



October 26, 2017

Death Benefit Plans
Principal Results of Actuarial Valuation
as of December 31, 2016

**Board of Trustees Meeting
David Driscoll and Mike Ribble**

Death Benefit Plans Principal Results of December 31, 2016 Valuation

Plan	Liabilities	Current Assets	Present Value of Future Contributions	(Surplus)/ Deficit	Contribution Rate
Teachers' and State Employees' Retirement System	\$ 176,600,000	\$ 41,500,000	\$ 227,800,000	\$ (92,700,000)	0.16%
Local Governmental Employees' Retirement System	\$ 58,100,000	\$ 82,300,000	\$ 40,800,000	\$ (65,000,000)	Varies by Employer
Separate Insurance Benefits for Law Enforcement	\$ 34,400,000	\$ 55,300,000	\$ 0	\$ (20,900,000)	None
Retirees' Contributory Death Plan*	\$ 1,192,700,000	\$ 245,600,000	\$ 899,700,000	\$ 47,400,000	Varies by Age

* Deficit as of December 31, 2015, was about \$74,800,000. Deficit as of December 31, 2014, was about \$30,700,000 (prior to adoption of latest experience study). See slides 3 and 4 for more discussion.

Retirees' Contributory Death Benefit Plan - Revisited

- The current assets and contribution rates of the Retirees' Contributory Death Benefit Plan are not adequate to address the \$47.4 million gap between assets and liabilities
- In April 2016, the Board approved two such changes:
 - An increase to premiums for members who retire March 1, 2017 or later
 - The increase in premiums will help mitigate future growth of the deficit for future retirees
 - The new increased premium rates are shown on the next slide
 - A decrease in the interest paid on return of contributions to 1.20%, applicable to retirees whose death occurs prior to 24 months of coverage
- Additional changes to plan provisions or contribution rates are needed to continue to address the deficit
- Based on the GASB 74 payout projections, the assets of the Retirees' Contributory Death Benefit Plan are projected to be exhausted by 2070

Retirees' Contributory Death Benefit Plan - Revisited

The following is a schedule of sample monthly member premium rates.

Coverage Age	Monthly Rate If Elected Upon Retirement (Members who retire before March 1, 2017)	Monthly Rate If Elected in Open Enrollment (February 1, 2008 to May 31, 2008)	Monthly Rate If Elected Upon Retirement (Members who retire on or after March 1, 2017)
Less than 50	\$ 8	\$ 8.89	\$ 12.54
50	8	8.89	12.54
55	12	13.33	15.77
60	16	17.78	20.09
65	22	24.44	26.09
70	31	34.44	34.74
75	43	47.77	47.73
80	59	65.55	66.14
85	80	88.88	90.36

Certification



The assumptions, methods, and plan provisions used in the results presented in this presentation were provided in October 2017 in the “Report on the Actuarial Valuation of the Death Benefit Plans of North Carolina prepared as of December 31, 2016.”

The results were prepared under the direction of Michael Ribble and David Driscoll who meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. These results have been prepared in accordance with all applicable Actuarial Standards of Practice, and we are available to answer questions about them.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and 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.

Michael A. Ribble, FSA, EA, MAAA
Principal, Consulting Actuary

David Driscoll, FSA, EA, MAAA, FCA
Principal, Consulting Actuary

Death Benefit Plans of North Carolina

Report on the Actuarial Valuation
Prepared as of December 31, 2016

October 2017

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October 13, 2017

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Members of the Board:

This report presents the results of a valuation of the Death Benefit Plans for members of the Teachers' and State Employees' Retirement System of North Carolina (TSERS) and the North Carolina Local Governmental Employees' Retirement System (LGERS), the Separate Insurance Benefits Plan for Law Enforcement Officers, and the Retirees' Contributory Death Benefit Plan prepared as of December 31, 2016.

The 2013 Appropriations Act amended G.S. 143-166.60 to allow the assets of the Separate Insurance Benefits Plan for Law Enforcement Officers to be used to pay employer health insurance contributions and contribution rates of law enforcement officers (defined in G.S. 135-1(11c)) employed by the State and former law enforcement officers receiving a retirement allowance from TSERS, and requires these payments for fiscal years ending June 30, 2014, and June 30, 2015. The payments were made during 2014 and 2015 in the amount of approximately \$16.5 million per year. To the extent further payments are made, the results and conclusions in this report with respect to the Separate Insurance Benefits Plan for Law Enforcement Officers should not be relied upon.

The primary purpose of the valuation report is to determine the required member and employer contribution rates, to describe the current financial condition of the Retirement System, and to analyze changes in the Retirement System's condition. In addition, the report provides information that the Office of the State Controller (OSC) requires for its Comprehensive Annual Financial Report (CAFR) and it summarizes census data. Use of this report for any other purposes or by anyone other than OSC and its auditors, or North Carolina Retirement System Division and Department of State Treasurer Staff may not be appropriate and may result in mistaken conclusions because of failure to understand applicable assumptions, methods, or inapplicability of the report for that purpose. The attached pages should not be provided without a copy of this cover letter. Because of the risk of misinterpretation of actuarial results, you should ask Conduent to review any statement you wish to make on the results contained in this report. Conduent will not accept any liability for any such statement made without prior review.

The valuation is based upon membership data and financial information as furnished by the Retirement Systems Division and the Financial Operations Division and as summarized in this report. Although reviewed for reasonableness and consistency with the prior valuation, these elements have not been audited by Conduent and we cannot certify as to the accuracy and completeness of the data supplied. The valuation is also based on benefit and contribution provisions as presented in this report. If you have reason to believe that the plan provisions are incorrectly described, that important plan provisions relevant to this valuation are not described, or that conditions have changed since the calculations were made, you should contact the authors of this actuarial report prior to relying on this information.

The valuation is further based on the actuarial valuation assumptions, approved by the Board of Trustees, as presented in this report. We believe that these assumptions are appropriate and reasonable. We prepared this valuation in accordance with the requirements of this standard and in accordance with all applicable Actuarial Standards of Practice (ASOP).

The latest assumptions were adopted for use beginning with the December 31, 2015, actuarial valuation, based on the experience study prepared as of December 31, 2014, and adopted by the Board of Trustees on April 21, 2016. The economic assumptions with respect to investment yield, salary increase and inflation have been based upon a review of the existing portfolio structure as well as recent and anticipated experience.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and 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. Because of limited scope, Conduent performed no analysis of the potential range of such future differences.

I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained in this report. This report has been prepared in accordance with all applicable Actuarial Standards of Practice, and I am available to answer questions about it.

Respectfully submitted,



Michael A. Ribble, FSA, EA, MAAA
Principal, Consulting Actuary

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Section 1: Introduction

The Death Benefit Plan with respect to members covered under the TSERS became effective as of July 1, 1979, under 135-5(l) of the statutes. The Trustees of the Death Benefit Plan subsequently permitted the participation of members of the LGERS in the Plan under 128-27(l) of the statutes. Previously, death benefits were provided directly from the member's respective retirement system. The Separate Insurance Benefits Plan for Law Enforcement Officers became effective January 1, 1986 under 143-166.60 of the statutes. The Retirees' Contributory Death Benefit Plan became effective July 1, 1988 under 120-4.27 of the statutes for retired members of the LRS, under 128-27(l2) of the statutes for retired members of the LGERS, under 135-5(l) of the statutes for retired members of the TSERS and under 135-64(g) of the statutes for retired members of the CJRS.

This report presents the results of a valuation of the Plans prepared as of December 31, 2016. The principal results of the valuation and a comparison with the preceding year's results are summarized below.

Table 1: Summary of Principal Results

Valuation Year	12/31/2016	12/31/2015
Teachers' and State Employees' Retirement System Death Benefit Plan		
Liabilities	\$ 176,599,751	\$ 178,710,964
Current Assets	41,435,534	37,849,655
Present Value of Future Contributions	227,822,033	221,835,438
Surplus / (Deficit)	92,657,816	80,974,129
Local Governmental Employees' Retirement System Death Benefit Plan		
Liabilities	\$ 58,026,814	\$ 57,934,741
Current Assets	82,288,368	79,083,440
Present Value of Future Contributions	40,765,049	40,235,118
Surplus / (Deficit)	65,026,603	61,383,817
Separate Insurance Benefits Plan for Law Enforcement Officers		
Liabilities	\$ 34,406,496	\$ 33,144,045
Current Assets	55,275,270	52,545,589
Present Value of Future Contributions	0	0
Surplus / (Deficit)	20,868,774	19,401,544
Retirees' Contributory Death Benefit Plan		
Liabilities*	\$ 1,192,701,889	\$ 561,335,695
Current Assets	245,613,490	235,651,909
Present Value of Future Contributions*	899,660,220	250,879,368
Surplus / (Deficit)	(47,428,179)	(74,804,418)

*Reflects assumption change approved by the TSERS and LGERS Boards of Trustees on July 20, 2017 that 50% of future eligible members (65% if disabled) elect the Plan upon retirement.

Section 2: Membership Data

The tables below provide a summary of the membership data used in the valuation of the Teachers' and State Employees' Retirement System (TSERS) Death Benefit Plan.

Table 2: Active Member Data for the TSERS Death Benefit Plan

	Member Count	Average Age	Average Service	Reported Compensation
Classroom Teachers	151,535	43.25	10.53	\$ 6,669,898,512
Other Education	46,180	49.29	11.33	1,812,422,868
General Employees	103,872	46.55	10.70	4,821,074,622
Law Enforcement Officers	3,426	40.36	12.43	194,419,752
Total	305,013	45.26	10.73	\$ 13,497,815,754

Table 3: Disabled Member Data for the TSERS Death Benefit Plan

	Member Count	Average Age	Average Service	Valuation Compensation
Classroom Teachers	2,155	54.51	12.78	\$ 75,641,445
Other Education	795	55.72	12.49	19,973,519
General Employees	4,488	55.53	11.96	149,107,429
Law Enforcement Officers	39	49.90	15.31	5,124,805
Total	7,477	55.23	12.27	\$ 249,847,198

The table above includes members who are currently receiving a benefit from the Disability Income Plan of North Carolina.

Section 2: Membership Data

The tables below provide a summary of the membership data used in the valuations of the Local Governmental Employees’ Retirement System (LGERS) Death Benefit Plan and the Retirees’ Contributory Death Benefit Plan.

Table 4: Active Member Data for the LGERS Death Benefit Plan

	Member Count	Average Age	Average Service	Reported Compensation
General Employees	74,282	45.87	9.99	\$ 3,176,208,484
Firefighters	9,214	38.01	9.73	429,774,185
Law Enforcement Officers	20,886	39.30	11.33	1,051,197,200
Total	104,382	43.86	10.24	\$ 4,657,179,869

The table above includes employees of employers who have death benefit coverage. The number of employers in the LGERS death benefit plan as of December 31, 2016, is 549 (compared to 548 as of December 31, 2015).

Table 5: Data for the Retirees’ Contributory Death Benefit Plan

	Member Count	Average Age
Retired members currently covered under death benefit plan	119,708	68.85
Terminated members eligible to elect coverage under death benefit plan at retirement	71,484	47.63
Active members eligible to elect coverage under death benefit plan at retirement	439,867	45.11
Total	631,059	49.90

Section 2: Membership Data

The tables below provide a summary of the membership data used in the valuation of the Separate Insurance Benefits Plan for Law Enforcement Officers.

Table 6: Active Member Data for the Separate Insurance Benefits Plan

	Member Count	Average Age	Average Service	Reported Compensation
State Law Enforcement	4,428	40.35	11.30	\$ 234,793,228
Local Law Enforcement	<u>20,886</u>	<u>39.26</u>	<u>11.29</u>	<u>1,051,197,200</u>
Total	25,314	39.45	11.29	\$ 1,285,990,428

Table 7: Data for Members in Receipt of Benefits in the Separate Insurance Benefits Plan

	Member Count	Average Age
State Law Enforcement	2,637	65.21
Local Law Enforcement	<u>7,288</u>	<u>62.55</u>
Total	9,925	63.26

The table above includes all former members in TSERS and LGERS with 20 or more years of service as law enforcement officers and all former members in TSERS and LGERS who are in receipt of a disability retirement allowance.

Section 3: Asset Data

The following table shows a comparison of the financial operations during the years 2016 and 2015.

Table 8: Asset Data

Valuation Year	12/31/2016	12/31/2015
Contributions made on behalf of:		
Death Benefit Plans		
Teachers and state employees	\$ 22,663,784	\$ 23,563,869
Local governmental employees	4,717,365	2,534,367
Separate Insurance Benefits Plan	0	0
Retirees' Contributory Death Benefit Plan	<u>25,008,929</u>	<u>24,210,634</u>
Total	\$ 52,390,078	\$ 50,308,870
Death benefits paid on behalf of:		
Death Benefit Plans		
Teachers and state employees	\$ 20,494,091	\$ 20,701,135
Local governmental employees	4,917,227	4,147,839
Separate Insurance Benefits Plan*	750,000	17,182,611
Retirees' Contributory Death Benefit Plan	<u>24,936,652</u>	<u>23,633,562</u>
Total	\$ 51,097,970	\$ 65,665,147
Net investment return as of the end of the valuation year on behalf of:		
Death Benefit Plans		
Teachers and state employees	\$ 1,416,186	\$ (281,395)
Local governmental employees	3,404,790	419,879
Separate Insurance Benefits Plan	3,479,681	558,953
Retirees' Contributory Death Benefit Plan	<u>9,889,304</u>	<u>(275,459)</u>
Total	\$ 18,189,961	\$ 421,978
Assets held as of the end of the valuation year on behalf of:		
Death Benefit Plans		
Teachers and state employees	\$ 41,435,534	\$ 37,849,655
Local governmental employees	82,288,368	79,083,440
Separate Insurance Benefits Plan	55,275,270	52,545,589
Retirees' Contributory Death Benefit Plan	<u>245,613,490</u>	<u>235,651,909</u>
Total	\$ 424,612,662	\$ 405,130,593

* The death benefits paid amount shown for December 31, 2015, includes \$16,510,611 for employer health insurance contributions and contribution rates of law enforcement officers employed by the State and former law enforcement officers receiving a retirement allowance from TSERS, as allowed by the 2013 Appropriations Act.

Section 3: Asset Data

The following table shows an allocation of investments by category as of December 31, 2016.

Table 9: Allocation of Investments by Category of the Market Value of Assets

Cash and Receivables	1.9%
Fixed Income (LTIF)	98.1%
Public Equity	0.0%
Other*	<u>0.0%</u>
Total	100.0%

* Real Estate, Alternatives, Inflation and Credit.

Section 4: Results of Valuation

Death Benefit Plan for Members of the Teachers and State Employees' Retirement System (TSERS)

The actuarial valuation of the Death Benefit Plan for members of the Teachers' and State Employees' Retirement Systems as of December 31, 2016, shows that the Plan has liabilities of \$176,599,751. Against these liabilities, the Plan has present assets of \$41,435,534. Prospective contributions by the State based on a 0.16% contribution rate have a value of \$227,822,033. The present and prospective assets, which amount to \$269,257,567, exceed the liabilities of \$176,599,751 by \$92,657,816.

Since the prior valuation, probation/parole officers have been reclassified as law enforcement officers in TSERS with respect to service rendered on or after July 1, 2017. This change was made pursuant to Session Law 2017-57 (Appropriations Act of 2017). The reclassification of probation/parole officers decreased the liabilities of the Plan by \$0.2 million as of December 31, 2016.

Death Benefit Plan for Members of the Local Governmental Employees' Retirement System (LGERS)

Coverage of general employees and firefighters under the Death Benefit Plan is optional for employers participating in the Local Governmental Employees' Retirement System. Coverage is mandatory for law enforcement officers.

Appendix E of this report shows the contribution rates for general employees and firefighters calculated for the fiscal year beginning July 1, 2018, for employers who have elected death benefit coverage. The rate for law enforcement officers is 0.14% of payroll.

The death benefit was increased, effective July 1, 2004, to provide a minimum of \$25,000 and a maximum of \$50,000. The contribution rate for local units with death benefit coverage as of June 30, 2004, has not been increased for this benefit improvement. However, units electing death benefit coverage beginning July 1, 2004, will pay the full cost of the new benefit.

The actuarial valuation of the Death Benefit Plan for Members of the Local Governmental Employees' Retirement System as of December 31, 2016, shows that the Plan has total liabilities of \$58,026,814. Against these liabilities, the Plan has present assets of \$82,288,368. Prospective contributions by the participating employers have a value of \$40,765,049. The total present and prospective assets amount to \$123,053,417, which exceeds the liabilities of \$58,026,814 by \$65,026,603.

Section 4: Results of Valuation

Separate Insurance Benefits Plan for Law Enforcement Officers

Benefits payable under the Separate Insurance Benefits Plan are supported by the cost of court as provided in 7A-304(a)(3) of the statutes. However, these contributions have been suspended. The actuarial valuation of the Separate Insurance Benefits Plan for Law Enforcement Officers as of December 31, 2016, shows that the Plan has liabilities of \$34,406,496. Against these liabilities, the Plan has present assets of \$55,275,270. Since current assets are more than adequate to support the benefits, the contributions to the Plan could continue to be suspended or benefits could be improved.

The 2013 Appropriations Act amended G.S. 143-166.60 to allow the assets of the Separate Insurance Benefits Plan for Law Enforcement Officers to be used to pay employer health insurance contributions and contribution rates of law enforcement officers (defined in G.S. 135-1(11c)) employed by the State and former law enforcement officers receiving a retirement allowance from TSERS, and requires these payments for fiscal years ending June 30, 2014, and June 30, 2015. The second payment was made during 2015 in the amount of approximately \$16.5 million. To the extent further payments are made, the results and conclusions in this report with respect to the Separate Insurance Benefits Plan for Law Enforcement Officers should not be relied upon.

Since the prior valuation, probation/parole officers have been reclassified as law enforcement officers in TSERS with respect to service rendered on or after July 1, 2017. This change was made pursuant to Session Law 2017-57 (Appropriations Act of 2017). The reclassification of probation/parole officers increased the liabilities of the Plan by \$0.4 million as of December 31, 2016.

Retirees' Contributory Death Benefit Plan

Benefits payable under the Retirees' Contributory Death Benefit Plan are supported entirely by the contributions of the participants and the investment earnings on these contributions. The monthly contribution rates are shown in Appendix A.

The actuarial valuation of the Retirees' Contributory Death Benefit Plan as of December 31, 2016, shows that the Plan has liabilities of \$1,192,701,889. Against these liabilities the Plan has present assets of \$245,613,490. Prospective contributions of participants eligible for benefits have a value of \$899,660,220. The total present and prospective assets amount to \$1,145,273,710, which are less than the liabilities of \$1,192,701,889 by \$47,428,179. The current assets and contribution rates of the Retirees' Contributory Death Benefit Plan are not adequate. The plan provisions and/or contribution rates should be changed to reverse this projected shortfall.

Since the prior valuation, probation/parole officers have been reclassified as law enforcement officers in TSERS with respect to service rendered on or after July 1, 2017. This change was made pursuant to Session Law 2017-57 (Appropriations Act of 2017). Additionally, we have assumed that 50% of members not currently retired elect coverage under the Plan at retirement (65% for those who are disabled at retirement) The reclassification of probation/parole officers increased the liabilities of the Plan by \$0.07 million and increased the prospective contributions of the Plan by \$0.08 million as of December 31, 2016. The inclusion of members not currently retired increased the liabilities of the Plan by \$601 million and increased the prospective contributions of the Plan by \$638 million as of December 31, 2016.

Appendix A: Summary of Plan Provisions

Death Benefit Plan for Members of the Teachers and State Employees' Retirement System and for Members of the Local Governmental Employees' Retirement System

Upon the death of a member in active service after one year of membership, or a former member within 180 days after termination of service, or a former member in receipt of a benefit from the Disability Income Plan of North Carolina, a lump sum death benefit is payable to his designated beneficiary or legal representative. Such death benefit shall be equal to the greater of:

- (1) The compensation on which contributions were made by the member during the calendar year preceding the year in which his death occurs, or
- (2) The greatest compensation on which contributions were made by the member during the 12-month period of service within the 24-month period of service ending on the last day of the month preceding the month in which his last day of actual service occurs.

For all employees, (1) and (2) above are subject to a minimum of twenty-five thousand dollars (\$25,000) and to a maximum of fifty thousand dollars (\$50,000).

Separate Insurance Benefits Plan for Law Enforcement Officers

Upon the death of a law enforcement officer in active service, or a former law enforcement officer who had 20 or more years of service as a State or local governmental law enforcement officer, or a former law enforcement officer who is in receipt of a disability retirement allowance from any State-administered retirement system, or a former law enforcement officer in receipt of a benefit from the Disability Income Plan of North Carolina, a lump sum death benefit is payable to his surviving spouse or estate. Such death benefit shall be equal to the following:

- (1) For participants who are employed by an employer at the time of death, a benefit not to exceed \$5,000;
- (2) For participants who are eligible former officers, a benefit not to exceed \$4,000; and
- (3) For participants who die while in the actual performance of duty as an officer, an accidental line-of-duty benefit not to exceed \$2,100.

Appendix A: Summary of Plan Provisions

Retirees' Contributory Death Benefit Plan

Coverage under the Retirees' Contributory Death Benefit Plan is available to all members who are retired under the Teachers' and State Employees' Retirement System, the Local Governmental Employees' Retirement System, the Consolidated Judicial Retirement System and the Legislative Retirement System. Benefits payable under the Retirees' Contributory Death Benefit Plan are supported entirely by the contributions of participants.

The following is a schedule of sample monthly participant contribution rates under the Retirees' Contributory Death Benefit Plan.

Coverage Age	Monthly Rate If Elected Upon Retirement (Members who retire before March 1, 2017)	Monthly Rate If Elected in Open Enrollment (February 1, 2008 to May 31, 2008)	Monthly Rate If Elected Upon Retirement (Members who retire on or after March 1, 2017)
Less than 50	\$ 8	\$ 8.89	\$ 12.54
50	8	8.89	12.54
55	12	13.33	15.77
60	16	17.78	20.09
65	22	24.44	26.09
70	31	34.44	34.74
75	43	47.77	47.73
80	59	65.55	66.14
85	80	88.88	90.36

Upon the death of a participant, a lump sum death benefit is payable to his surviving spouse or estate. Such death benefit shall be equal to the following:

- (1) \$10,000, if death occurs on or after 24 months of coverage.
- (2) The total of the monthly contributions plus interest at an annual rate determined by the Board of Trustees, if death occurs before 24 months of coverage.

Changes Since Prior Valuation: None.

Appendix B: Actuarial Assumptions and Methods for TSERS Members

The assumptions described in in this section are applicable for the members of the Teachers' and State Employees' Retirement System (TSERS) who receive benefits under the TSERS Death Benefit Plan, the Separate Insurance Benefits Plan for Law Enforcement Officers, and the Retirees' Contributory Death Benefit Plan. These assumptions are based on the experience investigation prepared as of December 31, 2014, and adopted by the Board of Trustees on April 21, 2016, for use beginning with the December 31, 2015, annual actuarial valuation.

The methodology used to assess the actuarial position of each of these plans is to determine the present value of all future benefits for current employees and terminated participants and compare that total liability with the value of the current assets combined with the present value of future expected contributions from the employer(s) and/or participants, as appropriate. The result is a determination of the potential surplus or shortfall that exists when considering the total projected values of a system's liabilities and prospective assets.

Interest Rate: 3.75% per annum, compounded annually.

Inflation: Both general and wage inflation are assumed to be 3.00% per annum.

Real Wage Growth: 0.50% per annum.

Separations From Active Service: Representative values of the assumed rates of separation from active service are as follows:

Service	Annual Rates of Withdrawal							
	General Employees		Classroom Teachers		Law Enforcement Officers		Other Education	
	Male	Female	Male	Female	Male	Female	Male	Female
0	.180	.195	.190	.170	.130	.130	0.190	0.165
1	.155	.170	.160	.145	.100	.100	0.160	0.135
2	.130	.145	.140	.135	.090	.090	0.130	0.120
3	.110	.115	.120	.120	.060	.060	0.115	0.100
4	.090	.100	.095	.100	.060	.060	0.100	0.085

Age	General Employees Annual Rates of					
	Withdrawal and Vesting*		Base Mortality**		Disability	
	Male	Female	Male	Female	Male	Female
25	.0800	.1100	.0005	.0002	.0002	.0002
30	.0700	.0850	.0005	.0002	.0004	.0004
35	.0525	.0600	.0005	.0003	.0010	.0010
40	.0400	.0450	.0006	.0004	.0030	.0018
45	.0350	.0375	.0010	.0007	.0050	.0032
50	.0350	.0375	.0017	.0011	.0084	.0050
55	.0350	.0375	.0028	.0017	.0144	.0088
60	.0350	.0375	.0047	.0024	.0240	.0138
65			.0083	.0037		
69			.0125	.0057		

* These rates apply only after five years of membership in the system.

** Base mortality rates as of 2014.

Appendix B: Actuarial Assumptions and Methods for TSERS Members

Classroom Teachers Annual Rates of

Age	Withdrawal and Vesting*		Base Mortality**		Disability	
	Male	Female	Male	Female	Male	Female
25	.0800	.0900	.0003	.0001	.0001	.0002
30	.0700	.0750	.0003	.0002	.0001	.0003
35	.0450	.0450	.0004	.0002	.0003	.0006
40	.0350	.0340	.0004	.0003	.0007	.0010
45	.0325	.0325	.0007	.0006	.0014	.0018
50	.0325	.0325	.0012	.0009	.0023	.0032
55	.0325	.0325	.0020	.0014	.0047	.0055
60	.0325	.0325	.0033	.0021	.0077	.0102
65			.0058	.0031		
69			.0092	.0049		

* These rates apply only after five years of membership in the system.

** Base mortality rates as of 2014.

Other Education Employees Annual Rates of

Age	Withdrawal and Vesting*		Base Mortality**		Disability	
	Male	Female	Male	Female	Male	Female
25	.0800	.1200	.0003	.0001	.0002	.0002
30	.0600	.0700	.0003	.0002	.0004	.0004
35	.0450	.0450	.0004	.0002	.0010	.0010
40	.0400	.0400	.0004	.0003	.0030	.0018
45	.0400	.0375	.0007	.0006	.0050	.0032
50	.0400	.0375	.0012	.0009	.0084	.0050
55	.0400	.0375	.0020	.0014	.0144	.0088
60	.0400	.0375	.0033	.0021	.0240	.0138
65			.0058	.0031		
69			.0092	.0049		

* These rates apply only after five years of membership in the system.

** Base mortality rates as of 2014.

Appendix B: Actuarial Assumptions and Methods for TSERS Members

Law Enforcement Officers

Annual Rates of

Age	Withdrawal and Vesting*		Base Mortality**		Disability	
	Male	Female	Male	Female	Male	Female
	25	.0400	.0400	.0005	.0002	.0033
30	.0350	.0350	.0005	.0002	.0043	.0043
35	.0300	.0300	.0005	.0003	.0060	.0060
40	.0300	.0300	.0006	.0004	.0079	.0079
45	.0400	.0400	.0010	.0007	.0110	.0110
50	.0400	.0400	.0017	.0011	.0176	.0176
55	.0400	.0400	.0028	.0017		
60	.0400	.0400	.0047	.0024		
65			.0083	.0037		
69			.0125	.0057		

* These rates apply only after five years of membership in the system.

** Base mortality rates as of 2014.

Retirements: Representative values of the assumed rates of retirement from active service are as follows:

General Employees - Males

Age	Service						
	5	10	15	20	25	30	35
50				0.0350	0.0800	0.3500	0.2000
55				0.0500	0.1000	0.3500	0.2000
60	0.0850	0.0850	0.0850	0.0850	0.2750	0.3000	0.2250
65	0.2500	0.2750	0.2750	0.2750	0.2750	0.2750	0.2750
70	0.3250	0.2250	0.2250	0.2250	0.2250	0.2250	0.2250
75	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

General Employees - Females

Age	Service						
	5	10	15	20	25	30	35
50				0.0350	0.0600	0.4000	0.3000
55				0.0500	0.0800	0.3250	0.2250
60	0.0950	0.0950	0.0950	0.0950	0.2500	0.3000	0.2000
65	0.4000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000
70	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000
75	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Appendix B: Actuarial Assumptions and Methods for TSERS Members

Classroom Teachers - Males

Age	Service						
	5	10	15	20	25	30	35
50				0.0250	0.0650	0.3000	0.3000
55				0.0450	0.0900	0.3250	0.2500
60	0.1200	0.1200	0.1200	0.1200	0.3000	0.2500	0.2500
65	0.3000	0.3250	0.3250	0.3250	0.2000	0.2000	0.2000
70	0.2250	0.2250	0.2250	0.2250	0.2250	0.2250	0.2250
75	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Classroom Teachers - Females

Age	Service						
	5	10	15	20	25	30	35
50				0.0350	0.0550	0.2750	0.2750
55				0.0600	0.0950	0.4000	0.3000
60	0.1350	0.1350	0.1350	0.1350	0.4500	0.5000	0.3250
65	0.3500	0.3750	0.3750	0.3750	0.3500	0.3500	0.3500
70	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000
75	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Other Education Employees - Males

Age	Service						
	5	10	15	20	25	30	35
50				0.0350	0.0800	0.3000	0.1500
55				0.0400	0.1000	0.2500	0.2000
60	0.0900	0.0900	0.0900	0.0900	0.2250	0.2500	0.2500
65	0.2750	0.3000	0.3000	0.3000	0.2750	0.2750	0.2750
70	0.2250	0.2250	0.2250	0.2250	0.2250	0.2250	0.2250
75	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Other Education Employees - Females

Age	Service						
	5	10	15	20	25	30	35
50				0.0400	0.0550	0.3250	0.2250
55				0.0500	0.0900	0.2250	0.2250
60	0.1100	0.1100	0.1100	0.1100	0.2500	0.2500	0.2500
65	0.2500	0.2750	0.2750	0.2750	0.3500	0.3500	0.3500
70	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500
75	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000



Law Enforcement Officers

Age	Service						
	5	10	15	20	25	30	35
50			0.0900	0.0900	0.0900	0.6000	0.6000
55	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000
60	0.2000	0.2000	0.2000	0.2000	0.2000	0.5000	0.5000
65	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500
70	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000
75	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Salary Increases: Representative values of the assumed annual rates of salary increases are as follows:

Annual Rate of Salary Increase				
<u>Service</u>	<u>Classroom Teachers</u>	<u>Other Education Employees</u>	<u>General Employees</u>	<u>Law Enforcement Officers</u>
0	7.55%	7.00%	5.50%	8.10%
5	6.05	6.25	4.50	6.10
10	5.10	5.50	4.00	4.40
15	4.35	4.75	3.50	3.95
20	3.65	4.00	3.50	3.65
25	3.50	3.50	3.50	3.50
30	3.50	3.50	3.50	3.50
35	3.50	3.50	3.50	3.50
40	3.50	3.50	3.50	3.50
45	3.50	3.50	3.50	3.50
50	3.50	3.50	3.50	3.50

Appendix B: Actuarial Assumptions and Methods for TSERS Members

Representative values of the assumed post-retirement mortality rates in 2014 prior to any mortality improvements are as follows:

Annual Rate of Death after Retirement (Members Healthy at Retirement)

Age	Classroom Teachers & Other Education		General Employees		Law Enforcement Officers	
	Male	Female	Male	Female	Male	Female
55	.0036	.0021	.0062	.0029	.0057	.0036
60	.0048	.0030	.0084	.0042	.0078	.0052
65	.0070	.0051	.0119	.0065	.0110	.0080
70	.0114	.0082	.0181	.0104	.0168	.0129
75	.0196	.0137	.0290	.0170	.0268	.0209
80	.0448	.0329	.0555	.0394	.0447	.0348

Annual Rate of Death after Retirement (Survivors of Deceased Members and Members Disabled at Retirement)

Age	Male Survivors of Deceased Members	Female Survivors of Deceased Members	Male Retired Members Disabled at Retirement	Female Retired Members Disabled at Retirement
55	.0071	.0045	.0241	.0143
60	.0096	.0064	.0274	.0168
65	.0135	.0099	.0326	.0207
70	.0206	.0158	.0416	.0279
75	.0330	.0258	.0559	.0406
80	.0550	.0429	.0789	.0604

Deaths After Retirement (General Employees): Mortality rates are based on the RP-2014 Total Data Set for Healthy Annuitants Mortality Table. Rates for male members are multiplied by 108% for ages 50-78 and by 124% for ages greater than 78. Rates for female members are multiplied by 81% for ages 50-78 and by 113% for ages greater than 78. The RP-2014 annuitant tables have no rates prior to age 50. The RP-2014 Total Data Set Employee Mortality Table (with no adjustments) is used for ages less than 50.

Deaths After Retirement (Teachers and Other Education Employees): Mortality rates are based on the RP-2014 Total Data Set for Healthy Annuitants Mortality Table (with White-Collar Adjustment). Rates for male members are multiplied by 92% for ages 50-78 and by 120% for ages greater than 78. Rates for female members are multiplied by 78% for ages 50-78 and by 108% for ages greater than 78. The RP-2014 annuitant tables have no rates prior to age 50. The RP-2014 Total Data Set Employee Mortality Table (with White Collar Adjustment) is used for ages less than 50.

Appendix B: Actuarial Assumptions and Methods for TSERS Members

Deaths After Retirement (Law Enforcement Officers): Mortality rates are based on the RP-2014 Total Data Set for Healthy Annuitants Mortality Table. The RP-2014 annuitant tables have no rates prior to age 50. The RP-2014 Total Data Set Employee Mortality Table (with no adjustments) is used for ages less than 50.

Deaths After Retirement (Survivors of Deceased Members): Mortality rates are based on the RP-2014 Total Data Set for Healthy Annuitants Mortality Table. Rates for all members are multiplied by 123% for ages greater than 50. The RP-2014 annuitant tables have no rates prior to age 50. The RP-2014 Total Data Set Employee Mortality Table (with no adjustments) is used for ages less than 50.

Death After Retirement (Disabled Members at Retirement): Mortality rates are based on the RP-2014 Total Data Set for Disabled Annuitants Mortality Table. Rates for male members are multiplied by 103% for all ages. Rates for female members are multiplied by 99% for all ages.

Deaths Prior to Retirement: Mortality Rates are based on the RP-2014 Total Data Set Employee Mortality Table for general employees and law enforcement officers. Mortality rates are based on the RP-2014 White Collar Employee Mortality Table for teachers and other education employees.

Mortality Projection: All mortality rates are projected from 2014 using generational improvement with Scale MP-2015.

Benefit Election Assumption: We have assumed that 50% of members not currently retired elect coverage under the Retirees' Contributory Death Benefit Plan at retirement (65% for those who are disabled at retirement).

Timing of Assumptions: All withdrawals, deaths, disabilities, retirements and salary increases are assumed to occur on July 1 of each year.

Changes Since Prior Valuation: We have assumed that 50% of members not currently retired elect coverage under the Retirees' Contributory Death Benefit Plan at retirement (65% for those who are disabled at retirement).

Appendix C: Actuarial Assumptions and Methods for LGERS Members

The assumptions described in in this section are applicable for the members of the Local Governmental Employees’ Retirement System (LGERS) who receive benefits under the LGERS Death Benefit Plan, the Separate Insurance Benefits Plan for Law Enforcement Officers, and the Retirees’ Contributory Death Benefit Plan. These assumptions are based on the experience investigation prepared as of December 31, 2014 and adopted by the Board of Trustees on April 21, 2016, for use beginning with the December 31, 2015, annual actuarial valuation.

The methodology used to assess the actuarial position of each of these plans is to determine the present value of all future benefits for current employees and terminated participants and compare that total liability with the value of the current assets combined with the present value of future expected contributions from the employer(s) and/or participants, as appropriate. The result is a determination of the potential surplus or shortfall that exists when considering the total projected values of a system’s liabilities and prospective assets.

Interest Rate: 3.75% per annum, compounded annually.

Inflation: Both general and wage inflation are assumed to be 3.00% per annum.

Real Wage Growth: 0.50% per annum.

Separations From Active Service: Representative values of the assumed rates of separation from active service are as follows:

Service	Annual Rates of Withdrawal					
	General Employees		Firefighters & Rescue Squad Workers		Law Enforcement Officers	
	Male	Female	Male	Female	Male	Female
0	.1850	.2050	.1300	.1300	.1200	.1200
1	.1550	.1750	.1050	.1050	.0850	.0850
2	.1300	.1500	.0950	.0950	.0800	.0800
3	.1050	.1250	.0850	.0850	.0750	.0750
4	.0850	.1050	.0750	.0750	.0700	.0700

Age	General Employees Annual Rates of					
	Withdrawal and Vesting*		Base Mortality**		Disability	
	Male	Female	Male	Female	Male	Female
25	.0750	.1000	.0005	.0002	.0004	.0005
30	.0600	.0900	.0005	.0002	.0005	.0005
35	.0450	.0650	.0005	.0003	.0005	.0005
40	.0400	.0500	.0006	.0004	.0030	.0020
45	.0400	.0450	.0010	.0007	.0040	.0030
50	.0400	.0450	.0017	.0011	.0060	.0035
55	.0400	.0450	.0028	.0017	.0080	.0060
60	.0400	.0450	.0047	.0024	.0080	.0060
65			.0083	.0037		
69			.0125	.0057		

* These rates apply only after five years of membership in the system.

** Base mortality rates as of 2014.

Appendix C: Actuarial Assumptions and Methods for LGERS Members

Firefighters & Rescue Squad Workers

Annual Rates of

Age	Withdrawal and Vesting*		Base Mortality**		Disability	
	Male	Female	Male	Female	Male	Female
25	.0350	.0350	.0005	.0002	.0010	.0006
30	.0400	.0400	.0005	.0002	.0010	.0009
35	.0300	.0300	.0005	.0003	.0015	.0024
40	.0250	.0250	.0006	.0004	.0040	.0038
45	.0250	.0250	.0010	.0007	.0055	.0048
50	.0250	.0250	.0017	.0011	.0100	.0076
55	.0250	.0250	.0028	.0017	.0150	.0176
60	.0250	.0250	.0047	.0024	.0150	.0276
65			.0083	.0037		
69			.0125	.0057		

* These rates apply only after five years of membership in the system.

** Base mortality rates as 2014.

Law Enforcement Officers

Annual Rates of

Age	Withdrawal and Vesting*		Base Mortality**		Disability	
	Male	Female	Male	Female	Male	Female
25	.0500	.0500	.0005	.0002	.0006	.0025
30	.0500	.0500	.0005	.0002	.0010	.0030
35	.0400	.0400	.0005	.0003	.0020	.0040
40	.0300	.0300	.0006	.0004	.0030	.0050
45	.0350	.0350	.0010	.0007	.0040	.0060
50	.0350	.0350	.0017	.0011	.0040	.0070
55	.0350	.0350	.0028	.0017	.0040	.0070
60	.0350	.0350	.0047	.0024	.0040	.0070
65			.0083	.0037		
69			.0125	.0057		

* These rates apply only after five years of membership in the system.

** Base mortality rates as of 2014.

Appendix C: Actuarial Assumptions and Methods for LGERS Members

Retirements: Representative values of the assumed rates of retirement from active service are as follows:

General Employees - Male

Age	Service						
	5	10	15	20	25	30	35
50				0.0300	0.0700	0.2750	0.1500
55				0.0500	0.1000	0.2500	0.1500
60	0.1000	0.1000	0.1000	0.1000	0.2750	0.3000	0.2500
65	0.3000	0.3000	0.3000	0.3000	0.3500	0.3500	0.3500
70	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000
75	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

General Employees - Female

Age	Service						
	5	10	15	20	25	30	35
50				0.0450	0.0600	0.3000	0.2000
55				0.0600	0.0850	0.3000	0.2000
60	0.1100	0.1100	0.1100	0.1100	0.3000	0.3500	0.2500
65	0.3500	0.3500	0.3500	0.3500	0.3500	0.3500	0.3500
70	0.1500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500
75	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Firefighters & Rescue Squad Workers

Age	Service						
	5	10	15	20	25	30	35
50				0.0250	0.0850	0.3250	0.3250
55	0.0250	0.0250	0.0250	0.0250	0.1300	0.5000	0.2750
60	0.0575	0.0575	0.0575	0.0575	0.3250	0.3250	0.3250
65	0.3250	0.3250	0.3250	0.3250	0.3250	0.3250	0.3250
70	0.3250	0.3250	0.3250	0.3250	0.3250	0.3250	0.3250
75	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Law Enforcement Officers

Age	Service						
	5	10	15	20	25	30	35
50			0.0800	0.0800	0.0800	0.4000	0.4000
55	0.1000	0.3250	0.3250	0.3250	0.3250	0.7500	0.4000
60	0.1000	0.2000	0.2000	0.2000	0.2000	0.2250	0.2000
65	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000
70	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000
75	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Appendix C: Actuarial Assumptions and Methods for LGERS Members

Salary Increases: Representative values of the assumed annual rates of salary increases are as follows:

Annual Rate of Salary Increase			
<u>Service</u>	<u>General Employees</u>	<u>Firefighters & Rescue Squad Workers</u>	<u>Law Enforcement Officers</u>
0	7.75%	7.75%	7.35%
5	6.00	6.00	6.15
10	4.95	4.85	5.15
15	4.20	4.10	4.45
20	3.75	3.50	4.02
25	3.50	3.50	3.90
30	3.50	3.50	3.80
35	3.50	3.50	3.70
40	3.50	3.50	3.50
45	3.50	3.50	3.50
50	3.50	3.50	3.50

Post-Retirement Mortality: Representative values of the assumed post-retirement mortality rates as of 2014 prior to any mortality improvements are as follows:

Annual Rate of Death after Retirement (Members Healthy at Retirement)						
<u>Age</u>	<u>General Employees</u>		<u>Firefighters & Rescue Squad Workers</u>		<u>Law Enforcement Officers</u>	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
55	.0066	.0029	.0057	.0036	.0060	.0038
60	.0089	.0041	.0078	.0052	.0081	.0054
65	.0127	.0064	.0110	.0080	.0115	.0084
70	.0193	.0102	.0168	.0129	.0174	.0134
75	.0309	.0165	.0268	.0209	.0279	.0218
80	.0604	.0404	.0447	.0348	.0465	.0362

Appendix C: Actuarial Assumptions and Methods for LGERS Members

Annual Rate of Death after Retirement
(Survivors of Deceased Members and Members Disabled at Retirement)

<u>Age</u>	<u>Male Survivors of Deceased Members</u>	<u>Female Survivors of Deceased Members</u>	<u>Male Retirees Disabled at Retirement</u>	<u>Female Retirees Disabled at Retirement</u>
55	.0071	.0045	.0241	.0143
60	.0096	.0064	.0274	.0168
65	.0135	.0099	.0326	.0207
70	.0206	.0158	.0416	.0279
75	.0330	.0258	.0559	.0406
80	.0550	.0429	.0789	.0604

Deaths After Retirement (General Employees): Mortality rates are based on the RP-2014 Total Data Set for Healthy Annuitants Mortality Table. Rates for male members are multiplied by 115% for ages 50-78 and by 135% for ages greater than 78. Rates for female members are multiplied by 79% for ages 50-78 and by 116% for ages greater than 78. The RP-2014 annuitant tables have no rates prior to age 50. The RP-2014 Total Data Set Employee Mortality Table (with no adjustments) is used for ages less than 50.

Deaths After Retirement (Firefighters and Rescue Squad Workers): Mortality rates are based on the RP-2014 Total Data Set for Healthy Annuitants Mortality Table. The RP-2014 annuitant tables have no rates prior to age 50. The RP-2014 Total Data Set Employee Mortality Table (with no adjustments) is used for ages less than 50.

Deaths After Retirement (Law Enforcement Officers): Mortality rates are based on the RP-2014 Total Data Set for Healthy Annuitants Mortality Table. Rates for all members are multiplied by 104% for ages greater than 50. The RP-2014 annuitant tables have no rates prior to age 50. The RP-2014 Total Data Set Employee Mortality Table (with no adjustments) is used for ages less than 50.

Deaths After Retirement (Survivors of Deceased Members): Mortality rates are based on the RP-2014 Total Data Set for Healthy Annuitants Mortality Table. Rates for all members are multiplied by 123% for ages greater than 50. The RP-2014 Total Data Set Employee Mortality Table (with no adjustments) is used for ages less than 50.

Deaths After Retirement (Disabled Members at Retirement): Mortality rates are based on the RP-2014 Total Data Set for Disabled Annuitants Mortality Table. Rates for male members are multiplied by 103% for all ages. Rates for female members are multiplied by 99% for all ages.

Deaths Prior to Retirement: Mortality rates are based on the RP-2014 Total Data Set Employee Mortality Table.

Appendix C: Actuarial Assumptions and Methods for LGERS Members

Line-of-Duty Deaths: 50% of deaths prior to retirement for firefighters, rescue squad workers and law enforcement officers are assumed to occur in the line-of-duty.

Mortality Projection: All mortality rates are projected from 2014 using generational improvement with Scale MP-2015.

Benefit Election Assumption: We have assumed that 50% of members not currently retired elect coverage under the Retirees' Contributory Death Benefit Plan at retirement (65% for those who are disabled at retirement).

Timing of Assumptions: All withdrawals, deaths, disabilities, retirements and salary increases are assumed to occur July 1 of each year.

Changes Since Prior Valuation: We have assumed that 50% of members not currently retired elect coverage under the Retirees' Contributory Death Benefit Plan at retirement (65% for those who are disabled at retirement).

Appendix D: Actuarial Assumptions and Methods for CJRS Members

The assumptions described in in this section are applicable for the members of the Consolidated Judicial Retirement System (CJRS) who receive benefits under the Retirees’ Contributory Death Benefit Plan. These assumptions are based on the experience investigation prepared as of December 31, 2014, and adopted by the Board of Trustees on April 21, 2016, for use beginning with the December 31, 2015, annual actuarial valuation.

The methodology used to assess the actuarial position of each of these plans is to determine the present value of all future benefits for current employees and terminated participants and compare that total liability with the value of the current assets combined with the present value of future expected contributions from the employer(s) and/or participants, as appropriate. The result is a determination of the potential surplus or shortfall that exists when considering the total projected values of a system’s liabilities and prospective assets.

Interest Rate: 3.75% per annum, compounded annually.

Inflation: General inflation is assumed to be 3.00% per annum.

Withdrawal: No termination of employment is assumed to occur prior to retirement, other than death or disability.

Separations Before Retirement: Representative values of the assumed annual rates of separation are as follows:

Annual Rate of

Age	Disability		Base Mortality*	
	Male & Female	Male	Female	
25	.0001	.0005	.0002	
30	.0001	.0005	.0002	
35	.0003	.0005	.0003	
40	.0007	.0006	.0004	
45	.0014	.0010	.0007	
50	.0023	.0017	.0011	
55	.0047	.0028	.0017	
60	.0077	.0047	.0024	
64	.0098	.0074	.0034	

* Base mortality rates as of 2014.

Service Retirement: Representative values of the assumed annual rates of service retirement are as follows:

Age	Service					
	5	10	15	20	25	30
50					.150	.150
55	.025	.025	.025	.025	.150	.150
60	.025	.025	.025	.025	.125	.125
65	.100	.100	.100	.100	.100	.100
70	.500	.500	.500	.500	.500	.500

Appendix D: Actuarial Assumptions and Methods for CJRS Members

Deaths After Retirement: Representative values of the assumed post-retirement mortality rates in 2014 prior to any mortality improvements are as follows:

Annual Rate of Death after Retirement
(Retired Members and Survivors of Deceased Members)

Age	Retirees (Healthy at Retirement)		Survivors of Deceased Members		Retirees (Disabled at Retirement)	
	Male	Female	Male	Female	Male	Female
55	.0057	.0036	.0057	.0036	.0234	.0145
60	.0078	.0052	.0078	.0052	.0266	.0170
65	.0110	.0080	.0110	.0080	.0317	.0209
70	.0168	.0129	.0168	.0129	.0403	.0282
75	.0268	.0209	.0268	.0209	.0543	.0410
80	.0447	.0348	.0447	.0348	.0766	.0610

Deaths After Retirement (Healthy Members at Retirement and Survivors of Deceased Members): Mortality rates are based on the RP-2014 Total Data Set for Healthy Annuitants Mortality Table. The RP-2014 annuitant tables have no rates prior to age 50. The RP-2014 Total Data Set Employee Mortality Table (with no adjustments) is used for ages less than 50.

Deaths After Retirement (Disabled Members at Retirement): Mortality rates are based on the RP-2014 Total Data Set for Disabled Annuitants Mortality Table.

Deaths Prior to Retirement: Mortality rates are based on the RP-2014 Total Data Set Employee Mortality Table.

Mortality Projection: All mortality rates are projected from 2014 using generational improvement with Scale MP-2015.

Benefit Election Assumption: We have assumed that 50% of members not currently retired elect coverage under the Retirees' Contributory Death Benefit Plan at retirement (65% for those who are disabled at retirement).

Timing of Assumptions: All withdrawals, deaths, disabilities, retirements and salary increases are assumed to occur July 1 of each year.

Changes Since Prior Valuation: We have assumed that 50% of members not currently retired elect coverage under the Retirees' Contributory Death Benefit Plan at retirement (65% for those who are disabled at retirement).

Appendix E: Actuarial Assumptions and Methods for LRS Members

The assumptions described in in this section are applicable for the members of the Legislative Retirement System (LRS) who receive benefits under the Retirees’ Contributory Death Benefit Plan. These assumptions are based on the experience investigation prepared as of December 31, 2014, and adopted by the Board of Trustees on April 21, 2016, for use beginning with the December 31, 2015, annual actuarial valuation.

The methodology used to assess the actuarial position of each of these plans is to determine the present value of all future benefits for current employees and terminated participants and compare that total liability with the value of the current assets combined with the present value of future expected contributions from the employer(s) and/or participants, as appropriate. The result is a determination of the potential surplus or shortfall that exists when considering the total projected values of a system’s liabilities and prospective assets.

Interest Rate: 3.75% per annum, compounded annually.

Inflation: General inflation is assumed to be 3.00% per annum.

Separations Before Retirement: Representative values of the assumed annual rates of separation are as follows:

Annual Rate of				
<u>Age</u>	<u>Disability</u>	<u>Base Mortality*</u>		<u>Withdrawal</u>
		<u>Male</u>	<u>Female</u>	
25	.0001	.0005	.0002	.0500
30	.0004	.0005	.0002	.0500
35	.0010	.0005	.0003	.0500
40	.0029	.0006	.0004	.0500
45	.0049	.0010	.0007	.0500
50	.0084	.0017	.0011	.0500
55	.0144	.0028	.0017	.0500
60		.0047	.0024	.0500
64		.0074	.0034	.0500

Service Retirement: Representative values of the assumed annual rates of service retirement are as follows:

<u>Age</u>	Service					
	<u>5</u>	<u>10</u>	<u>15</u>	<u>20</u>	<u>25</u>	<u>30</u>
60	.100	.100	.100	.100	.100	.100
65	.250	.250	.250	.250	.250	.250
70	.150	.150	.150	.150	.150	.150
75	1.000	1.000	1.000	1.000	1.000	1.000

Appendix E: Actuarial Assumptions and Methods for LRS Members

Deaths After Retirement: Representative values of the assumed post-retirement mortality rates in 2014 prior to any mortality improvements are as follows:

Annual Rate of Death after Retirement
(Retired Members and Survivors of Deceased Members)

Age	Retirees (Healthy at Retirement)		Survivors of Deceased Members		Retirees (Disabled at Retirement)	
	Male	Female	Male	Female	Male	Female
55	.0057	.0036	.0057	.0036	.0234	.0145
60	.0078	.0052	.0078	.0052	.0266	.0170
65	.0110	.0080	.0110	.0080	.0317	.0209
70	.0168	.0129	.0168	.0129	.0403	.0282
75	.0268	.0209	.0268	.0209	.0543	.0410
80	.0447	.0348	.0447	.0348	.0766	.0610

Deaths After Retirement (Healthy Members at Retirement and Survivors of Deceased Members): Mortality rates are based on the RP-2014 Total Data Set for Healthy Annuitants Mortality Table. The RP-2014 annuitant tables have no rates prior to age 50. The RP-2014 Total Data Set Employee Mortality Table (with no adjustments) is used for ages less than 50.

Deaths After Retirement (Disabled Members at Retirement): Mortality rates are based on the RP-2014 Total Data Set for Disabled Annuitants Mortality Table.

Deaths Prior to Retirement: Mortality rates are based on the RP-2014 Total Data Set Employee Mortality Table.

Mortality Projection: All mortality rates are projected from 2014 using generational improvement with Scale MP-2015.

Benefit Election Assumption: We have assumed that 50% of members not currently retired elect coverage under the Retirees' Contributory Death Benefit Plan at retirement (65% for those who are disabled at retirement).

Timing of Assumptions: All withdrawals, deaths, disabilities, retirements and salary increases are assumed to occur July 1 of each year.

Changes Since Prior Valuation: We have assumed that 50% of members not currently retired elect coverage under the Retirees' Contributory Death Benefit Plan at retirement (65% for those who are disabled at retirement).

Appendix F: Contribution Rates Payable by Local Employers for Death Benefit Coverage

The table below provides the contribution rate payable by Local employers for death benefit coverage for fiscal year beginning July 1, 2018

Employer Code	Employer	Contribution Rate
90001	Yancey County	0.10%
90011	Burnsville, Town Of	0.07%
90092	Martin-Tyrell-Washington D.H.D	0.06%
90096	Pas.-Per.-Camden-Chowan D.H.D.	0.08%
90098	Toe River District Health Department	0.06%
90099	Appalachian District Health Department	0.03%
90101	Alamance County	0.06%
90111	Burlington, City Of	0.08%
90117	Burlington-Graham A.B.C. Board	0.23%
90131	Elon College, Town Of	0.04%
90201	Alexander County	0.08%
90203	Alexander County Health Department	0.06%
90205	Alexander County Library	0.09%
90206	Alexander County Welfare Department	0.05%
90301	Alleghany County	0.07%
90305	Northwestern Regional Library	0.11%
90401	Anson County	0.10%
90411	Wadesboro, Town Of	0.07%
90413	Wadesboro Housing Authority	0.08%
90417	Wadesboro A.B.C. Board	0.12%
90421	Lilesville, Town Of	0.04%
90431	Polkton, Town Of	0.15%
90501	Ashe County	0.07%
90601	Avery County	0.14%
90605	Avery-Mitchell-Yancey Dist. Library	0.14%
90617	High Country Municipal A.B.C. Board	0.12%
90701	Beaufort County	0.05%
90704	Beaufort County A.B.C. Board	0.24%
90705	B.H.M. Regional Library	0.08%
90709	Mideast Economic Development Comm	0.05%
90711	Washington, City Of	0.07%
90721	Aurora, Town Of	0.13%
90804	Bertie County A.B.C. Board	0.11%
90805	Albemarle Regional Library	0.21%
90808	Bertie-Martin Regional Jail Comm	0.12%
90811	Aulander, Town Of	0.03%
90813	Colerain, Town Of	0.17%
90901	Bladen County	0.07%
90911	Elizabethtown, Town Of	0.10%
90918	Southeastern Economic Develop. Com	0.02%
90921	White Lake, Town Of	0.11%
90931	Clarkton, Town Of	0.05%
91001	Brunswick County	0.06%
91003	Brunswick County Health Department	0.05%
91006	Brunswick County Welfare Department	0.04%

Appendix F: Contribution Rates Payable by Local Employers for Death Benefit Coverage

The table below provides the contribution rate payable by Local employers for death benefit coverage for fiscal year beginning July 1, 2018

Employer Code	Employer	Contribution Rate
91011	Southport, City Of	0.09%
91013	Southeast Brunswick Sanitary District	0.36%
91017	Southport A.B.C. Board	0.48%
91021	Oak Island, Town Of	0.08%
91027	Oak Island A.B.C. Board	0.14%
91041	Sunset Beach, Town Of	0.05%
91047	Sunset Beach A.B.C. Board	0.31%
91057	Shalotte A.B.C. Board	0.34%
91061	Ocean Isle Beach, Town Of	0.07%
91067	Ocean Isle A.B.C. Board	0.28%
91071	Boiling Spring Lakes, City Of	0.08%
91091	Bald Head Island, Village Of	0.05%
91101	Buncombe County	0.04%
91102	Land-Of-Sky Regional Council	0.06%
91107	Western Nc Regional Air Pollution Control	0.03%
91108	Metro Sewerage Dist Of Buncombe County	0.08%
91109	Woodfin Sanitary Water & Sewer District	0.07%
91127	Asheville A.B.C. Board	0.10%
91128	Asheville Regional Airport Authority	0.07%
91151	Black Mountain, Town Of	0.05%
91154	Black Mountain A.B.C. Board	0.08%
91161	Montreat, Town Of	0.11%
91201	Burke County	0.07%
91203	Burke County Health Department	0.07%
91206	Burke County Welfare Department	0.05%
91211	Valdese, Town Of	0.09%
91217	Morganton A.B.C. Board	0.28%
91221	Drexel, Town Of	0.06%
91233	Morganton Housing Authority	0.05%
91241	Glen Alpine, Town Of	0.26%
91301	Cabarrus County	0.05%
91302	Water & Sewer Authority Of Cabarrus County	0.04%
91306	Cabarrus Co. Public Health Auth	0.04%
91311	Concord, City Of	0.05%
91317	Concord A.B.C. Board	0.12%
91327	Mt. Pleasant A.B.C. Board	0.20%
91331	Kannapolis, Town Of	0.05%
91401	Caldwell County	0.07%
91411	Granite Falls, Town Of	0.07%
91417	Granite Falls A.B.C. Board	0.17%
91423	Lenoir Housing Authority	0.05%
91501	Camden County	0.09%
91504	Camden County A.B.C. Board	0.21%
91601	Carteret County	0.09%
91604	Carteret County A.B.C. Board	0.14%

Appendix F: Contribution Rates Payable by Local Employers for Death Benefit Coverage

The table below provides the contribution rate payable by Local employers for death benefit coverage for fiscal year beginning July 1, 2018

Employer Code	Employer	Contribution Rate
91611	Morehead City, Town Of	0.06%
91631	Beaufort, Town Of	0.07%
91641	Pine Knoll Shores, Town Of	0.04%
91671	Cape Carteret, Town Of	0.05%
91681	Atlantic Beach, Town Of	0.17%
91701	Caswell County	0.08%
91704	Caswell County A.B.C. Board	0.16%
91706	Caswell County Welfare Department	0.09%
91719	Yanceyville, Town Of	0.05%
91801	Catawba County	0.05%
91804	Catawba County A.B.C. Board	0.24%
91811	Hickory, City Of	0.06%
91813	Hickory Housing Authority	0.06%
91819	Western Piedmont Regional Transit Authority	0.31%
91821	Claremont, Town Of	0.06%
91831	Maiden, Town Of	0.09%
91841	Long View, Town Of	0.09%
91851	Conover, Town Of	0.09%
91871	Newton, Town Of	0.07%
91901	Chatham County	0.06%
91911	Siler City, Town Of	0.09%
91917	Siler City A.B.C. Board	0.12%
91921	Pittsboro, Town Of	0.07%
92001	Cherokee County	0.11%
92005	Nantahala Regional Library	0.14%
92011	Murphy, Town Of	0.14%
92017	Murphy A.B.C. Board	0.05%
92101	Chowan County	0.08%
92104	Chowan County A.B.C. Board	0.16%
92109	Albemarle Regional Plan. & Develop. Com	0.04%
92111	Edenton, Town Of	0.10%
92113	The New Edenton Housing Authority	0.15%
92201	Clay County	0.10%
92301	Cleveland County	0.06%
92311	Shelby, City Of	0.07%
92317	Shelby A.B.C. Board	0.15%
92327	Kings Mountain A.B.C. Board	0.17%
92331	Boiling Springs, Town Of	0.19%
92351	Grover, Town Of	0.10%
92401	Columbus County	0.10%
92411	Whiteville, City Of	0.07%
92417	Whiteville A.B.C. Board	0.02%
92427	Lake Waccamaw A.B.C. Board	0.75%
92501	Craven County	0.07%
92504	Craven County A.B.C. Board	0.13%

Appendix F: Contribution Rates Payable by Local Employers for Death Benefit Coverage

The table below provides the contribution rate payable by Local employers for death benefit coverage for fiscal year beginning July 1, 2018

Employer Code	Employer	Contribution Rate
92505	Craven-Pamlico-Carteret Regional Library	0.17%
92506	Craven County Airport Authority	0.22%
92507	Neuse River Council Of Governments	0.05%
92508	Coastal Regional Waste Management Authority	0.09%
92511	New Bern, City Of	0.07%
92513	Trillium Health Resources	0.04%
92521	Trent Woods, Town Of	0.07%
92531	Havelock, City Of	0.06%
92601	Cumberland County	0.06%
92604	Cumberland County A.B.C. Board	0.10%
92607	Region M Council Of Governments	0.05%
92611	Fayetteville, City Of	0.06%
92613	Fayetteville Metro. Housing Authority	0.07%
92631	Hope Mills, Town Of	0.06%
92661	Spring Lake, Town Of	0.10%
92681	Eastover, Town Of	0.31%
92701	Currituck County	0.06%
92801	Dare County	0.07%
92802	Dare County Tourism Board	0.05%
92804	Dare County A.B.C. Board	0.11%
92811	Nags Head, Town Of	0.06%
92821	Kill Devil Hills, Town Of	0.07%
92831	Manteo, Town Of	0.22%
92841	Southern Shores, Town Of	0.05%
92851	Kitty Hawk, Town Of	0.18%
92901	Davidson County	0.07%
92911	Thomasville, City Of	0.09%
92917	Lexington A.B.C. Board	0.24%
92931	Lexington, City Of	0.07%
93001	Davie County	0.06%
93011	Mocksville, Town Of	0.07%
93101	Duplin County	0.09%
93108	Duplin-Sampson Area Mental Health	0.05%
93111	Beulaville, Town Of	0.05%
93121	Kenansville, Town Of	0.07%
93141	Faison, Town Of	0.09%
93161	Rose Hill, Town Of	0.10%
93201	Durham County	0.05%
93204	Durham County A.B.C. Board	0.08%
93219	Triangle J Council Of Governments	0.04%
93301	Edgecombe County	0.08%
93304	Edgecombe County A.B.C. Board	0.18%
93305	Edgecombe-Nash Memorial Library	0.07%
93309	Region L Council Of Governments	0.08%
93311	Tarboro, Town Of	0.07%

Appendix F: Contribution Rates Payable by Local Employers for Death Benefit Coverage

The table below provides the contribution rate payable by Local employers for death benefit coverage for fiscal year beginning July 1, 2018

Employer Code	Employer	Contribution Rate
93317	Tarboro Redevelopment Commission	0.06%
93321	Rocky Mount, City Of	0.06%
93323	Rocky Mount-Wilson Airport Authority	0.10%
93331	Pinetops, Town Of	0.08%
93341	Macclesfield, Town Of	0.05%
93406	Piedmont Triad Regional Council	0.14%
93413	Winston-Salem Housing Authority	0.07%
93417	Winston-Salem A.B.C. Board	0.14%
93431	Rural Hall, Town Of	0.07%
93501	Franklin County	0.09%
93517	Franklinton A.B.C. Board	0.22%
93521	Louisburg, Town Of	0.08%
93527	Louisburg A.B.C. Board	0.18%
93601	Gaston County	0.05%
93602	Stanley, Town Of	0.07%
93609	Gaston-Lincoln Area Mental Health	0.05%
93610	Mcadenville, Town Of	0.04%
93617	Gastonia A.B.C. Board	0.40%
93631	Cramerton, Town Of	0.20%
93641	Cherryville, City Of	0.10%
93671	Bessemer City, City Of	0.18%
93691	Mt. Holly, City Of	0.06%
93701	Gates County	0.07%
93704	Gates County A.B.C. Board	0.19%
93803	Graham County Health Department	0.04%
93806	Graham County Welfare Department	0.06%
93821	Robbinsville, Town Of	0.08%
93901	Granville County	0.07%
93904	Granville County A.B.C. Board	0.19%
93906	Granville County Hospital	0.04%
93908	Granville-Vance Health District	0.05%
93910	South Granville Water And Sewer Authority	0.16%
93911	Oxford, City Of	0.08%
93913	Oxford Housing Authority	0.06%
93914	Stovall, Town Of	0.64%
93931	Butner, Town Of	0.14%
94001	Greene County	0.11%
94004	Greene County A.B.C. Board	0.14%
94011	Hookerton, Town Of	0.02%
94101	Guilford, County Of	0.05%
94111	Greensboro, City Of	0.06%
94112	Piedmont Triad Regional Water Authority	0.08%
94117	Greensboro A.B.C. Board	0.09%
94121	High Point, City Of	0.06%
94127	High Point A.B.C. Board	0.10%

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Employer Code	Employer	Contribution Rate
94131	Jamestown, Town Of	0.07%
94151	Gibsonville, Town Of	0.07%
94172	Summerfield Fire District	0.04%
94201	Halifax County	0.06%
94204	Halifax County A.B.C. Board	0.13%
94205	Halifax County Tourism Development Authority	0.09%
94209	Roanoke Rapids Sanitary District	0.07%
94211	Enfield, Town Of	0.22%
94221	Roanoke Rapids, City Of	0.07%
94231	Weldon, Town Of	0.12%
94241	Scotland Neck, Town Of	0.12%
94251	Hobgood, Town Of	0.07%
94301	Harnett County	0.06%
94311	Dunn, Town Of	0.08%
94313	Dunn Housing Authority	0.21%
94317	Dunn A.B.C. Board	0.04%
94321	Lillington, Town Of	0.05%
94331	Erwin, Town Of	0.09%
94341	Coats, Town Of	0.08%
94347	Angier A.B.C. Board	0.15%
94401	Haywood County	0.07%
94408	Junaluska Sanitary District	0.06%
94411	Waynesville, Town Of	0.08%
94412	Waynesville A.B.C. Board	0.20%
94431	Canton, Town Of	0.06%
94501	Henderson County	0.06%
94511	Hendersonville, City Of	0.06%
94521	Laurel Park, Town Of	0.12%
94527	Laurel Park A.B.C. Board	0.08%
94532	Blue Ridge Fire Department	0.08%
94551	Mills River, Town Of	0.31%
94601	Hertford County	0.09%
94604	Hertford County A.B.C. Board	0.12%
94606	Hertford County Public Health Authority	0.10%
94611	Ahoskie, Town Of	0.13%
94631	Winton, Town Of	0.25%
94701	Hoke County	0.08%
94704	Hoke County A.B.C. Board	0.18%
94711	Raeford, Town Of	0.10%
94801	Hyde County	0.09%
94812	Ocracoke Sanitary District	0.12%
94901	Iredell County	0.06%
94911	Statesville, City Of	0.07%
94917	Statesville A.B.C. Board	0.18%
94921	Mooresville, City Of	0.05%

Appendix F: Contribution Rates Payable by Local Employers for Death Benefit Coverage

The table below provides the contribution rate payable by Local employers for death benefit coverage for fiscal year beginning July 1, 2018

Employer Code	Employer	Contribution Rate
94923	Mooresville Housing Authority	0.06%
94927	Mooresville A.B.C. Board	0.09%
94931	Troutman, Town Of	0.14%
95001	Jackson County	0.08%
95002	Tuckaseegee Water And Sewer Auth	0.08%
95005	Fontana Regional Library	0.11%
95008	Southwestern Plan. & Econ. Dev. Co	0.07%
95009	Smoky Mountain Mental Health Center	0.05%
95011	Sylva, Town Of	0.08%
95017	Sylva A.B.C. Board	0.12%
95101	Johnston County	0.05%
95104	Johnston County A.B.C. Board	0.17%
95105	Johnston County Public Library	0.07%
95110	Johnston County Memorial Hospital Authority	0.10%
95111	Smithfield, Town Of	0.08%
95121	Selma, Town Of	0.08%
95123	Selma Housing Authority	0.07%
95131	Clayton, Town Of	0.06%
95141	Benson, Town Of	0.05%
95201	Jones County	0.06%
95204	Jones County A.B.C. Board	0.18%
95205	Neuse Regional Library - Jones County	0.23%
95211	Pollocksville, Town Of	0.26%
95301	Lee County	0.07%
95317	Sanford A.B.C. Board	0.22%
95321	Broadway, Town Of	0.11%
95401	Lenoir County	0.07%
95404	Lenoir County A.B.C. Board	0.08%
95405	Neuse Regional Library	0.14%
95411	Kinston, City Of	0.10%
95413	Kinston Housing Authority	0.07%
95415	Kinston-Lenoir County Library	0.10%
95421	Pink Hill, Town Of	0.05%
95431	Lagrange, Town Of	0.04%
95501	Lincoln County	0.08%
95511	Lincolnton, City Of	0.08%
95513	Lincolnton Housing Authority	0.10%
95517	Lincolnton A.B.C. Board	0.24%
95601	Macon County	0.08%
95611	Franklin, Town Of	0.07%
95617	Highlands A.B.C. Board	0.23%
95701	Madison County	0.09%
95711	Mars Hill, Town Of	0.07%
95721	Marshall, Town Of	0.09%
95801	Martin County	0.09%

Appendix F: Contribution Rates Payable by Local Employers for Death Benefit Coverage

The table below provides the contribution rate payable by Local employers for death benefit coverage for fiscal year beginning July 1, 2018

Employer Code	Employer	Contribution Rate
95802	Martin County Travel & Tourism Authority	0.49%
95804	Martin County A B C Board	0.04%
95813	Williamston Housing Authority	0.09%
95831	Hamilton, Town Of	0.18%
95901	Mc Dowell County	0.08%
95911	Marion, Town Of	0.09%
96001	Mecklenburg County	0.05%
96004	Mecklenburg County A.B.C. Board	0.10%
96005	Charlotte-Mecklenburg Public Libra	0.05%
96008	Mecklenburg County Ems Agency	0.03%
96021	Pineville, Town Of	0.05%
96031	Mint Hill, Town Of	0.05%
96061	Stallings, Town Of	0.11%
96071	Matthews, Town Of	0.07%
96081	Davidson, Town Of	0.09%
96101	Mitchell County	0.11%
96111	Spruce Pine, Town Of	0.16%
96201	Montgomery County	0.08%
96204	Montgomery-Municipal A.B.C. Board	0.12%
96251	Mount Gilead, Town Of	0.06%
96301	Moore County	0.06%
96304	Moore County A.B.C. Board	0.20%
96310	Moore County Airport Authority	0.11%
96311	Southern Pines, Town Of	0.06%
96321	Vass, Town Of	0.17%
96331	Aberdeen, Town Of	0.11%
96351	Pinehurst, Village Of	0.07%
96361	Pinebluff, Town Of	0.20%
96371	Whispering Pines, Village Of	0.06%
96381	Foxfire Village	0.07%
96401	Nash County	0.06%
96404	Nash County A.B.C. Board	0.12%
96421	Nashville, Town Of	0.08%
96431	Middlesex, Town Of	0.15%
96501	New Hanover County	0.06%
96502	New Hanover Airport Authority	0.05%
96508	Lower Cape Fear Water & Sewer Auth	0.56%
96511	Wrightsville Beach, Town Of	0.07%
96601	Northampton County	0.08%
96604	Northampton County A.B.C. Board	0.25%
96701	Onslow County	0.06%
96704	Onslow County A.B.C. Board	0.12%
96708	Onslow Water & Sewage Authority	0.13%
96711	Jacksonville, City Of	0.07%
96721	Swansboro, Town Of	0.07%

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Employer Code	Employer	Contribution Rate
96731	Holly Ridge, Town Of	0.11%
96733	Holly Ridge Housing Authority	0.05%
96751	North Topsail Beach, Town Of	0.15%
96801	Orange County	0.05%
96804	Orange County A.B.C. Board	0.07%
96808	Orange Water & Sewer Authority	0.05%
96811	Chapel Hill, Town Of	0.07%
96821	Carrboro, Town Of	0.06%
96831	Hillsborough, Town Of	0.05%
96901	Pamlico County	0.08%
96918	Bay River Metro Sewerage District	0.16%
97001	Pasquotank County	0.10%
97002	Pasquotank-Camden Ambulance Service	0.07%
97004	Pasquotank County A.B.C Board	0.20%
97005	East Albemarle Regional Library	0.06%
97011	Elizabeth City	0.07%
97015	Pasquotank-Camden Library	0.11%
97018	Elizabeth-Pasquotank Co Ind Dev Co	0.27%
97101	Pender County	0.07%
97104	Pender County A.B.C. Board	0.12%
97121	Topsail Beach, Town Of	0.10%
97131	Surf City	0.07%
97201	Perquimans County	0.09%
97211	Hertford, Town Of	0.10%
97217	Hertford A.B.C. Board	0.22%
97301	Person County	0.07%
97304	Person County A.B.C. Board	0.20%
97311	Roxboro, City Of	0.08%
97401	Pitt County	0.05%
97404	Pitt County A.B.C. Board	0.05%
97405	Sheppard Memorial Library	0.10%
97408	Contentnea Metro. Sewage District	0.09%
97411	Greenville, City Of	0.05%
97412	Greenville Utilities Commission	0.04%
97413	Greenville Housing Authority	0.10%
97421	Farmville, City Of	0.08%
97431	Grifton, Town Of	0.14%
97441	Bethel, Town Of	0.08%
97451	Winterville, Town Of	0.05%
97471	Grimesland, Town Of	0.20%
97501	Polk County	0.10%
97511	Tryon, Town Of	0.11%
97531	Saluda, Town Of	0.02%
97601	Randolph County	0.06%
97611	Asheboro, City Of	0.08%

Appendix F: Contribution Rates Payable by Local Employers for Death Benefit Coverage

The table below provides the contribution rate payable by Local employers for death benefit coverage for fiscal year beginning July 1, 2018

Employer Code	Employer	Contribution Rate
97613	Asheboro Housing Authority	0.11%
97621	Randleman, City Of	0.07%
97623	Randleman Housing Authority	0.07%
97627	Randleman A.B.C. Board	0.04%
97631	Liberty, Town Of	0.06%
97637	Liberty A.B.C. Board	0.19%
97651	Archdale, City Of	0.11%
97701	Richmond County	0.08%
97705	Sandhill Regional Library	0.06%
97711	Rockingham, City Of	0.09%
97713	Rockingham Housing Authority	0.04%
97717	Hamlet A.B.C. Board	0.07%
97721	Hamlet, City Of	0.09%
97727	Rockingham A.B.C. Board	0.10%
97801	Robeson County	0.06%
97802	Lumber River Council Of Governments	0.04%
97803	Robeson County Housing Authority	0.22%
97805	Robeson County Public Library	0.13%
97811	Lumberton, City Of	0.08%
97821	Fairmont, Town Of	0.18%
97823	Fairmont Housing Authority	0.08%
97831	St. Pauls, Town Of	0.10%
97840	Maxton, Town Of	0.11%
97847	Maxton A.B.C. Board	0.18%
97851	Pembroke, Town Of	0.12%
97861	Rowland, Town Of	0.39%
97871	Red Springs, Town Of	0.11%
97901	Rockingham County	0.06%
97911	Reidsville, Town Of	0.09%
97913	New Reidsville Housing Authority	0.17%
97917	Reidsville A.B.C. Board	0.06%
97921	Mayodan, Town Of	0.18%
97941	Madison, Town Of	0.12%
98001	Rowan County	0.06%
98004	Rowan County A.B.C. Board	0.19%
98011	Salisbury, City Of	0.07%
98021	East Spencer, Town Of	0.13%
98023	East Spencer Housing Authority	0.08%
98031	Spencer, Town Of	0.14%
98041	China Grove, Town Of	0.06%
98061	Granite Quarry, Town Of	0.05%
98091	Cleveland, Town Of	0.12%
98101	Rutherford County	0.08%
98102	Broad River Water Authority	0.05%
98103	Rutherford-Polk-Mc Dowell D.H.D	0.06%

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Employer Code	Employer	Contribution Rate
98109	Isothermal Planning & Develop Comm	0.07%
98111	Forest City	0.07%
98121	Spindale, Town Of	0.06%
98141	Rutherfordton, Town Of	0.11%
98201	Sampson County	0.06%
98205	J.C. Holliday Memorial Library	0.11%
98211	Clinton, City Of	0.08%
98218	Clinton A.B.C. Board	0.07%
98221	Salemburg, Town Of	0.09%
98231	Newton Grove, Town Of	0.03%
98241	Garland, Town Of	0.15%
98251	Turkey, Town Of	0.15%
98261	Roseboro, Town Of	0.13%
98271	Autryville, Town Of	0.70%
98301	Scotland County	0.08%
98304	Scotland County A.B.C. Board	0.16%
98311	Laurinburg, City Of	0.06%
98313	Laurens Housing Authority	0.13%
98321	Wagram, Town Of	0.09%
98401	Stanly County	0.09%
98411	Albemarle, City Of	0.07%
98421	Norwood, Town Of	0.25%
98451	Badin, Town Of	0.08%
98501	Stokes County	0.08%
98511	Walnut Cove, Town Of	0.11%
98521	King, Town Of	0.05%
98601	Surry County	0.06%
98611	Pilot Mountain, Town Of	0.10%
98621	Dobson, Town Of	0.09%
98631	Mount Airy, Town Of	0.16%
98637	Mt. Airy Alcoholic Board Of Control	0.17%
98641	Elkin, Town Of	0.08%
98701	Swain County	0.08%
98711	Bryson City, Town Of	0.09%
98717	Bryson City A.B.C. Board	0.08%
98801	Transylvania County	0.07%
98811	Brevard, City Of	0.08%
98901	Tyrrell County	0.10%
98904	Tyrrell County A.B.C. Board	0.07%
99001	Union County	0.06%
99011	Monroe, City Of	0.06%
99013	Monroe Housing Authority	0.06%
99014	Indian Trail Abc Board	0.15%
99017	Monroe A.B.C. Board	0.26%
99021	Marshville, Town Of	0.19%

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Employer Code	Employer	Contribution Rate
99031	Wingate, Town Of	0.08%
99041	Waxhaw, Town Of	0.05%
99051	Indian Trail, Town Of	0.04%
99071	Weddington, Town Of	0.12%
99101	Vance County	0.07%
99109	Kerr-Tar Regional Council Of Governments	0.05%
99111	Henderson, City Of	0.12%
99201	Wake County	0.05%
99202	Holly Springs, Town Of	0.06%
99204	Wake County A.B.C. Board	0.08%
99206	Morrisville, Town Of	0.04%
99213	Raleigh Housing Authority	0.07%
99218	Raleigh-Durham Airport Authority	0.05%
99221	Cary, Town Of	0.05%
99222	Centennial Authority, The	0.03%
99231	Wendell, Town Of	0.05%
99241	Zebulon, Town Of	0.04%
99251	Garner, Town Of	0.05%
99252	Garner Fire Department	0.03%
99261	Fuquay-Varina, Town Of	0.06%
99271	Apex, Town Of	0.05%
99281	Wake Forest, Town Of	0.10%
99291	Knightdale, Town Of	0.04%
99301	Warren County	0.08%
99401	Washington County	0.10%
99404	Washington County A.B.C. Board	0.10%
99405	Pettigrew Regional Library	0.12%
99411	Plymouth, Town Of	0.11%
99413	Plymouth Housing Authority	0.08%
99431	Creswell, Town Of	0.03%
99501	Watauga County	0.09%
99511	Boone, Town Of	0.06%
99521	Blowing Rock, Town Of	0.04%
99601	Wayne County	0.07%
99602	Fork Township Sanitary District	0.06%
99604	Wayne County A.B.C. Board	0.17%
99609	Southern Wayne Sanitary District	0.12%
99610	Eastern Wayne Sanitary District	0.13%
99611	Goldsboro, City Of	0.07%
99613	Housing Auth. Of City Of Goldsboro	0.06%
99701	Wilkes County	0.07%
99711	North Wilkesboro, Town Of	0.11%
99717	North Wilkesboro A.B.C. Board	0.07%
99721	Wilkesboro, Town Of	0.07%
99801	Wilson County	0.05%

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Employer Code	Employer	Contribution Rate
99804	Wilson County A.B.C. Board	0.11%
99811	Wilson, City Of	0.05%
99841	Lucama, Town Of	0.07%
99901	Yadkin County	0.07%
99911	Yadkinville, Town Of	0.05%
99921	Jonesville, Town Of	0.21%
99931	East Bend, Town Of	0.12%
99991	N.C. Association Of County Comm	0.03%
99999	N.C. League Of Municipalities	0.05%