

# State of South Carolina Public Employee Benefit Authority

Basic Long-Term Disability Income Plan

GASB Statement No. 74, Financial Reporting for  
Postemployment Benefit Plans Other Than Pension Plans

Actuarial Valuation as of June 30, 2018  
Prepared for the Plan Year Ending June 30, 2019



October 15, 2018

State of South Carolina  
Public Employee Benefit Authority  
South Carolina Retirement System  
P.O. Box 11960  
Columbia, SC 29211-1960

Dear Members of the Board:

This report provides information on behalf of the State of South Carolina Public Employee Benefit Authority (PEBA) in connection with the Governmental Accounting Standards Board (GASB) Statement No. 74 "Financial Reporting for Postemployment Benefit Plans other than Pension Plans." The actuarial valuation was performed as of June 30, 2018. Because GASB Statement No. 74 requires liabilities and assets to be reported as of the end of the fiscal year, update procedures were used to roll forward the total OPEB liability to June 30, 2019.

The calculation of the liability associated with the benefits described in this report was performed for the purpose of satisfying the requirements of GASB Statement No. 74. The calculation of the plan's liability for this report is not applicable for funding purposes of the plan. A calculation of the plan's liability for purposes other than satisfying the requirements of GASB Statement No. 74 may produce significantly different results. This report may be provided to parties other than the State of South Carolina Public Employee Benefit Authority only in its entirety and only with the permission of PEBA. GRS is not responsible for unauthorized use of this report.

This report is based upon information, furnished to us by PEBA, concerning other postemployment benefits (OPEB), active members, deferred vested members, retirees and beneficiaries, and financial data. This information was checked for internal consistency, but it was not audited.

Based on the available data, the information contained in this report is accurate and fairly represents the actuarial position of the Basic Long-Term Disability Income Plan (LTD Plan) as of the reporting date. All calculations have been made in conformity with generally accepted actuarial principles and practices as well as the Actuarial Standards of Practice. If you have reason to believe that the information provided in this report is inaccurate, or is in any way incomplete, or if you need further information in order to make an informed decision on the subject matter of this report, please contact the author of the report prior to making such decision.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements; and changes in plan provisions or applicable law.

The signing individuals are independent of the plan sponsor.

Joseph Newton and Mehdi Riazzi are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

Respectfully submitted,



Joseph P. Newton, FSA, FCA, EA, MAAA, Senior Consultant



Mehdi Riazzi, FSA, FCA, EA, MAAA, Consultant

Auditor's Note – This information is intended to assist in preparation of the financial statements of the State of South Carolina Public Employee Benefit Authority. Financial statements are the responsibility of management, subject to the auditor's review. Please let us know if the auditor recommends any changes.

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# SECTION A

## EXECUTIVE SUMMARY

# Executive Summary as of June 30, 2019

	<b>2019</b>
Actuarial Valuation Date	June 30, 2018
OPEB Plan's Fiscal Year Ending Date (Reporting Date)	June 30, 2019

## Membership

Number of	
- Retirees and Beneficiaries	956
- Inactive, Nonretired Members	0
- Active Members	189,304
- Total	190,260

## Net OPEB Liability

Total OPEB Liability	\$ 40,743,755
Plan Fiduciary Net Position	38,775,500
Net OPEB Liability	\$ 1,968,255
Plan Fiduciary Net Position as a Percentage of Total OPEB Liability	95.17 %
Net OPEB Liability as a Percentage of Covered Payroll	N/A

## Development of the Single Discount Rate

Single Discount Rate	3.04 %
Long-Term Expected Rate of Return	3.00 %
Long-Term Municipal Bond Rate*	3.13 %
Last year ending June 30 in the 2020 to 2119 projection period for which projected benefit payments are fully funded	2039

\* Source: Fixed-income municipal bonds with 20 years to maturity that include only federally tax-exempt municipal bonds as reported in the Fidelity "20-Year Municipal GO AA Index" as of June 30, 2019.

# Discussion

## Accounting Standard

For post-employment benefit (OPEB) plans that are administered through trusts or equivalent arrangements, Governmental Accounting Standards Board (GASB) Statement No. 74, “Financial Reporting for Postemployment Benefit Plans other than Pension Plans,” replaces the requirements of GASB Statement No. 43, “Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans.” GASB Statement No. 74 establishes standards of financial reporting for separately issued financial reports of state and local government OPEB plans.

Reporting under GASB Statement No. 74 is effective for plan fiscal years commencing after June 15, 2016.

The following discussion provides a summary of the information that is required to be disclosed under this new accounting standard. A number of these disclosure items are provided in this report. However, certain information, such as notes regarding accounting policies and investments, is not included in this report, and internal staff will be responsible for preparing that information to comply with this accounting standard.

## Financial Statements

GASB Statement No. 74 requires defined benefit OPEB plans to present two financial statements: a statement of fiduciary net position and a statement of changes in fiduciary net position.

The *statement of fiduciary net position* presents the following items as of the end of the OPEB plan’s reporting period:

- Assets;
- Receivables (deferred inflows and outflows of resources);
- Investments;
- Liabilities; and
- Fiduciary net position (assets, plus deferred outflows, minus liabilities, minus deferred inflows).

The *statement of changes in fiduciary net position* presents the following for the plan’s reporting period:

- Additions, such as contributions and investment income;
- Deductions, such as benefit payments and expenses; and
- Net increase or decrease in the fiduciary net position (the difference between additions and deductions).



## Notes to Financial Statements

GASB Statement No. 74 also requires the notes of the plan's financial statements to include additional disclosure information. This disclosure information should include:

- **Plan Description:**
  - The name of the OPEB plan, the administrator of the OPEB plan, and the identification of whether the OPEB plan is a single-employer, agent, or cost-sharing OPEB plan.
  - The number of participating employers (if agent or cost-sharing OPEB plan) and the number of nonemployer contributing entities.
  - The composition of the OPEB plan's Board and the authority under which benefit terms may be amended.
  - The number of plan members by category and if the plan is closed.
  - The authority under which benefit terms are established or may be changed, the types of benefit provided and the classes of plan members covered. A brief description of the benefits and the description of automatic postemployment benefit changes and the sharing of benefit-related costs with inactive plan members.
  - A brief description of contribution requirements, including (a) identification of the authority under which contribution requirements of employers, nonemployer contributing entities, and plan members are established or may be amended; (b) the contribution rates of the employer, nonemployer contributing entities, and plan members; and (c) legal or contractual maximum contribution rates. If the OPEB plan of the entity that administers the OPEB plan has the authority to establish or amend contribution requirements, disclose the basis for determining contributions.
- **Plan Investments:**
  - A description of investment policies, including procedures for making and amending investment decisions; policies for asset allocation; and description of any significant changes in investment policy occurring during the reporting period.
  - Identification of investments that represent 5% or more of the fiduciary net position.
  - The annual money-weighted rate of return on the OPEB plan investments.
- **Receivables:**
  - The terms of any long-term contracts for contributions to the OPEB plan and the outstanding balance on any such long-term contracts.
- **Allocated insurance contracts excluded from OPEB plan assets**
- **Reserves:**
  - A description of the policy related to reserves;
  - The authority for the reserve policy;
  - The conditions under which the reserves can be used; and
  - The balances of the reserves.

**In addition, Single-Employer and Cost-Sharing OPEB plans should disclose the following information in notes to financial statements:**

- The components of the net OPEB liability:
  - The total OPEB liability;
  - The fiduciary net position;
  - The net OPEB liability; and
  - The OPEB plan's fiduciary net position as a percentage of the total OPEB liability.
- Significant assumptions and other inputs used to measure the total OPEB liability:
  - Significant assumptions include inflation, healthcare cost trend rates, salary changes, ad hoc postemployment benefit changes, and the sharing of benefit-related costs with inactive plan members.
  - If applicable, the patterns of practice relied upon for projecting the sharing of benefit-related costs with inactive plan members.
  - The source of the assumptions for mortality.
  - The dates of experience studies on which assumption are based.
- Measure of the net OPEB liability using +/- 1% on the healthcare trend rate.
- On the discount rate:
  - The discount rate used and the change in the discount rate since the prior fiscal year-end.
  - Assumptions about projected cash flows.
  - The long-term expected rate of return on OPEB investments and a description of how it was determined.
  - The municipal bond rate used and the source of that rate.
  - The periods of projected benefit payments to which the long-term expected rate of return are used.
  - The assumed asset allocation of the portfolio and the long-term expected real rate of return for each major asset class, and whether the returns are arithmetic or geometric.
  - Measure of the net OPEB liability using +/- 1% on the discount rate.
- The date of the valuation and, if applicable, the fact that update procedures were used to roll forward the total OPEB liability.

## **Required Supplementary Information**

For Single-Employer and Cost-Sharing OPEB Plans, GASB Statement No. 74 requires a 10-year fiscal history of:

- Sources of changes in the net OPEB liability;
- Information about the components of the net OPEB liability and related ratios, including the OPEB plan's fiduciary net position as a percentage of the total OPEB liability, and the net OPEB liability as a percent of covered-employee payroll;
- Comparison of the actual employer contributions to the actuarially determined contributions based on the plan's funding policy along with the significant methods and assumptions used in calculating the actuarially determined contributions; and
- The annual money-weighted rate of return on OPEB plan investments for each year.

Notes to the required schedules should include factors that significantly affect trends in the amounts reported (for example, changes of benefit terms, changes in the size or composition of the population covered, or the use of different assumptions). Information about investment-related factors that significantly affect trends in the amounts reported should be limited to those factors over which the OPEB plan or the participating governments have influence.

## **Measurement of the Net OPEB Liability**

The net OPEB liability is to be measured as the total OPEB liability, less the amount of the OPEB plan's fiduciary net position. In actuarial terms, this will be the accrued liability less the market value of assets (not the smoothed actuarial value of assets that is often encountered in actuarial valuations performed to determine the employer's contribution requirement). The net OPEB liability should be measured as of the OPEB plan's most recent fiscal year end.

## **Frequency and Timing of the Actuarial Valuation**

An actuarial valuation to determine the total OPEB liability is required to be performed at least every two years. If the actuarial valuation is not calculated as of the plan's fiscal year end, the total OPEB liability is required to be rolled forward from the actuarial valuation date to the OPEB plan's fiscal year end. If update procedures are used to roll forward the total OPEB liability, the date of the actuarial valuation must be no more than 24 months earlier than the OPEB plan's most recent fiscal year-end.

The actuarial valuation was performed as of June 30, 2018. Update procedures were used to roll forward the total OPEB liability to June 30, 2019.

## **Single Discount Rate**

Projected benefit payments are required to be discounted to their actuarial present values using a Single Discount Rate that reflects (1) a long-term expected rate of return on OPEB plan investments (to the extent that the plan's fiduciary net position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on OPEB plan investments is 3.00%; the municipal bond rate is 3.13% (based on the daily rate closest to but not later than the measurement date of the Fidelity "20-Year Municipal GO AA Index"); and the resulting Single Discount Rate is 3.04%.

## Actuarial Assumptions

The actuarial assumptions used to value the liabilities are outlined in detail in Section F. The salary increase assumptions, withdrawal rates and retirement rates were based on the experience study covering the five year period ending June 30, 2015, as conducted for the South Carolina Retirement Systems. Other assumptions, which are specific to the LTD valuation are monitored during each valuation and updated annually, if required.

## Future Uncertainty or Risk

Future results may differ from those anticipated in this valuation. Reasons include, but are not limited to:

- Actual medical trend differing from expected;
- Changes in the healthcare plan designs offered to active and retired members; and
- Participant behavior differing from expected, e.g.,
  - Elections at retirement;
  - One-person versus two-person coverage elections; and
  - Time of retirement or termination.

## Benefits Valued

The benefit provisions that were valued are described in Section E. The valuation is required to be performed on the current benefit terms and existing legal agreements. Consideration is to be given to the written plan document as well as other communications between the employer and plan members and an established pattern of practice for cost sharing. The summary of major plan provisions is designed to outline principal plan benefits. If the plan summary is not in accordance with the actual provisions, please alert the actuaries IMMEDIATELY, so they can both be sure the proper provisions are valued.

## Effective Date and Transition

GASB Statement No. 74 is effective for an OPEB plan's fiscal years beginning after June 15, 2016.

## SECTION B

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### FINANCIAL STATEMENTS

## Statement of Fiduciary Net Position as of June 30, 2019

	<u>2019</u>
<b>Assets</b>	
Cash and cash equivalents	\$ 2,590,470
Receivables	
Accrued Interest	\$ 302,363
Investments	
Fixed Income	\$ 36,424,300
Invested securities lending collateral	\$ 0
<b>Total Assets</b>	<u>\$ 39,317,133</u>
<b>Liabilities</b>	
Claims Payable	\$ 541,633
Collateral for loaned securities	\$ 0
<b>Total Liabilities</b>	<u>\$ 541,633</u>
<b>Net Position Restricted for OPEB</b>	<u>\$ 38,775,500</u>

## Statement of Changes in Fiduciary Net Position for Year Ended June 30, 2019

	<u>2019</u>
<b>Additions</b>	
Contributions	
Employer	\$ 7,532,690
Nonemployer contributing entities	\$ 0
Total Contributions	<u>\$ 7,532,690</u>
Investment Income	
Investment income	\$ 2,968,988
Net earnings from securities lending activities	\$ 3,927
Net Investment Income	<u>\$ 2,972,915</u>
<b>Total Additions</b>	<u>\$ 10,505,605</u>
 <b>Deductions</b>	
Benefit Payments	\$ 7,889,317
OPEB Plan Administrative Expense	\$ 40,651
<b>Total Deductions</b>	<u>\$ 7,929,968</u>
 <b>Net Increase in Net Position</b>	 \$ 2,575,637
 <b>Net Position Restricted for OPEB</b>	
Beginning of Year	\$ 36,199,863
End of Year	<u>\$ 38,775,500</u>

## SECTION C

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### REQUIRED SUPPLEMENTARY INFORMATION



# Schedule of Changes in Net OPEB Liability and Related Ratios Multiyear

Last 10 Fiscal Years (which may be built prospectively)

Fiscal year ending June 30,	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
<b>Total OPEB liability</b>										
Service cost	\$ 7,941,182	\$ 7,555,741	\$ 7,952,412							
Interest on the total OPEB liability	1,536,123	1,481,366	1,399,527							
Changes of benefit terms	0	0	0							
Difference between expected and actual experience	(1,329,978)	(207,107)	0							
Changes of assumptions	1,224,654	(58,966)	(182,868)							
Benefit payments, including refunds of employee contributions	(7,889,317)	(8,020,511)	(8,205,609)							
<b>Net change in total OPEB liability</b>	<b>1,482,664</b>	<b>750,523</b>	<b>963,462</b>							
<b>Total OPEB liability - beginning</b>	<b>39,261,091</b>	<b>38,510,568</b>	<b>37,547,106</b>							
<b>Total OPEB liability - ending (a)</b>	<b>\$ 40,743,755</b>	<b>\$ 39,261,091</b>	<b>\$ 38,510,568</b>							
<b>Plan fiduciary net position</b>										
Employer contributions	\$ 7,532,690	\$ 7,479,841	\$ 7,288,566							
Nonemployer contributing entities contributions	0	0	400,000							
OPEB plan net investment income	2,972,915	52,944	371,679							
Benefit payments	(7,889,317)	(8,020,511)	(8,205,609)							
OPEB plan administrative expense	(40,651)	(10,000)	(10,000)							
Other	0	0	0							
<b>Net change in plan fiduciary net position</b>	<b>2,575,637</b>	<b>(497,726)</b>	<b>(155,364)</b>							
<b>Plan fiduciary net position - beginning</b>	<b>36,199,863</b>	<b>36,697,589</b>	<b>36,852,952</b>							
<b>Plan fiduciary net position - ending (b)</b>	<b>\$ 38,775,500</b>	<b>\$ 36,199,863</b>	<b>\$ 36,697,589</b>							
<b>Net OPEB liability - ending (a) - (b)</b>	<b>\$ 1,968,255</b>	<b>\$ 3,061,228</b>	<b>\$ 1,812,979</b>							
<b>Plan fiduciary net position as a percentage of total OPEB liability</b>	<b>95.17 %</b>	<b>92.20 %</b>	<b>95.29 %</b>							
<b>Covered-employee payroll</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>							
<b>Net OPEB liability as a percentage of covered-employee payroll</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>							

## Notes to Schedule:

FYE19 - The long-term rate of return assumption was changed from 4.00% to 3.00% per year.

Changes of assumptions reflect the effects of changes in the Single Discount Rate each period. The following are the Single Discount Rates used in each period:

2019	3.04%	2017	3.87%
2018	3.91%	2016	3.74%

## Schedule of the Net OPEB Liability Multiyear

Last 10 Fiscal Years (which may be built prospectively)

<b>FY Ending June 30,</b>	<b>Total OPEB Liability</b>	<b>Plan Net Position</b>	<b>Net OPEB Liability</b>	<b>Plan Net Position as a % of Total OPEB Liability</b>
2016	\$ 37,547,106	\$ 36,852,952	\$ 694,154	98.15 %
2017	38,510,568	36,697,589	1,812,979	95.29 %
2018	39,261,091	36,199,863	3,061,228	92.20 %
2019	40,743,755	38,775,500	1,968,255	95.17 %

The following are the Single Discount Rates used in each period:

2019	3.04%	2017	3.87%
2018	3.91%	2016	3.74%

## Schedule of Investment Returns Multiyear

Last 10 Fiscal Years (which may be built prospectively)

<b>FY Ending June 30,</b>	<b>Annual Return<sup>1</sup></b>
2017	1.00 %
2018	0.14 %
2019	8.13 %

<sup>1</sup> Annual money-weighted rate of return, net of investment expenses.

## SECTION D

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### NOTES TO FINANCIAL STATEMENTS

## Net OPEB Liability as of June 30, 2019

	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability
<b>Beginning balance</b>	<u>\$ 39,261,091</u>	<u>\$ 36,199,863</u>	<u>\$ 3,061,228</u>
Service cost	7,941,182		7,941,182
Interest on the total OPEB liability	1,536,123		1,536,123
Changes of benefit terms	0		0
Difference between expected and actual experience	(1,329,978)		(1,329,978)
Changes of assumptions	1,224,654		1,224,654
Employer contributions		7,532,690	(7,532,690)
Nonemployer contributing entities		0	0
Net investment income		2,972,915	(2,972,915)
Benefit payments	(7,889,317)	(7,889,317)	0
Administrative expense		(40,651)	40,651
Other		0	0
<b>Net changes</b>	<u>1,482,664</u>	<u>2,575,637</u>	<u>(1,092,973)</u>
<b>Ending balance</b>	<u>\$ 40,743,755</u>	<u>\$ 38,775,500</u>	<u>\$ 1,968,255</u>

Only the components of the ending Net OPEB Liability are required disclosures.

## Single Discount Rate

A Single Discount Rate of 3.04% was used to measure the total OPEB liability. This Single Discount Rate was based on an expected rate of return on OPEB plan investments of 3.00% and a municipal bond rate of 3.13%. The projection of cash flows used to determine this Single Discount Rate assumed that employer contributions will remain \$38.64/year for each covered active employee. Based on these assumptions, the OPEB plan's fiduciary net position and future contributions were sufficient to finance the benefit payments through the year 2039. As a result, the long-term expected rate of return on OPEB plan investments was applied to projected benefit payments through the year 2039, and the municipal bond rate was applied to all benefit payments after that date.

The single discount rate changed from 3.91% as of June 30, 2018 to 3.04% as of June 30, 2019.

## Asset Allocation

<b>Asset Class</b>	<b>Target Allocation</b>	<b>Long-Term Expected Real Rate of Return</b>	<b>Allocation-Weighted Long-Term Expected Real Rate of Return</b>
U.S. Domestic Fixed Income	80.00 %	0.95 %	0.76 %
Cash	20.00 %	0.51 %	0.10 %
<b>Total</b>	100.00 %		0.86 %
Expected Inflation			2.25 %
<b>Total Return</b>			3.11 %
<b>Investment Return Assumption</b>			3.00 %

## Summary of Membership Information

The following table provides a summary of the number of participants as of the valuation date:

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	956
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	-
Active Plan Members	189,304
<b>Total Plan Members</b>	<b>190,260</b>

## Roll Forward Disclosure

The actuarial valuation was performed as of June 30, 2018. Update procedures were used to roll forward the total OPEB liability to June 30, 2019.

## Sensitivity of Net OPEB Liability to the Single Discount Rate Assumption

Regarding the sensitivity of the net OPEB liability to changes in the Single Discount Rate, the following presents the plan's net OPEB liability, calculated using a Single Discount Rate of 3.04%, as well as what the plan's net OPEB liability would be if it were calculated using a Single Discount Rate that is one percent lower or one percent higher:

<b>1% Decrease 2.04%</b>	<b>Current Single Discount Rate Assumption 3.04%</b>	<b>1% Increase 4.04%</b>
\$ 3,385,614	\$ 1,968,255	\$ 562,241

## Actuarial Assumptions and Methods

**Valuation Date:** June 30, 2018

### Methods and Assumptions:

Actuarial Cost Method	Individual Entry-Age Normal
Inflation	2.25%
Investment Rate of Return	3.00%, net of plan investment expense, including inflation
Single Discount Rate	3.04% as of June 30, 2019
Salary, Termination Rates and Retirement Rates	Based on the experience study performed for the South Carolina Retirement Systems for the 5-year period ending June 30, 2015.
Disability Incidence	The disability incidence rates used in the LTD valuation are based on the rates developed for the pension plans.
Disability Recovery	For participants in payment, 1987CGDT Group Disability For active employees, 60% were assumed to recover after the first year and 92% were assumed to recover after the first two years.
Offsets	40% are assumed to be eligible for Social Security benefits. Assumed percentage who will be eligible for a pension plan offset varies based on employee group.
Expenses	Third party administrative expenses are included in the benefit projections.

### Other Information:

Notes	The long-term rate of return assumption changed from 4.00% to 3.00% per year. The Single Discount Rate changed from 3.91% as of June 30, 2018 to 3.04% as of June 30, 2019.
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## SECTION E

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### SUMMARY OF BENEFITS



## Summary of the Current Substantive Plan Provisions

### Basic Long-Term Disability (BLTD) Benefits

Any participating employee (including members of the General Assembly and judges in the state courts) who becomes disabled and who is eligible and approved will receive disability payments under the Basic Long Term Disability program. With the passage of Act 195, the BLTD can be classified as a cost-sharing multiple employer plan. Therefore, this valuation report encompasses all of the liabilities for all employers who participate in the program.

State employees are eligible for BLTD benefits if they are covered under the state health plan, are active full-time employees working 30 hours or more per week for 12 months (20 hours per week at the agency's option; or a full-time academic employee) and receive compensation from the State.

The program has a 90-day waiting period, an actively at work clause, a pre-existing condition exclusion and other exclusions and limitations. The benefit payable upon approval is 62.5% of pre-disability earnings, reduced by certain deductible income, with a maximum net benefit of \$800 per month. Disability is defined in terms of "own occupation" during the waiting period and the first 24 months of disability and "any occupation" thereafter. Other specific contract terms apply.

The monthly benefit is payable to age 65 if disability occurred prior to age 62. If disability occurs at or after age 62, the length of time benefits are paid varies, but no longer than one (1) year if disability occurs at or after age 69.

## SECTION F

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### **ACTUARIAL ASSUMPTIONS AND METHODS**

# Summary of Actuarial Assumptions and Methods

## Assumptions common with the Retirement System

The inflation assumption (2.25%), termination rates, retirement rates, and rates of salary increase were identical to those used in the July 1, 2018 retirement system valuations. The SCRS demographic assumptions were applied to LTD participants who are not in any of the State's defined benefit pension plans.

The assumptions are described in detail in the July 1, 2018 retirement system valuations performed by Gabriel, Roeder, Smith and Company.

## Assumptions unique to the LTD Valuation

**The Investment Return Assumption** for the LTD trust is 3.00% per year, net of investment expenses.

**The Single Discount Rate Assumption** was 3.04% as of the reporting date.

### **Disability Incidence**

For police officers (PORS), the rates of disability incidence are the same as those used in the pension valuation. For non-police employees, the rates of disability incidence are 91.25% of the rates used in the pension valuations.

### **Disability Recovery**

For participants in payment, the 1987 CGDT Group Disability tables were used to model recovery. For active employees, 60% were assumed to recover after the first year and 92% were assumed to recover after the first two years.

### **Offsets**

40% of the employees who qualify for benefits through BLTD are assumed to be eligible for Social Security benefits.

90% of police officers who qualify for benefits were assumed to have a pension plan offset. 40% of non-police employees who qualify for benefits were assumed to have a pension plan offset. No pension plan offsets were assumed for the employees who are not in one of the State's defined benefit pension plans.

### **Administrative expenses**

Third party administrative expenses are included in the benefit projections.

## Actuarial Methods

**The individual entry age actuarial cost method** was used in determining liabilities and normal cost. Differences between assumed experience and actual experience ("actuarial gains and/or losses") become part of actuarial accrued liabilities.

## Reliance on other Actuaries

The liability attributable to retirees who are currently receiving a long-term disability benefit was based on calculations provided by the Standard Insurance Company.

## Assumption and Method Changes

1. The Single Discount Rate changed from 3.91% as of June 30, 2018 to 3.04% as of June 30, 2019.
2. The Investment Return assumption was lowered from 4.00% as of June 30, 2018 to 3.00% as of June 30, 2019.

## SECTION G

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### GLOSSARY OF TERMS

## Glossary of Terms

<b>Accrued Service</b>	Service credited under the system that was rendered before the date of the actuarial valuation.
<b>Actuarial Accrued Liability (AAL)</b>	The AAL is the difference between the actuarial present value of all benefits and the actuarial value of future normal costs. The definition comes from the fundamental equation of funding which states that the present value of all benefits is the sum of the Actuarial Accrued Liability and the present value of future normal costs. The AAL may also be referred to as "accrued liability" or "actuarial liability."
<b>Actuarial Assumptions</b>	These assumptions are estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and compensation increases. Actuarial assumptions are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (compensation increases, payroll growth, inflation and investment return) consist of an underlying real rate of return plus an assumption for a long-term average rate of inflation.
<b>Actuarial Cost Method</b>	A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of the OPEB trust benefits between future normal cost and actuarial accrued liability. The actuarial cost method may also be referred to as the actuarial funding method.
<b>Actuarial Equivalent</b>	A single amount or series of amounts of equal actuarial value to another single amount or series of amounts, computed on the basis of appropriate actuarial assumptions.
<b>Actuarial Gain (Loss)</b>	The difference in liabilities between actual experience and expected experience during the period between two actuarial valuations is the gain (loss) on the accrued liabilities.
<b>Actuarial Present Value (APV)</b>	The amount of funds currently required to provide a payment or series of payments in the future. The present value is determined by discounting future payments at predetermined rates of interest and probabilities of payment.
<b>Actuarial Valuation</b>	The actuarial valuation report determines, as of the actuarial valuation date, the service cost, total OPEB liability, and related actuarial present value of projected benefit payments for OPEB.
<b>Actuarial Valuation Date</b>	The date as of which an actuarial valuation is performed.

## Glossary of Terms

<b>Actuarially Determined Contribution (ADC) or Annual Required Contribution (ARC)</b>	A calculated contribution into an OPEB plan for the reporting period, most often determined based on the funding policy of the plan. Typically the Actuarially Determined Contribution has a normal cost payment and an amortization payment.
<b>Amortization Method</b>	The method used to determine the periodic amortization payment may be a level dollar amount, or a level percent of pay amount. The period will typically be expressed in years, and the method will either be “open” (meaning, reset each year) or “closed” (the number of years remaining will decline each year).
<b>Amortization Payment</b>	The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.
<b>Cost-of-Living Adjustments</b>	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
<b>Cost-Sharing Multiple-Employer Defined Benefit OPEB Plan (cost-sharing OPEB plan)</b>	A multiple-employer defined benefit OPEB plan in which the OPEB obligations to the employees of more than one employer are pooled and OPEB plan assets can be used to pay the benefits of the employees of any employer that provides benefits through the OPEB plan.
<b>Covered-Employee Payroll</b>	The payroll of employees that are provided with benefits through the OPEB plan.
<b>Deferred Inflows and Outflows</b>	The deferred inflows and outflows of OPEB resources are amounts used under GASB Statement No. 74 in developing the annual OPEB expense. Deferred inflows and outflows arise with differences between expected and actual experiences; changes of assumptions. The portion of these amounts not included in the OPEB expense should be included in the deferred inflows or outflows of resources.
<b>Discount Rate</b>	<p>For GASB purposes, the discount rate is the single rate of return that results in the present value of all projected benefit payments to be equal to the sum of the funded and unfunded projected benefit payments, specifically:</p> <ol style="list-style-type: none"><li>1. The benefit payments to be made while the OPEB plans’ fiduciary net position is projected to be greater than the benefit payments that are projected to be made in the period; and</li><li>2. The present value of the benefit payments not in (1) above, discounted using the municipal bond rate.</li></ol>

## Glossary of Terms

### **Entry Age Actuarial Cost Method (EAN)**

The EAN is a cost method for allocating the costs of the plan between the normal cost and the accrued liability. The actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis (either level dollar or level percent of pay) over the earnings or service of the individual between entry age and assumed exit ages(s). The portion of the actuarial present value allocated to a valuation year is the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is the actuarial accrued liability. The sum of the accrued liability plus the present value of all future normal costs is the present value of all benefits.

### **Fiduciary Net Position**

The fiduciary net position is the market value of the assets of the trust dedicated to the defined benefit provisions.

### **GASB**

The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.

### **Long-Term Expected Rate of Return**

The long-term rate of return is the expected return to be earned over the entire trust portfolio based on the asset allocation of the portfolio.

### **Money-Weighted Rate of Return**

The money-weighted rate of return is a method of calculating the returns that adjusts for the changing amounts actually invested. For purposes of GASB Statement No. 74, the money-weighted rate of return is calculated as the internal rate of return on OPEB plan investments, net of OPEB plan investment expense.

### **Multiple-Employer Defined Benefit OPEB Plan**

A multiple-employer plan is a defined benefit OPEB plan that is used to provide OPEB payments to the employees of more than one employer.

### **Municipal Bond Rate**

The Municipal Bond Rate is the discount rate to be used for those benefit payments that occur after the assets of the trust have been depleted.

### **Net OPEB Liability (NOL)**

The NOL is the liability of employers and non-employer contributing entities to plan members for benefits provided through a defined benefit OPEB plan.

### **Non-Employer Contributing Entities**

Non-employer contributing entities are entities that make contributions to an OPEB plan that is used to provide OPEB payments to the employees of other entities. For purposes of the GASB accounting statements, plan members are not considered non-employer contributing entities.



# Glossary of Terms

<b>Normal Cost</b>	The portion of the actuarial present value allocated to a valuation year is called the normal cost. For purposes of application to the requirements of this Statement, the term normal cost is the equivalent of service cost.
<b>Other Postemployment Benefits (OPEB)</b>	All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits regardless of the manner in which they are provided. Other post-employment benefits do not include termination benefits.
<b>Real Rate of Return</b>	The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.
<b>Service Cost</b>	The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year.
<b>Total OPEB Expense</b>	<p>The total OPEB expense is the sum of the following items that are recognized at the end of the employer's fiscal year:</p> <ol style="list-style-type: none"><li>1. Service Cost</li><li>2. Interest on the Total OPEB Liability</li><li>3. Current-Period Benefit Changes</li><li>4. Employee Contributions (made negative for addition here)</li><li>5. Projected Earnings on Plan Investments (made negative for addition here)</li><li>6. OPEB Plan Administrative Expense</li><li>7. Other Changes in Plan Fiduciary Net Position</li><li>8. Recognition of Outflow (Inflow) of Resources due to Liabilities</li><li>9. Recognition of Outflow (Inflow) of Resources due to Assets</li></ol>
<b>Total OPEB Liability (TOL)</b>	The TOL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service.
<b>Unfunded Actuarial Accrued Liability (UAAL)</b>	The UAAL is the difference between actuarial accrued liability and valuation assets.
<b>Valuation Assets</b>	The valuation assets are the assets used in determining the unfunded liability of the plan. For purposes of GASB Statement Nos. 74 and 75, the valuation assets are equal to the market value of assets.