
80+	100.0	100.0	100.0	100.0		

Actives' Retirement Rates (continued):	**PJERS**

Age	Rate
50 - 61	5.0%
62 - 64	10.0
65 - 69	20.0
70+	100.0

JFSMCCRS 50% are assumed to retire at the later of age 65 and 10 years of service with 100% at age 70

ARP

Age	First Year	Other Years
55	28.0%	
56	10.0	15.0%
57	10.0	12.5
58 - 59	10.0	10.0
60	12.5	12.5
61	15.0	12.5
62	10.0	20.0
63	35.0	15.0
64	45.0	10.0
65	65.0	15.0
66	65.0	20.0
67	65.0	22.0
68 - 69	65.0	15.0
70 - 79	100.0	15.0
80+	100.0	100.0

Inactive Vesteds' Retirement Rates:	100% are assumed to retire on the normal retirement date provided in the data
Unknown Data for Participants:	Same as those exhibited by participants with similar known characteristic. If not specified, participants are assumed to be female. For this valuation, 11 active members were reported with missing compensation. Spousal coverage was set for current retirees based on their medical tier.

For retirees with spousal coverage who did not have demographic data available, the assumption for the respective active group was used.

HYBRID members were assumed to elect the SERS tier available at their original date of hire.

Inactive vested participants missing service were assumed to have service less than 15 years making them ineligible for healthcare coverage.

75% of actives missing medical plan or dental plan information were assumed to be in a plan that paid contributions.

Retirees paying a percentage of the Early Retirement Premium are assumed to reach Normal Retirement Age at age 65.

Continuation of Medical and Dental Benefits after Retiree's Death:

For retiree medical and dental benefits, we assumed that 64% of current and future retired members have medical and dental benefits that continue after the retiree's death, and 36% have medical and dental benefits that stop upon the retiree's death.

Participation and Coverage Election:

100% of current active and inactive vested participants are assumed to elect coverage.

Health Enhance Program Election:

100% of future retirees were assumed to elect to participate in the Health Enhancement Program.

Dependents

Demographic data was available for spouses of current retirees. The percentage of future retirees electing coverage and assumed age differences between husbands and wives are shown below:

	Percentage Electing Spousal Coverage	Age of Spouse
SERS, JFSMCCRS, HYBRID, OTHER	80%	Females 3 years younger than males
STRS	85% of males; 75% of females	Females 3 years younger than males
PJERS	100%	Females 3 years younger than males
ARP	100%	Females same age as males

Per Capita Cost Development:

Self-Funded (Medical and Drug Plan): Per capita claims costs were based on actual paid retiree claim experience from Anthem and United Healthcare reports for the period April 1, 2016 through March 31, 2018. Prescription drug claims include offsets for rebates. Claims were separated by plan and adjusted as follows:

- paid claims were multiplied by a factor to yield an estimate of incurred claims,
- 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, and
- the per capita claim was adjusted for the effect of any plan changes.

Per capita claims for each plan year were then combined by taking a weighted average. The weights used in this average account for a number of factors including each plan year's volatility of claims experience and distance to the valuation year. Actuarial factors were then applied to the weighted average cost to estimate individual retiree and spouse costs by age and by gender.

Fully Insured Medicare Advantage Plan: Medicare Advantage-Prescription Drug rates were provided by United Healthcare. Actuarial factors were applied to the premium to estimate individual retiree and spouse costs by age and by gender in accordance with ASOP 6.

Fully Insured Dental Plan: Per capita costs were based on actual active/retiree premium rates effective July 1, 2017.

Administrative Expenses: Administrative expenses were based on UHC and Anthem's access fees furnished by the State.

Per Capita Health Costs:

Dental claims costs for the valuation year are $651. The annual per capita cost for Medicare Part B reimbursement for the plan year beginning July 1, 2017 is assumed to be $1,608. Medical and prescription drug claims costs for the valuation year, excluding assumed expenses, are shown in the table below for future retirees and spouses at selected ages. These costs are net of deductibles and other benefit plan cost sharing provisions.

Prescription drug costs for retirees who retired before June 1, 2009 are approximately 7% higher than the table below for non-Medicare retirees.

	Medical (Non-Medicare)				Prescription Drugs (Non-Medicare)			
	Retiree		Spouse		Retiree		Spouse	
Age	Male	Female	Male	Female	Male	Female	Male	Female
50	$8,847	$10,077	$6,180	$8,091	$2,779	$3,165	$1,941	$2,542
55	10,507	10,848	8,269	9,366	3,300	3,407	2,597	2,942
60	12,478	11,692	11,070	10,862	3,920	3,673	3,477	3,412
64	14,315	12,404	13,974	12,226	4,497	3,896	4,390	3,840
65	14,819	12,596	14,819	12,596	4,493	3,819	4,493	3,819
70	17,178	13,574	17,178	13,574	5,207	4,116	5,207	4,116
75	18,509	14,612	18,509	14,612	5,612	4,430	5,612	4,430
80	19,932	15,753	19,932	15,753	6,043	4,776	6,043	4,776

Per Capita Health Costs (continued):

Costs for current Medicare retirees are approximately 19% higher for medical and 36% higher for prescription drugs than the table below.

	Medical				Prescription Drugs			
	Retiree		Spouse		Retiree		Spouse	
Age	Male	Female	Male	Female	Male	Female	Male	Female
65	$654	$556	$654	$556	$1,776	$1,510	$1,776	$1,510
70	758	599	758	599	2,058	1,627	2,058	1,627
75	817	645	817	645	2,218	1,751	2,218	1,751
80	880	695	880	695	2,384	1,888	2,384	1,888

Health Care Cost Trend Rates:

Health care trend measures the anticipated overall rate at which health plan costs are expected to increase in future years. The rates shown below are "net" and are applied to the net per capita costs shown above. The trend shown for a particular plan year is the rate that is applied to that year's cost to yield the next year's projected cost.

Year Ending June 30	Rate (%)					
	Medical[1]		Prescription Drug[1]			
	Under 65	65 & Older	Under 65	65 & Older	Dental	Medicare Part B
2018	5.55	0.00	1.45	0.00	4.50	4.50
2019	5.65	0.00	10.05	7.50	4.50	4.50
2020	5.15	5.50	5.65	7.00	4.50	4.50
2021	4.65	5.00	5.15	6.50	4.50	4.50
2022	4.15	4.50	4.65	6.00	4.50	4.50
2023	4.15	4.50	4.15	5.50	4.50	4.50
2024	4.15	4.50	3.65	5.00	4.50	4.50
2025+	4.50	4.50	4.50	4.50	4.50	4.50

[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 Medicare-eligible participants to reflect MAPD rate guarantees through 2020.

Ultimate trend was used to trend backward for purpose of the Entry Age Normal Cost Method.

The trend rate assumptions were developed using Segal's internal guidelines, which are established each year using data sources such as the 2018 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.

Retiree Contributions:

An average contribution of $201 was used for plans requiring contributions in the valuation year. An average contribution of $521 was used in the valuation year for dental benefits. Early Retiree Premiums were based on an average premium of $15,169 in the valuation year. These apply to pre-65 retirees.

Retiree Contribution Increase Rate:

Contributions for dental benefits are assumed to increase at 4.50% per year. An annual increase in required retiree contributions for Non-Medicare medical and prescription drugs was assumed as shown below.

Year Ending June 30	Rate (%)[1]
2018	4.55
2019	6.75
2020	5.30
2021	4.80
2022	4.25
2023	4.15
2024	4.05
2025+	4.50

[1] Short-term rates were altered to reflect the impact of new retirees receiving 2017 SEBAC changes upon retirement.

Ultimate trend was used to trend backward for purpose of the Entry Age Normal Cost Method.

Administrative Expenses:

An administrative expense load of $233 per participant increasing at 2.8% for the year ending June 30, 2018 (based on known increases) and at 3.0% per year thereafter was added to projected incurred medical claim costs in developing the benefit obligations.

Plan Design:

Development of plan liabilities was based on the substantive plan of benefits in effect as described in Exhibit III.

Assumption Changes since Prior Valuation:

The discount rate was updated in accordance with GASB Statement No. 75 to 3.68% as of June 30, 2017 and 2.96% as of June 30, 2016. (Originally, in the prior valuation, the discount rate was 5.70%, calculated in accordance with GASB Statement No. 45).

The salary scale, total payroll growth rate, mortality rates, disability rates, turnover rates, and actives' retirement rates for SERS, ARP, Hybrid and Other were updated based on the August 17, 2016 Experience Investigation completed by Cavanaugh Macdonald for the SERS.

	The salary scale and mortality rates for JFSMCCRS were updated based on the June 30, 2017 valuation report completed by Cavanaugh Macdonald for the JFSMCCRS. The mortality rates for PJERS were updated to be consistent with the changes for SERS and JFSMCCRS. Inactive vesteds’ retirement rates were updated to be based on the normal retirement date provided in that data, rather than the normal retirement age calculated based on service. Per capita health costs, administrative expenses and retiree contributions were updated for recent experience. Health care cost trend rates and retiree contribution increase rates were adjusted.

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:	Retired and receiving a Normal, Early, Disabled, or Pre-retirement Surivor pension from the following retirement plan • SERS – State Employees Retirement System. • JFSMCCRS – Judges, Family Support Magistrates, and Compensation Commissioners Retirement System • PJERS – Probate Judges and Employees Retirement System • STRS – State Teachers' Retirement System • ARP – Alternate Retirement System • HYBRID – Hybrid Defined Benefit/Defined Contribution Plan In addition, there are a small number of "Other" State employees who are not covered by the retirement systems above but who are eligible for OPEB benefits. Employees with less than 10 years of service as of July 1, 2009, must have 15 years of service to receive retiree medical benefits unless they were grandfathered in under the provisions of SEBAC 2011. In addition, an employee must have a combined age plus service of 75 years to receive retiree medical benefits unless they retire directly from active service.
Benefit Types:	Medical, prescription drug, dental, life insurance. Prescription drug and medical benefits for Medicare-eligible retirees are provided through a Medicare Advantage Prescription Drug (MA-PD) plan. The State also reimburses the Medicare Part B premium for Medicare-eligible retirees. Probate judges, probate employees, and terminated vested participants are not eligible for life insurance. Teachers and terminated vested participants are not eligible for pre-retirement death benefits.
Duration of Coverage:	Lifetime.

Spouse Benefits:

Same benefits as for retirees except no life insurance. Spousal coverage is for life if the spouse receives a survivor pension from their retirement system; otherwise coverage ends at the retiree's death.

Retiree Contributions:

Medical, Rx, and Dental: The monthly retiree contributions used were provided in a schedule supplied by the Office of the State Comptroller.

Health Enhancement Program: Individuals who retire after October 1, 2011, and who decline participation in the Health Enhancement Program, or who are removed from the program, must pay an additional $100 per month in premium share.

Early Retirement Premiums: Individuals who elect early retirement will be charged the greater of the retiree contribution described above and a percentage of the premium (as described on the following page) until they reach their normal retirement date, or age 65, whichever is earlier. The percentages will also be applied to individuals who are eligible for a deferred vested benefit that elect to receive their pension benefits before age 65. If the participant has fewer than 15 years of service, 15 years is used. If the participant has more than 25 years of service, 25 years is used. If the participant retires more than 5 years early, 5 years is used. The premium is capped at 25% of the person's actual pension benefit.

		Years Retired Early				
		5	4	3	2	1
Years of Service	15	40.0%	32.0%	24.0%	16.0%	8.0%
	16	37.0	29.6	22.2	14.8	7.4
	17	34.0	27.2	20.4	13.6	6.8
	18	31.0	24.8	18.6	12.4	6.2
	19	28.0	22.4	16.8	11.2	5.6
	20	25.0	20.0	15.0	10.0	5.0
	21	22.0	17.6	13.2	8.8	4.4
	22	19.0	15.2	11.4	7.6	3.8
	23	16.0	12.8	9.6	6.4	3.2
	24	13.0	10.4	7.8	5.2	2.6
	25	10.0	8.0	6.0	4.0	2.0

Employee Contributions:

Current active employees pay a percentage of their pay into the Retiree Health Care Trust Fund for pre-funding of OPEB benefits.

	All employees hired after July 1, 2009, or with fewer than five years of service as of July 1, 2010, are contributing 3.0% of their salaries to the Fund, for a period of 10 years or until their retirement, whichever is sooner. All employees not paying into the Fund as of June 30, 2013, began paying a contribution at that time. The contribution was 0.5% for the year beginning July 1, 2013, increasing to 2.0% for the year beginning July 1, 2014, and to 3.0% for the year beginning July 1, 2015. Contributions will continue for a period of 10 years or until the employee retires, whichever is sooner. Employees hired after July 1, 2017 will contribute for a period of 15 years or until the employee retirees, whichever is sooner. Contributions are refundable to employees who leave State employment prior to completing 10 years of service. Effective July 1, 2017, the State will begin to contribute into the Retiree Health Care Trust Fund an amount equal to the amount contributed by employees each year.

Benefit Descriptions:

Medical (Anthem or UnitedHealthcare)

Point of Service	In Network	Out of Network
Deductible	$350/person, up to $1,400/family[1]	$300/person, up to $900/family
Member Coinsurance	None	80%
Out-of-pocket Maximum (not incl. ded.)	$2,000/$4,000 single/family	$2,000/$4,000 single/family
Office Visit Copay	$15[2]	Deductible and coinsurance
Emergency Room Copay[3]	$35 (waived if admitted)	$35 (waived if admitted)

Point of Enrollment, Out of Area	In Network
Deductible	$350/person, up to $1,400/family[1]
Member Coinsurance	None
Out-of-pocket Maximum (not incl. ded.)	$2,000/$4,000 single/family
Office Visit Copay	$15[2]
Emergency Room Copay	$35 (waived if admitted)

[1] Waived for post-October 2011 retirees enrolled in Health Enhancement Program.

[2] $5 copay for retirees who retired prior to July 1, 1999.

[3] Emergency room copay increases to $250 for those retiring after October 2, 2017, per SEBAC agreement.

Benefit Descriptions (continued):

Prescription Drug (CVS Caremark)[1]

Retirement Date Prior to 5/1/2009	30-Day Supply or 90-Day Supply Mail
Generic	$3
Brand-name (no generic available)	$6
Brand-name (with generic available)	$3 plus difference between brand and generic cost

Retirement Date Prior to 6/1/2009 to 10/1/2011	30-Day Supply or 90-Day Supply Mail
Generic	$5
Preferred brand-name	$10
Non-preferred brand-name	$25 ($10 if non-preferred is medically necessary)

Retirement Date 10/2/2011 or Later[3]	Non-Maintenance Drug (30-Day Supply)	Maintenance Drug (90-Day Supply[1])
Generic	$5	$5
Preferred brand-name	$20	$10
Non-preferred brand-name	$35	$25
Mail order program	N/A	Mandatory for under-65 retirees; optional for over-65 retirees.

[1] If enrolled in Health Enhancement Program, copay for drugs prescribed for certain chronic conditions will be waived or reduced to $0/$5/$12.50.

[2] Prescription drug copays increase to $5/$10/$25/$40 for those retiring after October 2, 2017, per SEBAC agreement.

Benefit Descriptions (continued):

Dental

	CIGNA Basic	CIGNA Enhanced	CIGNA DHMO
Deductible	None	$25/$75 single/family	None
Annual Maximum	$500[1] for periodontics	$3,000	None
Exams and X-rays[1]	Covered at 100%	Covered at 100%	Covered at 100%
Simple Restoration			
Fillings	Covered at 80%	Covered at 80%	Covered w/ copay
Oral Surgery	Covered at 67%	Covered at 80%	Covered w/ copay
Major Restoration			
Crowns	Covered at 67%	Covered at 67%	Covered w/ copay
Dentures, Fixed Bridges	Not covered	Covered at 50%	Covered w/ copay
Implants	Not covered	Covered at 50% (up to $500)	Covered w/ copay
Orthodontia	Not covered	$1,500 lifetime maximum per person	Covered w/ copay

[1] If enrolled in the Health Enhancement Program, annual dental cleaning (up to two) and unlimited periodontal care provided.

Life Insurance

Pay-related coverage, equal to 50% of the basic coverage amount immediately before retirement. The basic coverage amount is a function of the employee's salary and the position held by the employee. The minimum post-retirement coverage amount is $10,000 for employees with 25 or more years of service.

For retirees with less than 25 years of service, the above coverage amount is proportionately reduced based on years of service, and has no minimum amount of coverage.

Members who retire under the hazardous duty provisions of C.G.S. 5-173 receive coverage equal to 50% of the basic coverage amount immediately before retirement, regardless of the number of years of service.

Retired members who are totally and permanently disabled before age 60 receive coverage equal to 100% of the basic coverage amount.

Plan Changes since Prior Valuation:	The following changes occurred since the original June 20, 2015, valuation, but were recognized in the June 30, 2017 GASB 74 disclosure. These changes were recognized in the June 30, 2016 and 2017 NOL reported here for GASB 75 disclosure purposes, and thus the impact of the changes is not recognized in the OPEB expense. The implementation of a Medicare Advantage plan for the State's Medicare-eligible retirees effective January 1, 2018. The inclusion of the proposed changes in the SEBAC agreement for non-Medicare retirees. Those changes pertaining to premium shares and health care design changes, affect new retirees on or after October 2, 2017.

EXHIBIT IV
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 (OPEB) 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 health, prescription drug, 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 3, 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 employer 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 introduce an accrual-basis accounting requirement, thereby recognizing the employer cost of postemployment benefits over an employee's career. The standards also introduce 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 3. 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. Exhibits V and VI of Section 3 contain a definition of terms as well as more information about GASB 74/75 concepts.

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 Employer 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.

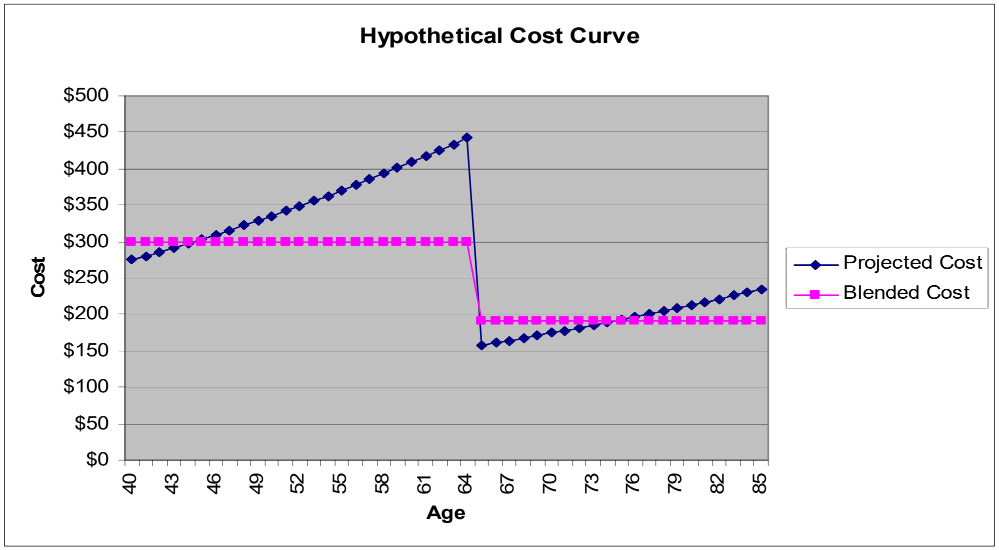
Actuarial valuations involve estimates of the value of reported amounts and assumptions about the probability of events far into the future, and the actuarially determined amounts are subject to continual revision as actual results are compared to past expectations and new estimates are made about the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

EXHIBIT IV
DEFINITION OF TERMS

Assumptions or Actuarial Assumptions:	The estimates on which the cost of the Plan is calculated including: (a) Investment return — the rate of investment yield that the Plan will earn over the long-term future; (b) Mortality rates — the death rates of employees and pensioners; life expectancy is based on these rates; (c) Retirement rates — the rate or probability of retirement at a given age; (d) Turnover rates — the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement.
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.
Service Cost:	The amount of contributions required to fund the benefit allocated to the current year of service.
Actuarially Determined Contribution:	A target or recommended contribution to an OPEB plan for the reporting period based on the most recent measurement available.
Valuation Date:	The date at which the actuarial valuation is performed
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: (1) the actuarial present value of projected benefit payments projected to be funded by plan assets using a long term rate of return, and (2) the 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

EXHIBIT V
GASB 74/75 CONCEPTS

The following graph illustrates why a significant accounting obligation may exist even though the retiree contributes most or all of the blended premium cost of the plan. The average cost for retirees is likely to exceed the average cost for the whole group, leading to an implicit subsidy for these retirees. The accounting standard requires the employer to identify and account for this implicit subsidy as well as any explicit subsidies the employer may provide.



State of Connecticut Other Post-Employment Benefits Program

GASB 75 Agency Calculations as of June 30, 2018

Allocation Calculation

	June 30, 2017		June 30, 2016	
Groups	**Employer Contributions**	**Proportionate Share**	**Employer Contributions**	**Proportionate Share**
Primary Government	$657,909,394	98.577827%	$599,948,578	98.579605%
Component Units				
Connecticut Housing Finance Authority	2,603,173	0.390046%	2,317,169	0.380742%
Connecticut Airport Authority	2,708,873	0.405884%	2,480,736	0.407618%
Connecticut Green Bank	956,207	0.143273%	840,178	0.138053%
Connecticut Innovations Inc.	907,067	0.135910%	944,465	0.155188%
Connecticut Lottery Corporation	2,090,376	0.313211%	1,852,624	0.304411%
Capital Region Development Authority	225,910	0.033849%	209,250	0.034383%
Total Component Units	$9,491,606	1.422174%	$8,644,422	1.420395%
Grand Total	$667,401,000	100.000000%	$608,593,000	100.000000%

State of Connecticut Other Post-Employment Benefits Program

GASB 75 Agency Calculations as of June 30, 2018

Net OPEB Liability and Changes in Proportionate Share

	June 30, 2017		June 30, 2016	
Groups	**Net OPEB Liability**	**Proportionate Share**	**Net OPEB Liability**	**Proportionate Share**
Primary Government	$17,115,654,076	98.577827%	$16,997,516,429	98.579605%
Component Units				
Connecticut Housing Finance Authority	67,722,049	0.390046%	65,649,161	0.380742%
Connecticut Airport Authority	70,471,934	0.405884%	70,283,236	0.407618%
Connecticut Green Bank	24,875,889	0.143273%	23,803,688	0.138053%
Connecticut Innovations Inc.	23,597,482	0.135910%	26,758,178	0.155188%
Connecticut Lottery Corporation	54,381,510	0.313211%	52,487,844	0.304411%
Capital Region Development Authority	5,877,060	0.033849%	5,928,464	0.034383%
Total Component Units	$246,925,924	1.422174%	$244,910,571	1.420395%
Grand Total	$17,362,580,000	100.000000%	$17,242,427,000	100.000000%

Groups	**(a) June 30, 2016 NOL Based on June 30, 2017 Proportionate Share**	**(b) June 30, 2016 NOL Based on June 30, 2016 Proportionate Share**	**(c) Change in Proportionate Share: (a) - (b)**
Primary Government	$16,997,209,859	$16,997,516,429	($306,570)
Component Units			
Connecticut Housing Finance Authority	67,253,397	65,649,161	1,604,236
Connecticut Airport Authority	69,984,252	70,283,236	(298,984)
Connecticut Green Bank	24,703,742	23,803,688	900,054
Connecticut Innovations Inc.	23,434,183	26,758,178	(3,323,995)
Connecticut Lottery Corporation	54,005,178	52,487,844	1,517,334
Capital Region Development Authority	5,836,389	5,928,464	(92,075)
Total Component Units	$245,217,141	$244,910,571	$306,570
Grand Total	$17,242,427,000	$17,242,427,000	$0

State of Connecticut Other Post-Employment Benefits Program

GASB 75 Agency Calculations as of June 30, 2018

Allocation of OPEB Expense

Groups	2017 Proportionate Share	Net OPEB Liability	Proportionate Share of Plan OPEB Expense	Net Amortization of Deferred Amounts	Total Employer OPEB Expense
Primary Government	98.577827%	$17,115,654,076	$1,206,345,172	($56,564)	$1,206,288,608
Component Units					
Connecticut Housing Finance Authority	0.390046%	67,722,049	4,773,184	295,985	5,069,169
Connecticut Airport Authority	0.405884%	70,471,934	4,967,001	(55,163)	4,911,838
Connecticut Green Bank	0.143273%	24,875,889	1,753,302	166,062	1,919,364
Connecticut Innovations Inc.	0.135910%	23,597,482	1,663,197	(613,283)	1,049,914
Connecticut Lottery Corporation	0.313211%	54,381,510	3,832,916	279,951	4,112,867
Capital Region Development Authority	0.033849%	5,877,060	414,227	(16,988)	397,239
Total Component Units	1.422174%	$246,925,924	$17,403,828	$56,564	$17,460,392
Grand Total	100.000000%	$17,362,580,000	$1,223,749,000	$0	$1,223,749,000

State of Connecticut Other Post-Employment Benefits Program

GASB 75 Agency Calculations as of June 30, 2018

Deferred Outflows of Resources and Deferred Inflows of Resources

	Deferred Outflows of Resources					Deferred Inflows of Resources				
Groups	**Changes of assumptions or other inputs**	**Net difference between projected and actual earnings on OPEB plan investments**	**Differences between expected and actual experience in the Total OPEB Liability**	**Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions**	**Total Deferred Outflows of Resources**	**Changes of assumptions or other inputs**	**Net difference between projected and actual earnings on OPEB plan investments**	**Differences between expected and actual experience in the Total OPEB Liability**	**Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions**	**Total Deferred Inflows of Resources**
Primary Government	$0	$0	$0	$0	$0	$410,617,066	$19,374,486	$0	$250,006	$430,241,558
Component Units										
Connecticut Housing Finance Authority	0	0	0	1,308,251	1,308,251	1,624,702	76,660	0	0	1,701,362
Connecticut Airport Authority	0	0	0	0	0	1,690,673	79,772	0	243,821	2,014,266
Connecticut Green Bank	0	0	0	733,992	733,992	596,791	28,159	0	0	624,950
Connecticut Innovations Inc.	0	0	0	0	0	566,121	26,712	0	2,710,712	3,303,545
Connecticut Lottery Corporation	0	0	0	1,237,383	1,237,383	1,304,652	61,558	0	0	1,366,210
Capital Region Development Authority	0	0	0	0	0	140,995	6,653	0	75,087	222,735
Total Component Units	$0	$0	$0	$3,279,626	$3,279,626	$5,923,934	$279,514	$0	$3,029,620	$9,233,068
Grand Total	$0	$0	$0	$3,279,626	$3,279,626	$416,541,000	$19,654,000	$0	$3,279,626	$439,474,626

State of Connecticut Other Post-Employment Benefits Program

GASB 75 Agency Calculations as of June 30, 2018

Scheduled Recognition of Deferred Outflows/(Inflows) Due to the Change in Proportion

	Reporting Year Established	Original Balance	Outstanding Balance at June 30, 2017	Amount Recognized During FYE June 30, 2018	Outstanding Balance	Deferred Outflows/(Inflows) Recognized in Future Reporting Years				
Groups						**2019**	**2020**	**2021**	**2022**	**2023**
Primary Government	2018	($306,570)	($306,570)	($56,564)	($250,006)	($56,564)	($56,564)	($56,564)	($56,564)	($23,750)
Component Units										
Connecticut Housing Finance Authority	2018	$1,604,236	$1,604,236	$295,985	$1,308,251	$295,985	$295,985	$295,985	$295,985	$124,311
Connecticut Airport Authority	2018	(298,984)	(298,984)	(55,163)	(243,821)	(55,163)	(55,163)	(55,163)	(55,163)	(23,169)
Connecticut Green Bank	2018	900,054	900,054	166,062	733,992	166,062	166,062	166,062	166,062	69,744
Connecticut Innovations Inc.	2018	(3,323,995)	(3,323,995)	(613,283)	(2,710,712)	(613,283)	(613,283)	(613,283)	(613,283)	(257,580)
Connecticut Lottery Corporation	2018	1,517,334	1,517,334	279,951	1,237,383	279,951	279,951	279,951	279,951	117,579
Capital Region Development Authority	2018	(92,075)	(92,075)	(16,988)	(75,087)	(16,988)	(16,988)	(16,988)	(16,988)	(7,135)
Total Component Units		$306,570	$306,570	$56,564	$250,006	$56,564	$56,564	$56,564	$56,564	$23,750
Grand Total	2018	$0	$0	$0	$0	$0	$0	$0	$0	$0

State of Connecticut Other Post-Employment Benefits Program

GASB 75 Agency Calculations as of June 30, 2018

Schedule of Deferred Outflows/(Inflows) of Resources

	Deferred outflows of resources and deferred inflows of resources related to OPEB will be recognized as follows (Reporting Date under GASB 75 Year Ended June 30):					
Groups	**2019**	**2020**	**2021**	**2022**	**2023**	**Thereafter**
Primary Government	($97,799,438)	($97,799,438)	($97,799,438)	($97,801,409)	($39,041,839)	$0
Component Units						
Connecticut Housing Finance Authority	(90,757)	(90,757)	(90,757)	(90,765)	(30,073)	0
Connecticut Airport Authority	(457,609)	(457,609)	(457,609)	(457,617)	(183,822)	0
Connecticut Green Bank	24,003	24,003	24,003	24,000	13,035	0
Connecticut Innovations Inc.	(748,042)	(748,042)	(748,042)	(748,045)	(311,375)	0
Connecticut Lottery Corporation	(30,607)	(30,607)	(30,607)	(30,613)	(6,393)	0
Capital Region Development Authority	(50,550)	(50,550)	(50,550)	(50,551)	(20,533)	0
Total Component Units	($1,353,562)	($1,353,562)	($1,353,562)	($1,353,591)	($539,161)	$0
Grand Total	($99,153,000)	($99,153,000)	($99,153,000)	($99,155,000)	($39,581,000)	$0

State of Connecticut Other Post-Employment Benefits Program

GASB 75 Agency Calculations as of June 30, 2018

Sensitivity

Sensitivity of the net OPEB liability to changes in the discount rate

	Net OPEB Liability		
Groups	1% Increase in Discount Rate (4.68%)	Current Discount Rate (3.68%)	1% Decrease in Discount Rate (2.68%)
Primary Government	$14,887,173,159	$17,115,654,076	$19,866,141,058
Component Units			
Connecticut Housing Finance Authority	58,904,548	67,722,049	78,604,987
Connecticut Airport Authority	61,296,395	70,471,934	81,796,780
Connecticut Green Bank	21,637,015	24,875,889	28,873,447
Connecticut Innovations Inc.	20,525,059	23,597,482	27,389,600
Connecticut Lottery Corporation	47,300,965	54,381,510	63,120,624
Capital Region Development Authority	5,111,859	5,877,060	6,821,504
Total Component Units	$214,775,992	$246,926,098	$286,606,942
Grand Total	$15,101,949,000	$17,362,580,000	$20,152,748,000

Sensitivity of the net OPEB liability to changes in the healthcare cost trend rates

	Net OPEB Liability		
Groups	1% Increase in Trend Rates	Current Discount Rate (3.68%)	1% Decrease in Trend Rates
Primary Government	$20,164,834,833	$17,115,654,076	$14,708,788,695
Component Units			
Connecticut Housing Finance Authority	79,786,839	67,722,049	58,198,729
Connecticut Airport Authority	83,026,620	70,471,934	60,561,915
Connecticut Green Bank	29,307,568	24,875,889	21,377,751
Connecticut Innovations Inc.	27,801,411	23,597,482	20,279,119
Connecticut Lottery Corporation	64,069,662	54,381,510	46,734,185
Capital Region Development Authority	6,924,067	5,877,060	5,050,606
Total Component Units	$290,916,372	$246,926,098	$212,202,305
Grand Total	$20,455,751,000	$17,362,580,000	$14,920,991,000