



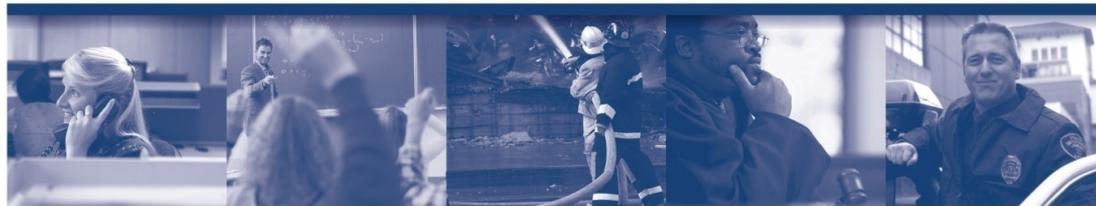
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Local Governmental Employees' Retirement System Principal Results of Actuarial Valuation as of December 31, 2020

October 28, 2021 Board of Trustees Meeting

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Purpose of the Annual Actuarial Valuation



- As of the end of each calendar year:
 - An annual actuarial valuation is performed on LGERS
 - The actuary determines the amount of employer contributions to be made to LGERS during each member's career that, when combined with investment return and member contributions, are expected to be sufficient to pay for retirement benefits.
- In addition, the annual actuarial valuation is performed to:
 - Determine the progress on funding LGERS
 - Explore why the results of the current valuation differ from the results of the valuation of the previous year
 - Satisfy regulatory and accounting requirements



The Valuation Process

- The diagram to the right summarizes the inputs and results of the actuarial valuation process.
- A detailed summary of the valuation process and a glossary of actuarial terms are provided in Appendix A of the actuarial report.
- This diagram will appear throughout the presentation to designate where we are in the process.

Inputs

Member Data
Asset Data
Benefit Provisions
Assumptions
Funding Methodology



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Actuarial Accrued Liability
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The table below provides a summary of the membership data used in this valuation compared to the prior valuation.

	12/31/2020	12/31/2019
Active Members	132,397	132,058
Terminated members and survivors of deceased members entitled to benefits but not yet receiving benefits	84,914	79,588
Retired members and survivors of deceased members currently receiving benefits	<u>77,556</u>	<u>75,002</u>
Total	294,867	286,648

The number of active members increased by 0.3% from the previous valuation date.

The increase in active members results in more benefits accruing, but also more contributions supporting the system.

The number of retired members and survivors of deceased members currently receiving benefits increased by 3.4% from the previous valuation.

The increase in retiree population is consistent with expectations.

A detailed summary of the membership data used in this valuation is provided in Section 3 and Appendix B.



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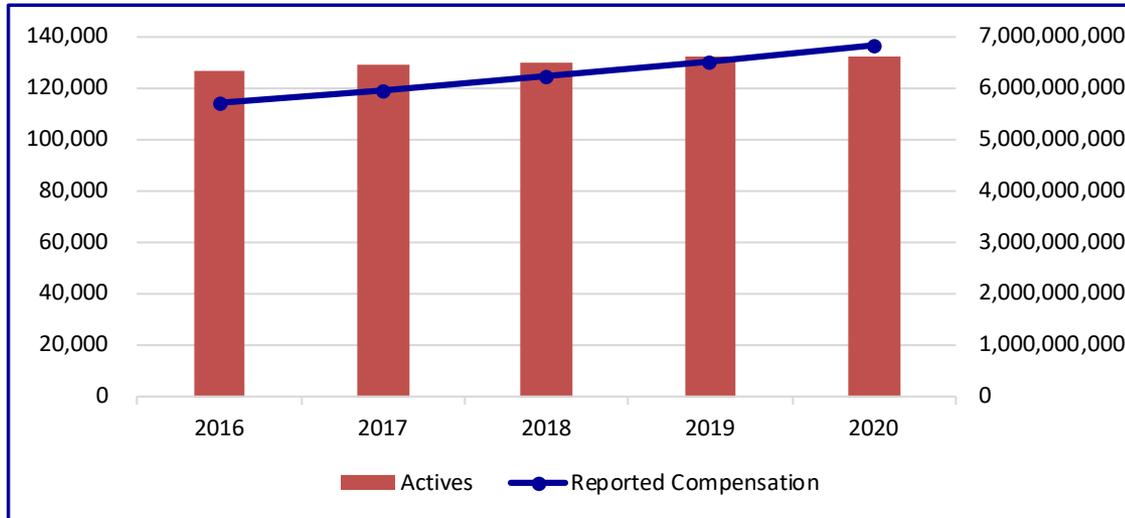
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The graph below provides a history of the number of active members and reported compensation over the past five years.



Reported compensation has increased by 5.5% over the past year.

Total covered payroll* is expected to increase by approximately 3.25% annually in the future.

Payroll that is increasing faster than we assume results in more benefits accruing than we anticipate, but also more contributions supporting the system.

*Total covered payroll is retirement-eligible compensation paid to all members. It does not imply a 3.25% pay increase to all members.

A detailed summary of the membership data used in this valuation is provided in Section 3 and Appendix B.



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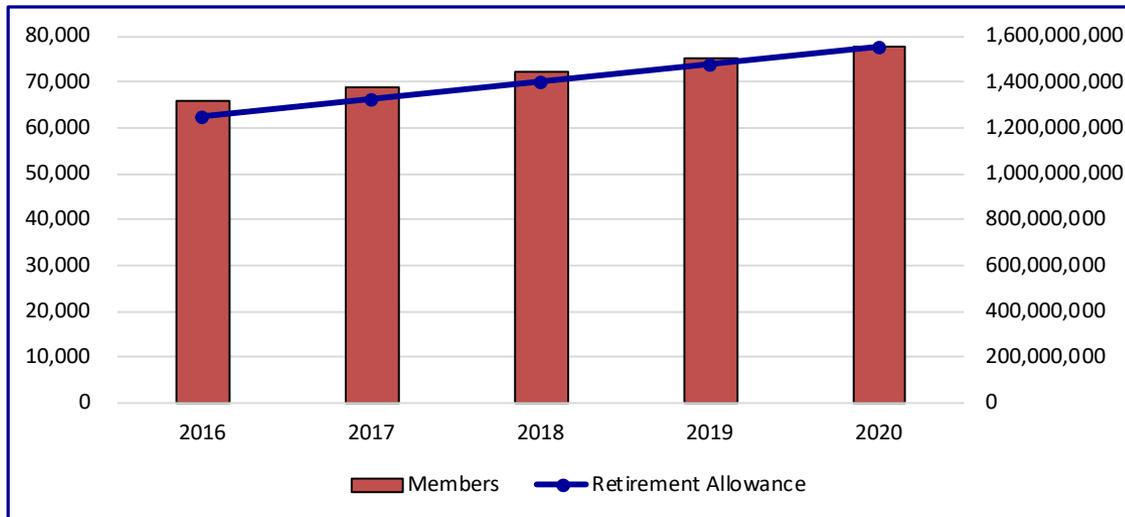
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The graph below provides a history of the number of retired members and survivors of deceased members and benefit amounts payable over the past five years.



The number of retired members and survivors of deceased members and the benefits paid to these members has been increasing steadily, as expected based on plan assumptions.

A detailed summary of the membership data used in this valuation is provided in Section 3 and Appendix B.

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The table below provides details of the Market Value of Assets for the current and prior year's valuations.

Asset Data as of	12/31/2020	12/31/2019
Beginning of Year Market Value of Assets	28,224,698,297	25,045,130,611
Employer Contributions	706,191,024	593,620,018
Employee Contributions	442,996,553	423,480,874
Court Costs	1,988,562	2,817,521
Benefit Payments Other Than Refunds	(1,531,981,296)	(1,452,519,505)
Refunds	(54,037,982)	(59,643,764)
Administrative Expenses	(5,112,894)	(4,676,875)
Investment Income	3,120,828,646	3,676,489,417
Net Increase/(Decrease)	2,680,872,613	3,179,567,686
End of Year Value of Assets	30,905,570,910	28,224,698,297
Estimated Net Investment Return	11.14%	14.83%

LGERS assets are held in trust and are invested for the exclusive benefit of plan members.

Currently, incoming contributions cover more than 70% of the outgoing benefit payments and administrative expenses.

Over the long term, benefit payments and administrative expenses not paid for by contributions are expected to be covered with investment income, illustrating the benefits of following actuarial pre-funding since inception.

A detailed summary of the market value of assets is provided in Section 4.

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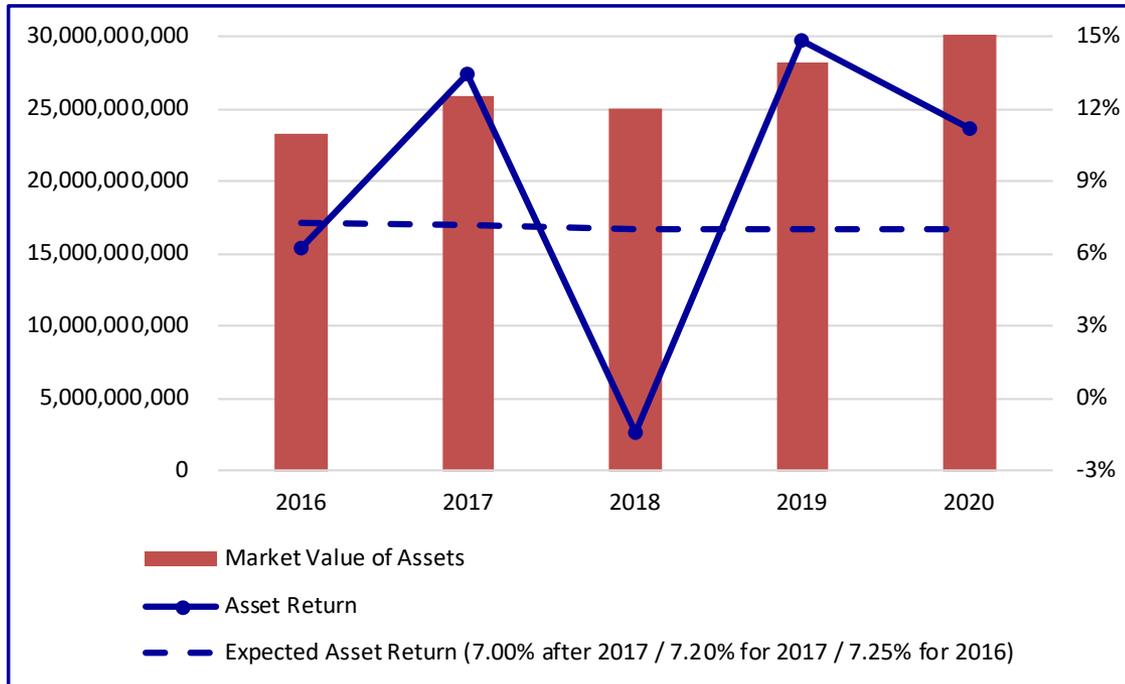
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The graph below provides a history of the market value of assets and asset returns over the past five years.



The investment return for the market value of assets for 2020 was 11.14%, far above the expected return of 7.00%.

The return on the actuarial value of assets which is used to determine the contribution rates also exceeded the 7.00% expected return at 8.79%.

This resulted in a decrease in the UAAL of \$487 million.

Market value returns have exceeded expectations three times in the last five years.

A detailed summary of the market value of assets is provided in Section 4.

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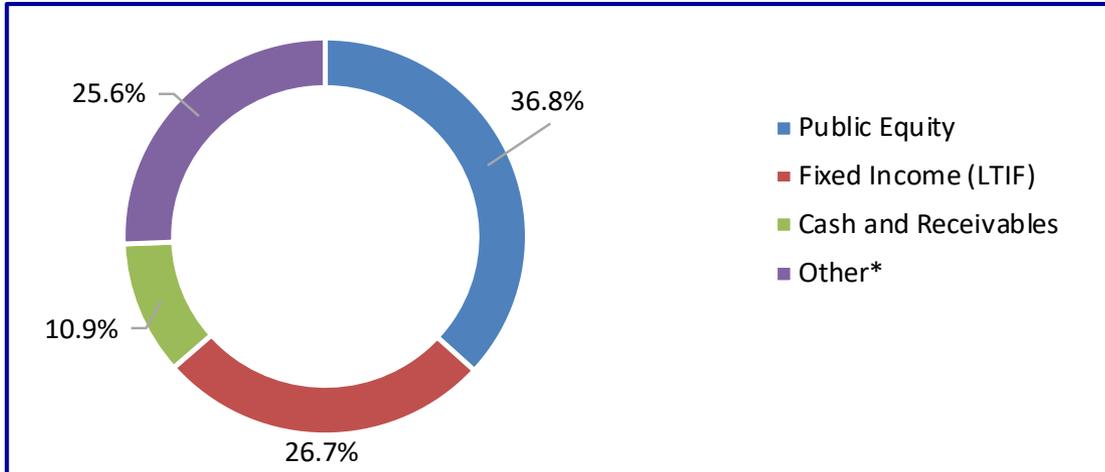
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The graph below provides the breakdown of the market value of assets at December 31, 2020 by asset category.



* Real Estate, Alternatives, Inflation and Credit

Based on historical market returns, the current asset allocation, the current investment policy, and the expectation of future asset returns, as reviewed in the recent experience study, the 6.50% discount rate used in this valuation is reasonable and appropriate.

A detailed summary of the market value of assets is provided in Section 4.



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Benefit provisions are described in North Carolina General Statutes, Chapter 128.

- There have been no changes since the last valuation.

Many Public Sector Retirement Systems in the United States have undergone pension reform where the benefits of members (active or future members) have been reduced.

Because of the well-funded status of LGERS due to the employers paying the actuarially determined employer contribution, benefit cuts have not been made in North Carolina as they have been in most other states.

A detailed summary of the benefit provisions is provided in Appendix C.



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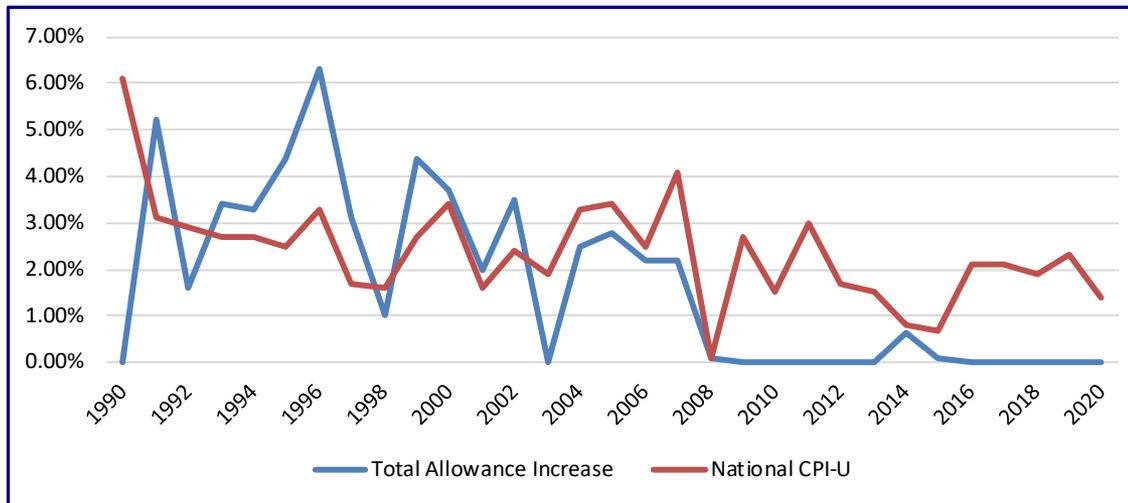
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The graph below provides a 30-year history of allowance increases for LGERS and the national CPI-U.



Prior to 2000, asset returns generally exceeded expectations and allowance increases exceeded the cost of living.

Subsequently, asset returns on average have been lower than expected leading to lower allowance increases.

Graph shows only permanent increases to the retirement allowance and not one-time supplements that have been granted.

A detailed summary of the benefit provisions is provided in Appendix C of the actuarial report.



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Actuarial assumptions bridge the gap between the information that we know with certainty as of the valuation date and what may happen in the future. The assumptions used include the following:

- Demographic
 - Retirement
 - Termination
 - Disability
 - Death
- Economic
 - Interest rate – 6.50% per year
 - Salary increase (individual, varies by service)
 - Inflation – 2.50%
 - Real wage growth – 0.75%

The assumptions used for the December 31, 2020 actuarial valuation are based on the experience study prepared as of December 31, 2019 and adopted by the Board of Trustees on January 28, 2021.

The discount rate was updated to 6.50% and mortality was updated to the Pub-2010 Public Plan mortality tables.

The impact on the contribution rate was direct-rate smoothed over a five-year period.

A detailed summary of the actuarial assumptions and methods is provided in Appendix D.



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The Funding Methodology is the payment plan for LGERS and is composed of the Actuarial Cost Method, the Asset Valuation Method and Amortization Method.

- Actuarial Cost Methods allocate costs to the actuarial accrued liability (i.e. the amount of money that should be in the fund) for past service and normal cost (i.e. the cost of benefits accruing during the year) for current service.
 - The Board of Trustees has adopted Entry Age Normal as its actuarial cost method
 - This method develops normal costs that stay level as a percent of payroll

The following “Objectives and Principles for Funding Public Sector Pension Plans” provides information on funding of Public Plans:

https://www.actuary.org/sites/default/files/files/Public-Plans_IB-Funding-Policy_02-18-2014.pdf.

Page 15 of the following - https://www.ccactuaries.org/Portals/0/pdf/CCA_PPC_White_Paper_on_Public_Pension_Funding_Policy.pdf - denotes Entry Age as a model practice for cost methods.

A detailed summary of the actuarial assumptions and methods is provided in Appendix D.



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The Funding Methodology is the payment plan for LGERS and is composed of the Actuarial Cost Method, the Asset Valuation Method and Amortization Method.

- Asset Valuation Methods smooth or average the market value returns over time to alleviate contribution volatility that results from market returns.
 - Asset returns in excess of or less than the expected return on market value of assets reflected over a five-year period
 - Assets corridor: not greater than 120% of market value and not less than 80% of market value

Page 20 of the following https://www.ccactuaries.org/Portals/0/pdf/CCA_PPC_White_Paper_on_Public_Pension_Funding_Policy.pdf denotes the policy being used is an acceptable policy.

Almost all Public Sector Retirement Systems in the United States use asset valuation methods to alleviate contribution volatility. The use of a four- or five-year period is most common.

A detailed summary of the actuarial assumptions and methods is provided in Appendix D.



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The Funding Methodology is the payment plan for LGERS and is composed of the Actuarial Cost Method, the Asset Valuation Method and Amortization Method.

- Amortization Methods determine the payment schedule for unfunded actuarial accrued liability (i.e. the difference between the actuarial accrued liability and actuarial value of assets)
 - Payment level: the payment is determined as a level dollar amount, like a mortgage payment
 - Payment period: a 12-year closed amortization period was adopted for fiscal year ending 2018. A new amortization base is created each year based on the prior years' experience.
- For fiscal years beginning after January 1, 2017, the sum of the "normal contribution" and the "accrued liability contribution" shall not be less than the employee contribution.

Page 26 of the following - https://www.ccactuaries.org/Portals/0/pdf/CCA_PPC_White_Paper_on_Public_Pension_Funding_Policy.pdf - suggests the Amortization Method is an acceptable practice.

When compared to other Public Sector Retirement Systems in the United States, the Amortization Method results in higher pension debt payments. This is because of:

- A shorter period of 12 years compared to a national average of 24
- Level dollar payments instead of payments designed to increase which is more typical in the Public Sector

A detailed summary of the actuarial assumptions and methods is provided in Appendix D.



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In addition to the ADEC, an unfunded initial prior service liability contribution rate is required for those employers that have not liquidated this liability as of June 30, 2022.

- The unfunded initial prior service liability decreased from \$18.3M to \$15.4M during 2020.
- Using each employer's actual experience during 2020, we have determined that
 - Five (5) employers were granted relief at 7/1/2021
 - Two (2) employers are expected to be granted relief at 7/1/2022 based on this valuation

The unfunded initial prior service liability balance as of December 31, 2020 and the applicable employer contribution rate as of July 1, 2022 is provided in Appendix I for participating employers with remaining initial prior service liability as of December 31, 2020. Appendix I also provides a non-binding estimated date of liquidation of the liability based on this valuation.

For employers who joined the System prior to November 1, 2015, the outstanding balance of the unfunded initial prior service liability and the date of liquidation of the liability will be estimated as of June 30 each year.

These estimates must be recalculated annually and adjusted according to each employer's actual experience.



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The table below provides the calculation of the Actuarial Value of Assets (AVA) at the valuation date.

Asset Data as of	12/31/2020
Beginning of Year Actuarial Value of Assets	\$ 27,435,046,235
Beginning of Year Market Value of Assets	28,224,698,297
Total Contributions	1,151,176,139
Benefit Payments, Refunds and Administrative Expenses	<u>(1,591,132,172)</u>
Net Cash Flow	(439,956,033)
Expected Investment Return	1,960,590,855
Expected End of Year Market Value of Assets	29,745,333,119
End of Year Market Value of Assets	30,905,570,910
Excess of Market Value over Expected Market Value of Assets	1,160,237,791
80% of 2020 Asset Gain/(Loss)	928,190,233
60% of 2019 Asset Gain/(Loss)	1,164,257,027
40% of 2018 Asset Gain/(Loss)	(863,749,164)
20% of 2017 Asset Gain/(Loss)	<u>289,217,105</u>
Total Deferred Asset Gain/(Loss)	1,517,915,201
Preliminary End of Year Actuarial Value of Assets	29,387,655,709
Final End of Year Actuarial Value of Asset (not less than 80% and not greater than 120% of Market Value)	29,387,655,709
Estimated Net Investment Return on Actuarial Value	8.79%

The actuarial value of assets smooths investment gains/losses, resulting in less volatility in the employer contribution.

The asset valuation recognizes asset returns in excess of or less than the expected return on the market value of assets over a five-year period.

Higher than expected market returns in 2017, 2019 and 2020 resulted in an actuarial value of asset return for calendar year 2020 of 8.79% and a recognized actuarial asset gain of \$487 million during 2020.

A detailed summary of the Actuarial Value of Assets is provided in Section 4.



Actuarial Value of Assets

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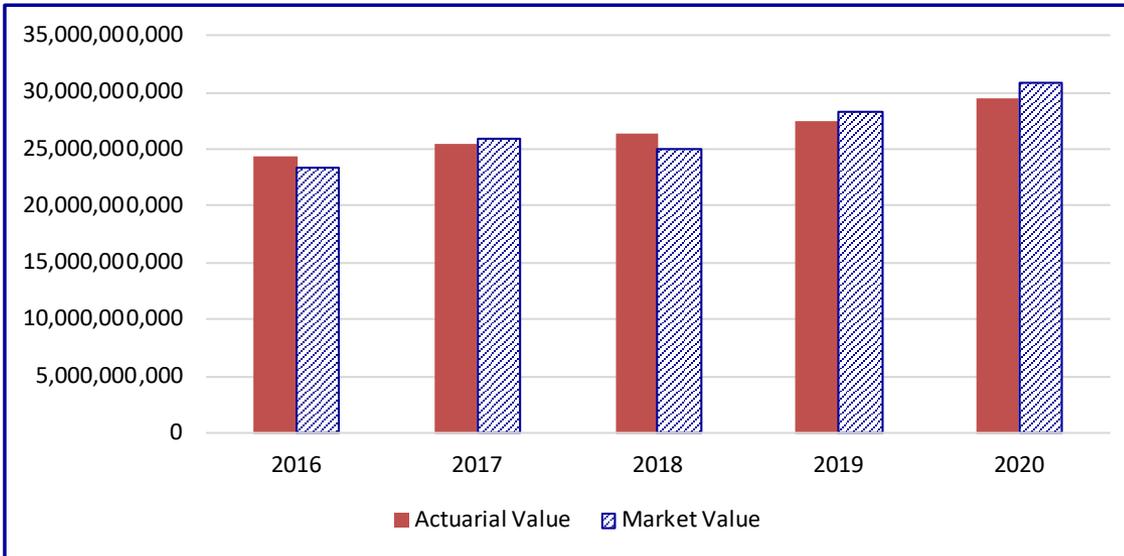
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The graph below provides a history of the market value and actuarial value of assets over the past five years.



The market value of assets is higher than the actuarial value of assets, which is used to determine employer contributions.

This indicates that overall there are unrecognized asset gains to be recognized in future valuations.

In fact, if the investments earn the expected 6.50% over the next four years, a gain will be recognized each of those years.

A detailed summary of the Actuarial Value of Assets is provided in Section 4.



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Calendar Year	Expected Asset Return	Actuarial Value of Asset Return	Market Value of Asset Return	20 Year Average Market Return
1996	7.50%	10.20%	9.36%	NA
1997	7.25%	10.19%	18.10%	NA
1998	7.25%	9.93%	16.64%	NA
1999	7.25%	15.61%	9.99%	NA
2000	7.25%	12.27%	2.65%	NA
2001	7.25%	8.98%	-1.69%	NA
2002	7.25%	6.13%	-4.44%	NA
2003	7.25%	8.52%	18.63%	NA
2004	7.25%	9.00%	10.77%	NA
2005	7.25%	8.58%	7.00%	NA
2006	7.25%	9.19%	11.41%	NA
2007	7.25%	9.03%	8.36%	NA
2008	7.25%	2.97%	-19.47%	NA
2009	7.25%	4.92%	14.94%	NA
2010	7.25%	6.10%	11.53%	NA
2011	7.25%	5.33%	2.14%	NA
2012	7.25%	6.51%	11.79%	NA
2013	7.25%	7.61%	12.21%	NA
2014	7.25%	7.32%	6.19%	NA
2015	7.25%	5.87%	0.34%	NA
2016	7.25%	5.34%	6.22%	6.78%
2017	7.20%	6.59%	13.47%	6.57%
2018	7.00%	5.13%	-1.41%	5.67%
2019	7.00%	6.23%	14.83%	5.90%
2020	7.00%	8.79%	11.14%	6.32%
20-Yr Average	7.21%	6.89%	6.32%	NA
Range	0.25%	6.22%	38.10%	NA

The average investment return recognized for purposes of determining the annual change in contribution each year is the actuarial value of assets return.

Currently, the average actuarial return over the past 20 years of 6.89% compares with an average market return of 6.32%.

The range of returns is markedly more volatile in the market value of assets at 38.10% versus 6.22% for the actuarial value.

This results in much lower employer contribution volatility using the actuarial value of assets versus market, while ensuring that the actuarial needs of LGERS are met.

A detailed summary of the Actuarial Value of Assets is provided in Section 4.



Actuarial Value of Assets

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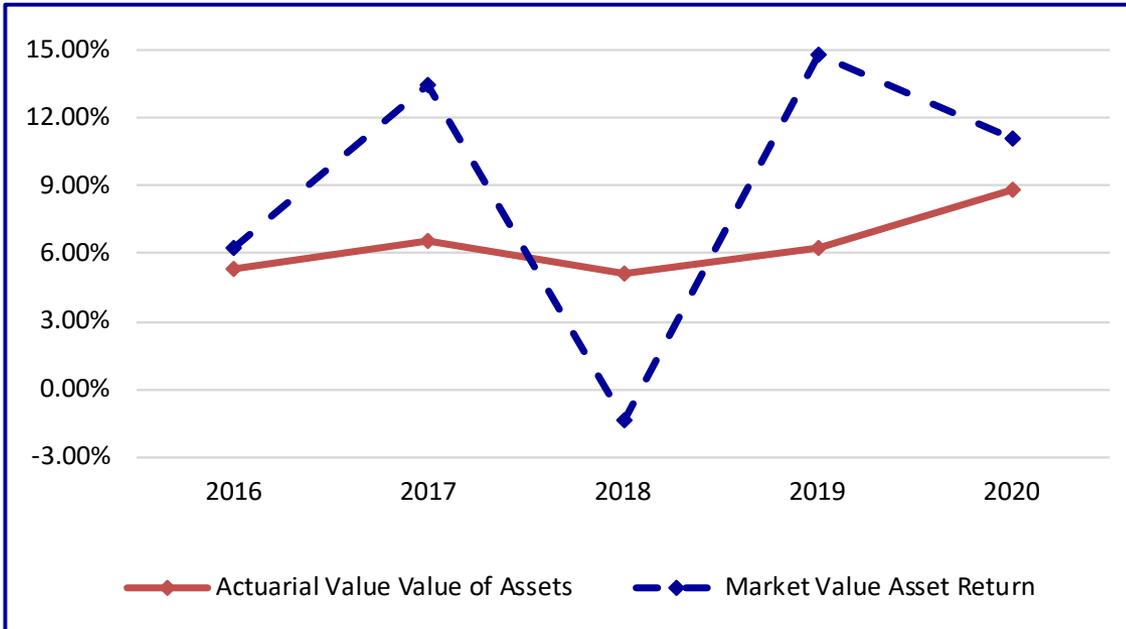
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The graph below provides a history of the market value and actuarial value of asset returns over the past five years.



The investment return for the market value of assets for calendar year 2020 was 11.14%.

The actuarial value of assets smooths investment gains and losses.

Higher than expected market returns in 2017, 2019 and 2020, resulted in an actuarial value of asset return for calendar year 2020 of 8.79% and a recognized actuarial asset gain of \$487 million during 2020.

A detailed summary of the Actuarial Value of Assets is provided in Section 4.



Actuarial Accrued Liability

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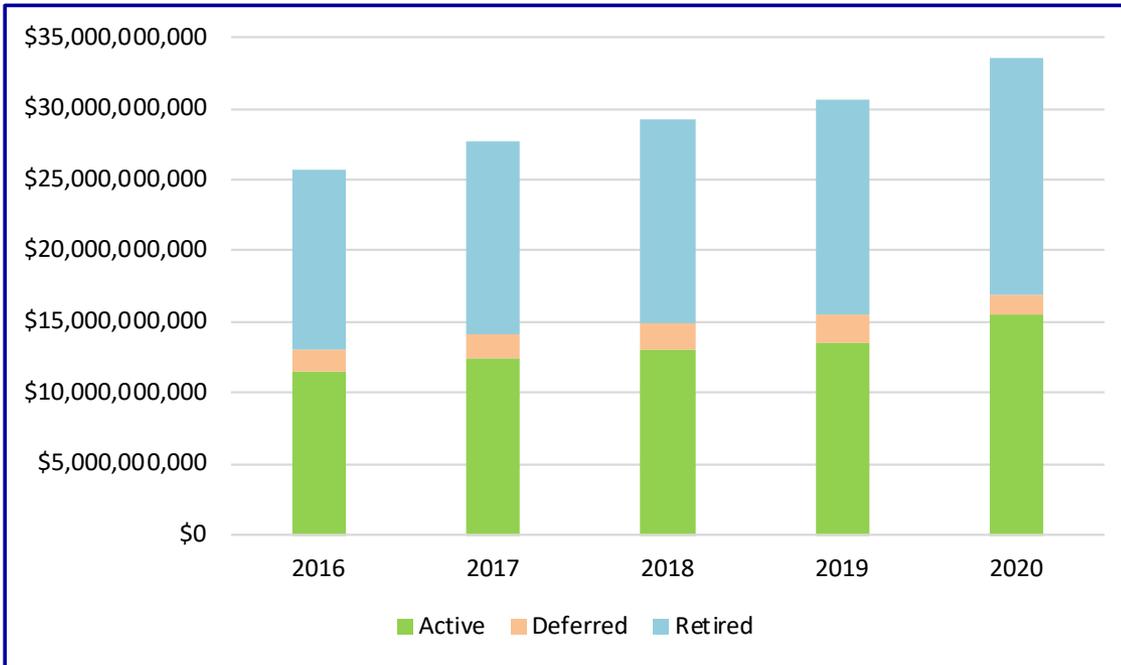
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The graph below provides a history of the actuarial accrued liability (AAL) over the past five years.



The AAL increased from \$30.70 billion to \$33.49 billion during 2020.

LGERS is an open plan, which means that new members enter the plan each year.

In an open plan, liabilities are expected to grow from one year to the next as more benefits accrue and the membership approaches retirement.

The AAL was \$1.1 billion higher than expected resulting primarily from the changes in assumptions and methods.

A detailed summary of the Actuarial Accrued Liability is provided in Section 5.



Valuation Results

AVA and AAL

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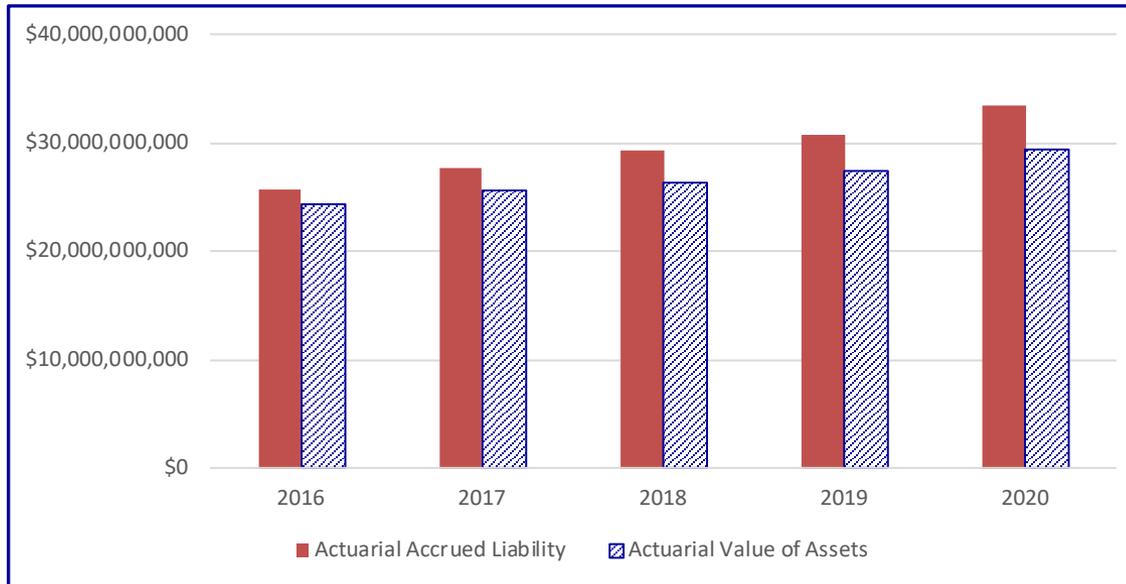
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The graph below provides a history of the actuarial accrued liability and actuarial value of assets.



The difference in the actuarial accrued liability and the actuarial value of assets is known as the Unfunded Actuarial Accrued Liability.

The UAAL is \$4.098 billion as of 12/31/2020 and is to be paid off over a 12-year period.

Detailed summaries of the AVA and AAL are provided in Sections 4 and 5 respectively.



Net Actuarial Gain or Loss

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The table below provides a reconciliation of the prior year's unfunded actuarial accrued liability to the current year's unfunded actuarial accrued liability.

(in millions)	
Unfunded Actuarial Accrued Liability (UAAL) as of 12/31/2019	\$ 3,266
Normal Cost and Administrative Expenses during 2020	840
Reduction due to Actual Contributions during 2020	(1,127)
Interest on UAAL, Normal Cost, and Contributions	219
Asset (Gain)/Loss	(487)
Actuarial Accrued Liability (Gain)/Loss	250
Impact of Assumption Changes	1,137
Impact of Legislative Changes	-
Unfunded Actuarial Accrued Liability (UAAL) as of 12/31/2020	\$ 4,098

During 2020, the UAAL increased by \$350 million.

The changes to assumptions and methods in the experience study increased the UAAL by \$1.14 billion.

This was offset by the gain recognized in the Actuarial Value of Assets during the year of \$487 million.

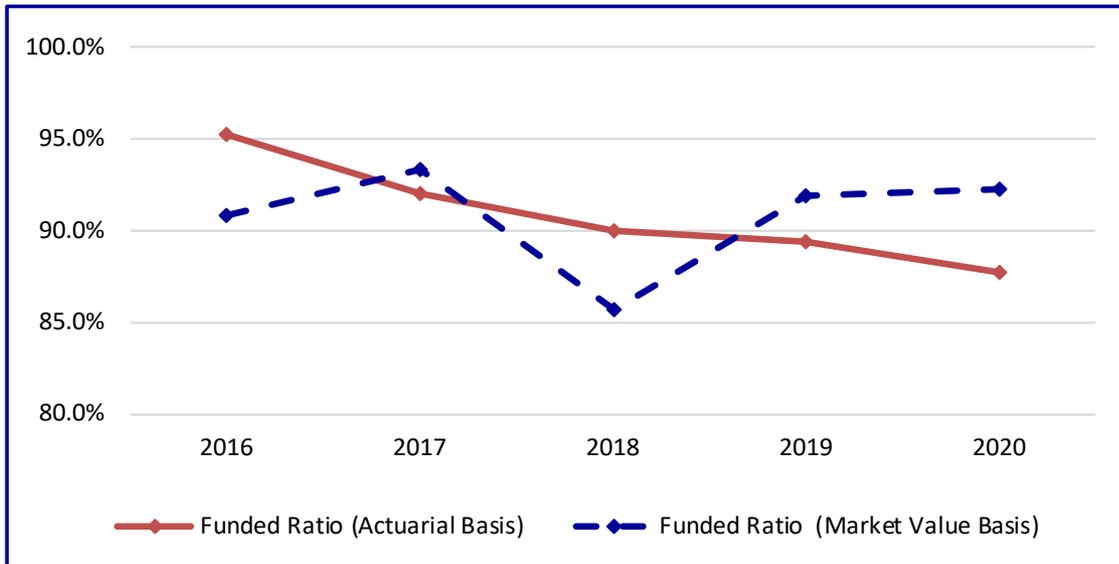
A detailed summary of the net actuarial gain or loss is provided in Section 5.



Valuation Results

Funded Ratio

The graph below provides a history of the funded ratio on a market and actuarial basis over the past five years.



The actuarial value of assets basis is used for computing contributions to alleviate contribution volatility.

The funded ratio on an actuarial basis decreased from 89.4% at December 31, 2019 to 87.8% at December 31, 2020.

The decrease was primarily due to the changes in assumptions and method in the experience study

A detailed summary of the funded ratio is provided in Section 5.

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Employer Contributions

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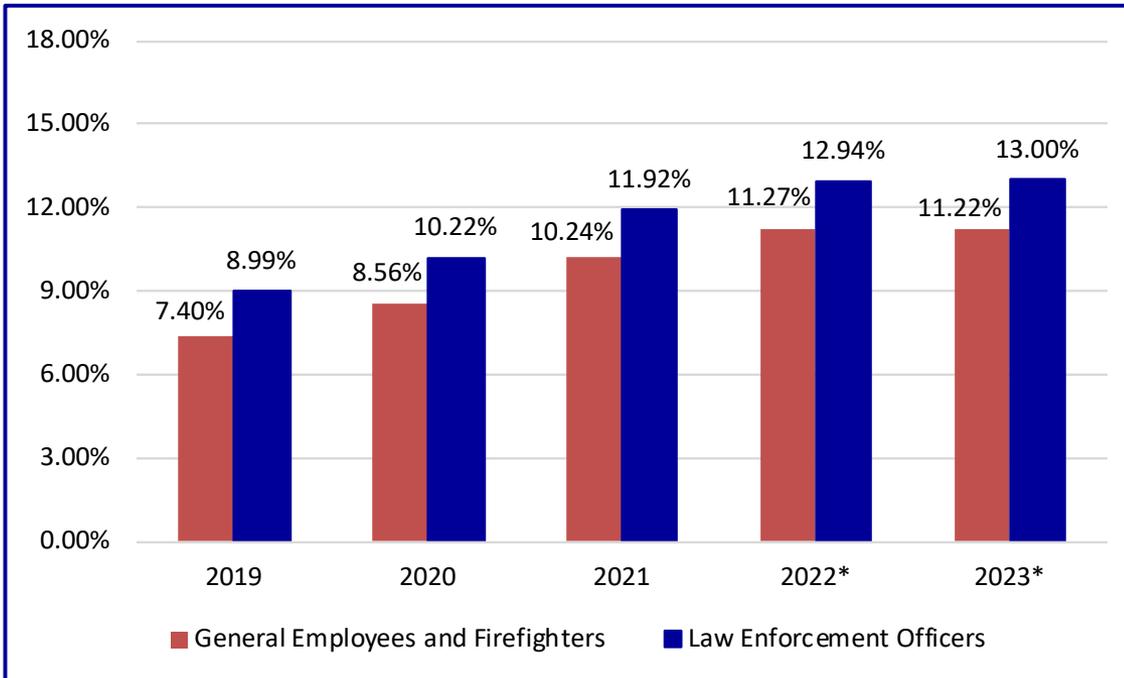
- Membership Data
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- Assumptions
- Funding Methodology



Results

- Actuarial Value of Assets
- Actuarial Accrued Liability
- Net Actuarial Gain or Loss
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The graph below provides a history of actuarially determined employer contribution rates over the past five years.



*Subject to the impact of future legislative changes effective during that fiscal year. Note that the actual contributions under ECRSP are not necessarily equal to the ADEC.

The actuarially determined employer contribution rates are split into the normal cost rate and the accrued liability rate.

The normal cost rate is the employer's portion of the cost of benefits accruing after reducing for the 6% of pay contribution the members make.

The accrued liability rate is the payment toward the unfunded liability needed to pay it off over a 12-year period.

The 12-year period is a relatively short period for Public Sector Retirement Systems in the United States, with most Systems using a longer period to pay off the pension debt. The shorter period results in higher contributions and more benefit security.

A detailed summary of the actuarially determined employer contribution is provided in Section 6.



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➤ The ECRSP adopted by the Board of Trustees on April 29, 2021 requires that recommended contributions for general employees be set at 11.35% of payroll for fiscal year ending 2022 and will increase each fiscal year by 0.75% per year, with adjustments for the impact of any benefit or assumption changes that were made and not incorporated in the previous scheduled rate, with the following additional adjustments, if applicable:

- (1) If the underlying actuarially determined employer contribution rate (ADEC) for a given fiscal year exceeds the adjusted scheduled employer contribution rate for that fiscal year by more than 1.00% of compensation, an increase equal to 50% of the difference is added to the adjusted scheduled employer contribution rate for the current and future fiscal years
 - (2) Beginning July 1, 2024, if the adjusted scheduled employer contribution rate for that fiscal year exceeds the underlying actuarially determined employer contribution rate (ADEC) for a given fiscal year by more than 1.00% of compensation, a decrease equal to 50% of the difference is subtracted from the adjusted scheduled employer contribution rate for the current and future fiscal years
 - If the General Assembly grants any additional COLA beyond the amount of COLA granted by the Board, increases the multiplier for active employees, or changes the benefit structure in a way that has a cost to the system, the schedule of contributions for the current and future fiscal years will be increased by the cost of the benefit enhancement. The cost of any COLA granted by the Board under the authority allowed by statute will not impact the scheduled contribution rates.
- Contribution rates for law enforcement officers will be 1.00% higher than contribution rates for general employees for fiscal year 2023. The 1.00% difference will increase by 0.25% each year until fiscal year 2027, when the contribution rates for law enforcement officers will be 2.00% higher than the contribution rates for general employees. **The ECRSP would result in a recommended contribution rate of 12.10% of payroll for general employees and firefighters and 13.10% of payroll for law enforcement officers for fiscal year ending 2023.**



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The table below provides a history of the actuarially determined employer contribution and the corresponding actual rate for **General Employees and Firefighters**.

Valuation Date	Rate Effective	Preliminary ADEC	Change due to Legislation*	Final ADEC	Actual Contribution
12/31/2020	7/1/2022	11.22%	N/A	N/A	N/A
12/31/2019	7/1/2021	11.27%	N/A	N/A	N/A
12/31/2018	7/1/2020	10.24%	0.00%	10.24%	10.15%
12/31/2017	7/1/2019	8.56%	0.00%	8.56%	8.95%
12/31/2016	7/1/2018	7.40%	0.00%	7.40%	7.75%
12/31/2015	7/1/2017	6.25%	0.00%	6.25%	7.50%

The funding policy contribution rate for fiscal year ending 2023 is 12.10% of payroll. The preliminary ADEC for fiscal year ending 2023 is 11.22% of payroll.

In addition to calculating the ADEC, we calculate the cost of a permanent one-time 1% COLA is equivalent to 0.31% of payroll and each 0.01% increase in benefit rate is equal to 0.37% of payroll.

A detailed summary of the actuarially determined employer contribution rates is provided in Section 6.



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The table below provides a history of the actuarially determined employer contribution and the corresponding actual rate for **Law Enforcement Officers**.

Valuation Date	Rate Effective	Preliminary ADEC	Change due to Legislation*	Final ADEC	Actual Contribution
12/31/2020	7/1/2022	13.00%	N/A	N/A	N/A
12/31/2019	7/1/2021	12.94%	N/A	N/A	N/A
12/31/2018	7/1/2020	11.92%	0.00%	11.92%	10.90%
12/31/2017	7/1/2019	10.22%	0.00%	10.22%	9.70%
12/31/2016	7/1/2018	8.99%	0.00%	8.99%	8.50%
12/31/2015	7/1/2017	7.84%	0.00%	7.84%	8.25%

The funding policy contribution rate for fiscal year ending 2023 is 13.10% of payroll. The preliminary ADEC for fiscal year ending 2023 is 13.00% of payroll.

In addition to calculating the ADEC, we calculate the cost of a permanent one-time 1% COLA is equivalent to 0.31% of payroll and each 0.01% increase in benefit rate is equal to 0.37% of payroll.

A detailed summary of the actuarially determined employer contribution rates is provided in Section 6.



Employer Contributions: ECRSP

The table below provides a history of the ADEC and ECRSP contributions for both General Employees and Firefighters as well as Law Enforcement Officers in LGERS.

Valuation Date	Rate Effective	General Employees and Firefighters			Law Enforcement Officers		
		ADEC	ECRSP	Excess/ (Shortfall)	ADEC	ECRSP	Excess/ (Shortfall)
12/31/2020	7/1/2022	11.22%	12.10%	0.88%	13.00%	13.10%	0.10%
12/31/2019	7/1/2021	11.27%	11.35%	0.08%	12.94%	12.10%	-0.84%
12/31/2018	7/1/2020	10.24%	10.15%	-0.09%	11.92%	10.90%	-1.02%
12/31/2017	7/1/2019	8.56%	8.95%	0.39%	10.22%	9.70%	-0.52%
12/31/2016	7/1/2018	7.40%	7.75%	0.35%	8.99%	8.50%	-0.49%
12/31/2015	7/1/2017	6.25%	7.50%	1.25%	7.84%	8.25%	0.41%

The initial ECRSP rates were successful in attaining their objective before two reductions in the investment return assumption and four consecutive years of actuarial value of asset losses. The ECRSP was amended on April 29, 2021.

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The table below provides a reconciliation of the actuarially determined employer contribution.

	General Employees and Firefighters	Law Enforcement Officers
Fiscal year ending June 30, 2022 Preliminary ADEC based on December 31, 2019 valuation	11.27%	12.94%
Impact of Legislative Changes	0.00%	0.00%
Fiscal year ending June 30, 2022 ADEC for Reconciliation	11.27%	12.94%
Changes Due to Anticipated Reduction in UAAL*	-0.27%	-0.27%
Change Due to Demographic (Gain)/Loss	0.40%	0.36%
Change Due to Investment (Gain)/Loss	-0.86%	-0.86%
Change Due to Contributions Less (Greater) than ADEC**	0.08%	0.08%
Impact of Assumption Changes	3.00%	3.76%
Impact of Direct Rate Smoothing Current Year	<u>-2.40%</u>	<u>-3.01%</u>
Fiscal year ending June 30, 2023 Preliminary ADEC based on December 31, 2020 valuation	11.22%	13.00%

*Amortization of the UAAL is determined as a level dollar amount with payments expected to remain the same over the amortization period but was calculated as a percentage of valuation payroll in the previous valuation. Payroll is expected to increase annually while the expected amortization payment does not increase. This causes the expected amortization payment to be a lesser percentage of the expected payroll.

** Employer contribution rate for Law Enforcement Officers during 2019 was less than the ADEC..

The change in rate due to investment gain is based on the actuarial value of assets return of 8.79%, which was greater than the 7.00% assumed return.

The change in rate due to assumption changes is due to the changes in the assumptions and methods in the December 31, 2019 experience study.

The impact of direct-rate smoothing is the first year of the five-year deferred recognition of these assumption changes.

Valuation Results

Potential COLAs



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- Based on the actuarial investment gain recognized in this December 31, 2020 valuation, a Cost-of-Living Adjustment (COLA) that would take effect on July 1, 2022, may be granted by the Board
- Based on the methods and assumptions used for the projections discussed later in the presentation, we estimate that a potential COLA effective July 1, 2023, may be granted by the Board following the December 31, 2021, valuation in the following circumstances:
 - If calendar year 2021 market value return is at least *negative* 2.88% (or about *negative* \$0.88B for LGERS), the plan is estimated to have an actuarial investment gain (rather than a loss) for 2021 and a COLA that would take effect on July 1, 2023, could be considered.
 - If calendar year 2021 market value return is at least 0.10% (or about \$0.03B for LGERS), the plan is estimated to have an actuarial investment gain (rather than a loss) for 2021 and such gain may be enough to provide a 1% COLA that would take effect on July 1, 2023.
 - Estimated actuarial investment gain of \$183.0M
 - Estimated cost of 1% COLA payable to retirees effective July 1, 2023 of \$183.0M

Note: CMC cannot provide legal advice. This slide should not be interpreted as legal advice as to the Board's ability to provide a COLA to retirees or recommend a COLA to the legislature

A detailed summary of the actuarially determined employer contribution rates is provided in Section 6.



Potential COLA Considerations

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- Note that LGERS Board authority is limited by statute (G.S. 128-27(k)):
 - COLA can not be greater than calendar 2021 inflation
 - COLA can not be greater than 4%
 - COLA must be a permanent one-time-cost-of-living increase (Permanent), not a one-time-cost-of living supplement payment (Supplement)
 - The value of COLA is limited to actuarial investment gain

- Type of increase
 - Supplement payable October 2022 – Board does not have authority to grant a supplement
 - Permanent effective July 1, 2022

- Immediate or 12-year funding
 - Immediate funding recommended for Supplement
 - 12-year funding could be considered for Permanent
 - The contribution increase is added to the ECRSP rate per policy adopted at April 2021 Board meeting

A detailed summary of the cost of benefit enhancements is provided in Section 6.



Valuation Results

Potential COLA Considerations

Actuarial Investment Gain to “Spend”

The amount of actuarial investment gain for calendar 2020 is \$487,000,000. The maximum amount of Permanent COLA based on this amount is 2.66%, which may be limited by actual CPI for 2021. The increase in ECRSP rate would be 0.82% of pay, payable over 12 years.

**Impact on Employee Contribution Rate Stabilization Policy (ECRSP) Rate
of Alternate Permanent One-Time-Cost-of -Living Increases**

Amount	None	1.00%	2.00%	2.66%
Increase in UAAL	\$ -	\$ 183,045,000	\$ 366,090,000	\$ 486,899,700
ECRSP Rate Effective 7/1/2022				
General Employees and Firefighters				
Preliminary ECRSP Rate	12.10%	12.10%	12.10%	12.10%
Impact of COLA	<u>0.00%</u>	<u>0.31%</u>	<u>0.62%</u>	<u>0.82%</u>
ECRSP after impact of COLA	12.10%	12.41%	12.72%	12.92%
Law Enforcement Officers				
Preliminary ECRSP	13.10%	13.10%	13.10%	13.10%
Impact of COLA	<u>0.00%</u>	<u>0.31%</u>	<u>0.62%</u>	<u>0.82%</u>
ECRSP after impact of COLA	13.10%	13.41%	13.72%	13.92%

The cost of a 1% supplement cola is \$16.9 million or 0.22% of pay, payable for one year.

Considerations on the amount to be granted are noted on the next slide.

A detailed summary of the cost of benefit enhancements is provided in Section 6.

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Potential COLA Considerations

Actuarial Investment Gain to “Spend”

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- While granting a 2.66% COLA is under Board Authority, the Board could consider the following reasons for granting an amount less than the maximum:
 - Providing COLAs under gain sharing works best when:
 - The amount of benefits granted are limited
 - The investment return assumption is lower than the expected return adjusted by the expected COLA payouts
 - Is the investment gain permanent?
 - Each valuation is expected to generate an actuarial gain or loss on investments
 - Asset-Liability study being performed will measure likelihood of achieving 6.50% over different time horizons (short- vs. long-term)
 - Current gain may be needed to offset future losses to keep contributions from rising more than anticipated
 - Potential lower investment return
 - Board may decide to reduce investment return assumption further the next time it is revisited, based on Asset-Liability study or other inputs
 - If so, system’s liability increase could significantly exceed actuarial investment gains recognized in current valuation
 - Employer contributions accounted for about 60% of total contributions over the past 5 years

A detailed summary of the cost of benefit enhancements is provided in Section 6.



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The table below illustrates the sensitivity of certain valuation results to changes in the discount rate on a market value of assets basis.

Discount Rate	1.65%	4.08%	6.50%	8.93%	11.35%
Market Value of Assets	\$ 30.91	\$ 30.91	\$ 30.91	\$ 30.91	\$ 30.91
Actuarial Accrued Liability	\$ 64.61	\$ 45.20	\$ 33.49	\$ 26.01	\$ 21.09
Unfunded Accrued Liability (UAL)	\$ 33.70	\$ 14.29	\$ 2.58	\$ (4.90)	\$ (9.82)
Funded Ratio	47.8%	68.4%	92.3%	118.8%	146.6%
20-Year Amortization of UAL (as % of general local revenue)	\$ 2.02 11.2%	\$ 1.10 6.1%	\$ 0.25 1.4%	N/A N/A	N/A N/A

Section 6(c) of Session Law 2016-108 requires that the actuarial valuation report provide the valuation results using a 30-year Treasury rate as of December 31 of the year of the valuation as the discount rate.

The 30-year Treasury rate is 1.65% as of December 31, 2020.

The difference between the UAAL measured at 6.50% and 1.65% is \$31.1 billion at December 31, 2020.

A detailed summary of the additional disclosures is provided in Appendix F.



Additional Disclosures

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The table below provides an estimate of future market value of asset returns based on the study performed in 2016.

Horizon	95% Chance (19 out of every 20 scenarios)	75% Chance (3 out of every 4 scenarios)	50% Chance (1 out of every 2 scenarios)	25% Chance (1 out of every 4 scenarios)	5% Chance (1 out of every 20 scenarios)
10 Years (2025)	0.2%	4.0%	5.9%	8.0%	11.5%
20 Years (2035)	2.2%	4.8%	6.7%	8.5%	11.8%
30 Years (2045)	3.1%	5.3%	7.1%	8.7%	12.0%

These results are summarized in the “TSERS Asset-Liability and Investment Strategy Project” report dated April 19, 2016 prepared by Conduent, the prior actuary.

The lower bound of 1.65% falls below the 5th percentile of estimated future 30-year returns.

In other words, there is less than a 5% chance of seeing a 30-year return of 1.65% or lower based on the study performed in 2016.

A detailed summary of the additional disclosures is provided in Appendix F.

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- Projections of actuarially determined employer contribution (ADEC) rates and funded status into the future can be helpful planning tools for stakeholders.
- Projections of the actuarial valuation are known as deterministic projections. Deterministic projections are based on one scenario in the future.
- Baseline deterministic projection is based on:
 - December 31, 2020 valuation results
 - December 31, 2020 valuation assumptions and methods to project future valuation results, including:
 - Valuation interest rate of 6.50% for all years
 - Investment return of 6.50% on market value of assets
 - The contribution rate under the Employer Contribution Rate Stabilization Policy (ECRSP) and Direct Rate Smoothing is contributed until fiscal year ending 2027 not recognizing the decline in scheduled rates that would occur under the ECRSP in FY 2025-2027 if the ADEC is less than the schedule by at least 1% of pay.
 - The ADEC is contributed for fiscal years ending 2028 and beyond.
 - For fiscal years beginning subsequent to January 1, 2017, the sum of the "normal contribution" and the "accrued liability contribution" shall not be less than the employee contribution, which is currently 6%.
 - 0% increase in total active member population
 - No cost-of-living adjustments granted
 - Future pay increases based on long-term salary increase assumptions
 - Two alternate deterministic projections based on the same assumptions as the baseline deterministic projection, except
 - First alternate deterministic projection assumes a 0% asset return for calendar year 2021.
 - Second alternate deterministic projection assumes a 13% asset return for calendar year 2021.

A detailed summary of the deterministic projections is provided in Section 9.



Valuation Results

Projected Contribution Rates – General Employees and Firefighters

Inputs

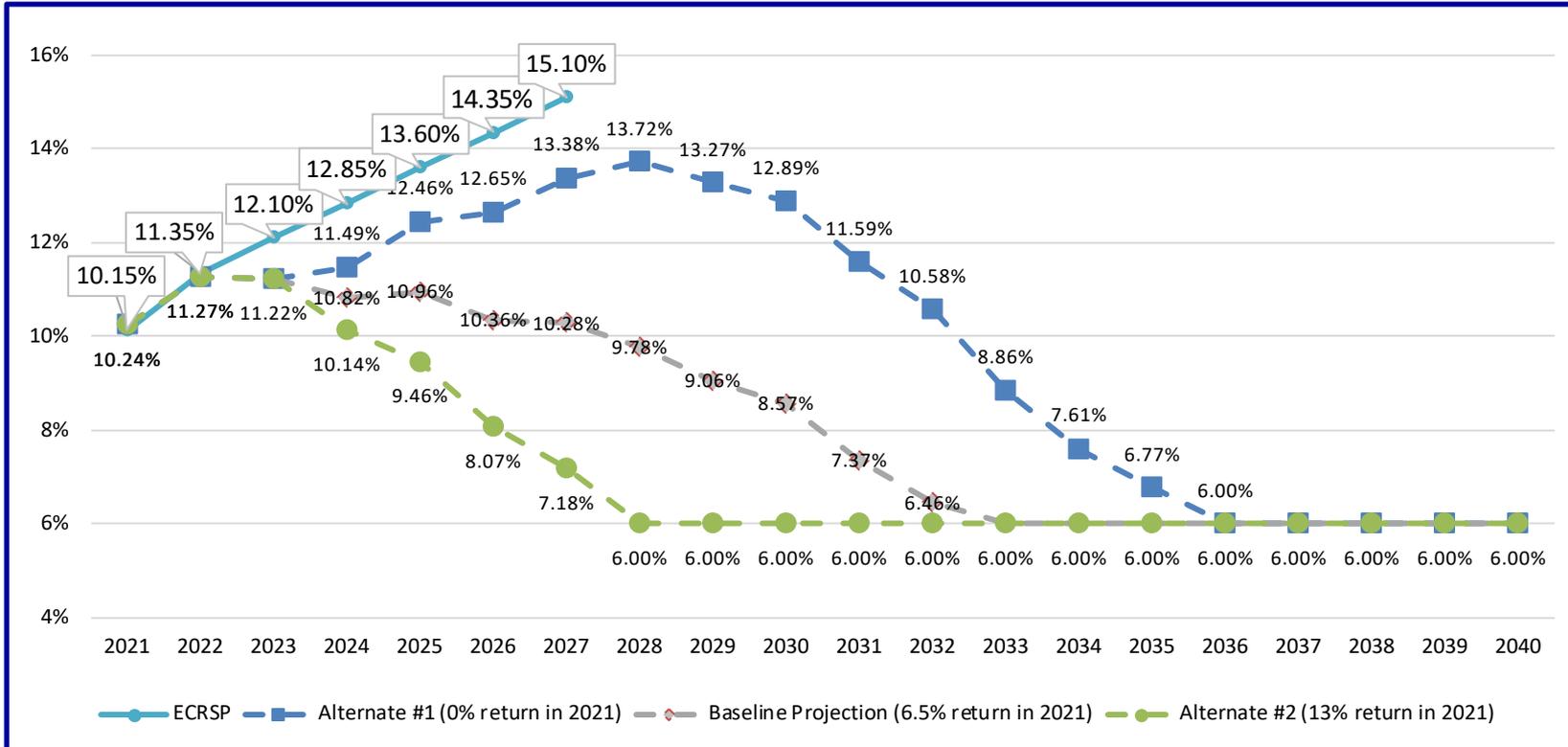
- Membership Data
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Projections



Refer to slide 37 for the basis of the projection.

A detailed summary of the deterministic projections is provided in Section 9.

Valuation Results

Projected Contribution Rates – Law Enforcement Officers



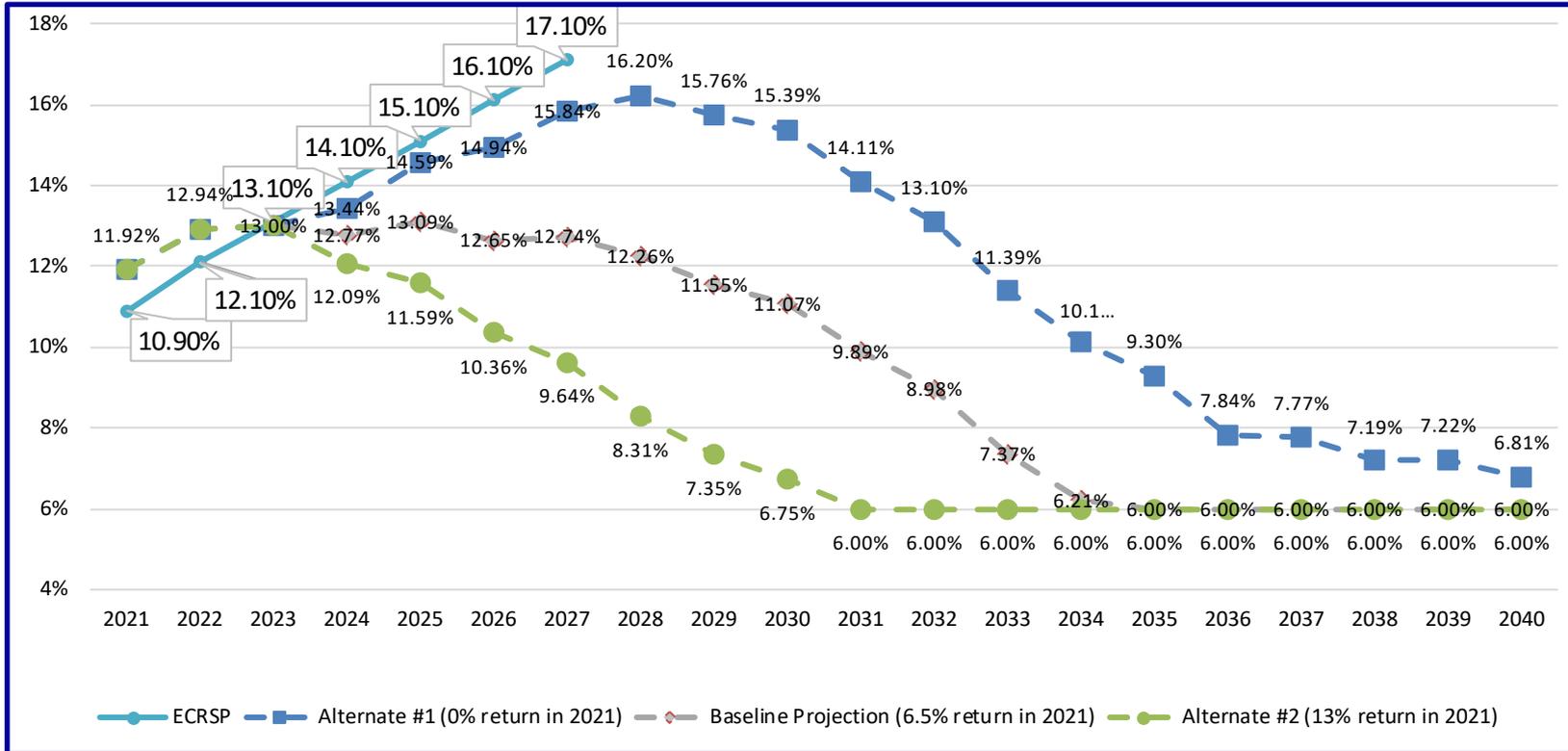
Inputs

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Refer to slide 37 for the basis of the projection.

A detailed summary of the deterministic projections is provided in Section 9.



Projected Funded Ratio

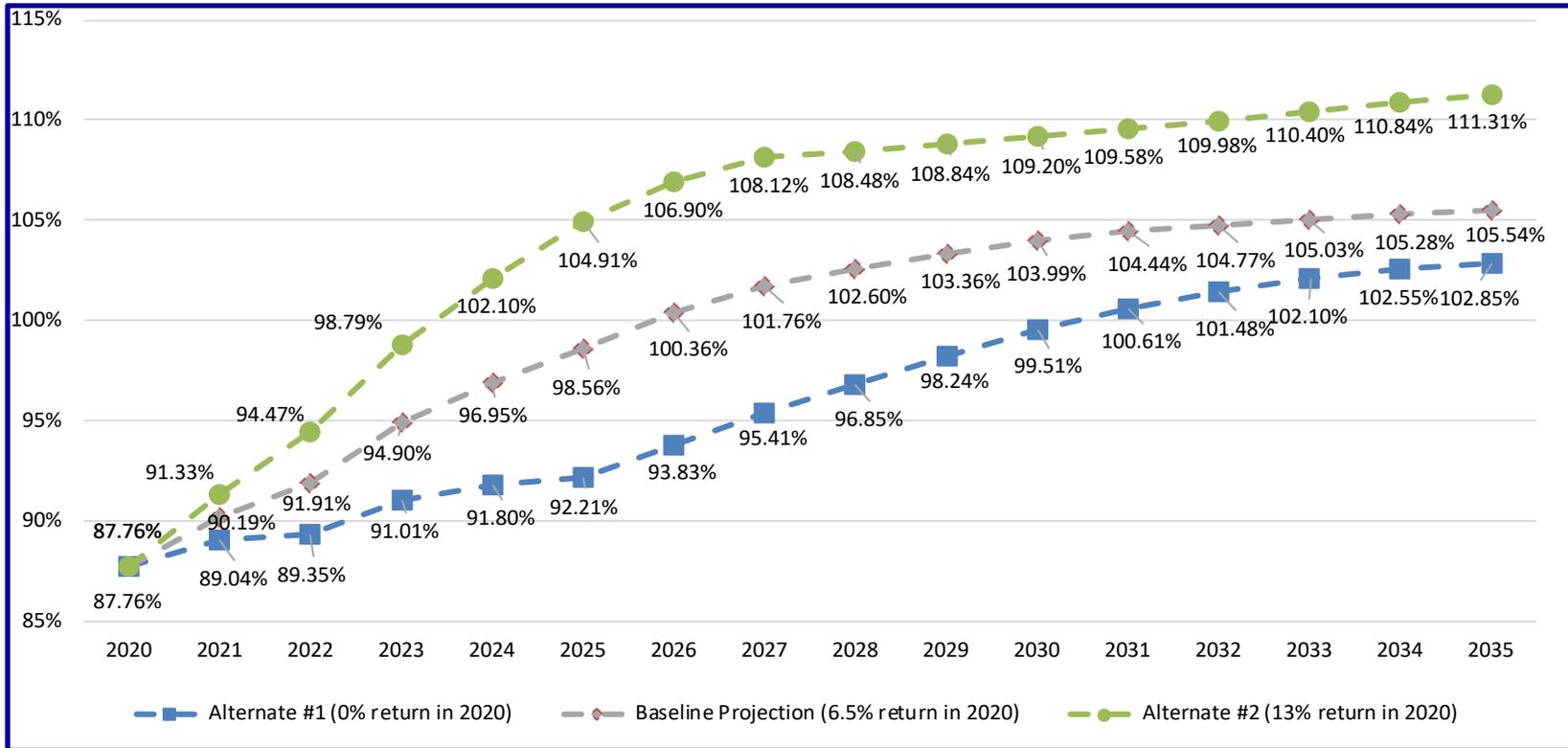
Inputs

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Refer to slide 37 for the basis of the projection.

A detailed summary of the deterministic projections is provided in Section 9.



Key Takeaways

- Market value returns of 11.12% compared to 6.50% assumed
- Increase in covered payroll of 5.5% compared to 3.5% expected
- First year of five-year direct rate smoothing of changes in assumptions and methods from the experience study.
- Recommended contributions under the Employer Contribution Rate Stabilization Policy (ECRSP) adopted by the Board of Trustees on April 29, 2021. ECRSP rates for FYE 6/30/2023 (assuming no COLA or other benefit or assumption changes):
 - 12.10% of payroll for general employees and firefighters
 - 13.10% of payroll for law enforcement officers

Key Takeaways (continued)



- Higher actuarially determined employer contribution rates for fiscal year ending June 30, 2023
 - 11.22% in the valuation compared to 10.83% in the baseline projection for general employees and firefighters
 - 13.00% in the valuation compared to 12.48% in the baseline projection for law enforcement officers



Key Takeaways (continued)

- The assumptions used for the December 31, 2020 actuarial valuation are based on the experience study prepared as of December 31, 2019 and adopted by the Board of Trustees on January 28, 2021.
- Material assumptions and methods that were changed in the study include:
 - The investment return assumption was lowered from 7.00% to 6.50%
 - The inflation assumption was lowered from 3.00% to 2.50%
 - The real wage growth assumption was increased from 0.50% to 0.75%
 - The payroll growth assumption was lowered from 3.50% to 3.25%
 - The administrative expense assumption was changed from 0.20% of payroll for general employees and firefighters to 0.13% of payroll for general employees and firefighters
 - The withdrawal rates, retirement rates, mortality assumption, annual rate of salary increase assumption, and leave conversion assumptions were changed
 - The marriage assumption was changed from assuming male spouses are four years older than female spouses to assume that male spouses are three years older than female spouses
 - The method for valuing inactive members was changed from 200% of the member's accumulated contributions, to using existing actual data and estimating earnings and average final compensation where actual data isn't available for members with five or more years of service, and using 100% of the member's accumulated contributions for members with less than five years of service



Key Takeaways (continued)

- LGERS is well funded compared to its peers. This is due to:
 - Stakeholders working together to keep LGERS well-funded since inception
 - A history of contributing the recommended contribution requirements
 - Assumptions that in aggregate are more conservative than peers
 - A funding policy that aggressively pays down unfunded liability over a 12-year period
 - An ad hoc cost-of-living adjustment, which typically only provides benefit increases when certain financial conditions are met, supports the health of the system
 - Modest changes in benefits when compared to peers
- As has been done over the past 75 + years, continued focus on these measures will be needed to maintain the sustainability of LGERS well into the future



Certification

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, Cavanaugh Macdonald performed no analysis of the potential range of such future differences, except for some limited analysis in financial projections or required disclosure information. Results prior to December 31, 2017 were provided by the prior consulting actuary.

We 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 we are available to answer questions about it.

Larry Langer, ASA, EA, FCA, MAAA
Principal and Consulting Actuary

Wendy T. Ludbrook, FSA, EA, FCA, MAAA
Consulting Actuary



Cavanaugh Macdonald
CONSULTING, LLC
The experience and dedication you deserve

North Carolina Local Governmental Employees' Retirement System

Report on the Actuarial Valuation

Prepared
as of December 31, 2020

October 2021





Cavanaugh Macdonald

CONSULTING, LLC

The experience and dedication you deserve

October 20, 2021

Board of Trustees
North Carolina Local Governmental
Employees' Retirement System
3200 Atlantic Avenue
Raleigh, NC 27604

Members of the Board:

We submit herewith our report on the actuarial valuation of the North Carolina Local Governmental Employees' Retirement System (referred to as "LGERS" or the "Local Plan") prepared as of December 31, 2020. The report has been prepared in accordance with North Carolina General Statute 128-28(p). Information contained in our report for plan years prior to December 31, 2017 is based upon valuations performed by the prior actuary.

The primary purpose of the valuation report is to determine the required member and employer contribution rates, to describe the current financial condition of LGERS, and to analyze changes in such condition. In addition, the report provides information that the Office of the State Controller (OSC) requires for its Comprehensive Annual Financial Report 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 Cavanaugh Macdonald Consulting (CMC) to review any statement you wish to make on the results contained in this report. CMC 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 CMC and we cannot certify as to the accuracy and completeness of the data supplied. Sometimes assumptions are made by CMC to interpret membership data that is imperfect. 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 and also comply with the requirements of GASB Statement No. 67. We prepared this valuation in accordance with the requirements of this standard and in accordance with all applicable Actuarial Standards of Practice (ASOP).

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The assumptions used for the December 31, 2020 actuarial valuation are based on the experience study prepared as of December 31, 2019 and adopted by the Board of Trustees on January 28, 2021. 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.

Where presented, references to “funded ratio” and “unfunded accrued liability” typically are measured on an actuarial value of assets basis. It should be noted that the same measurements using market value of assets would result in different funded ratios and unfunded accrued liabilities. Moreover, the funded ratio presented is appropriate for evaluating the need and level of future contributions but makes no assessment regarding the funded status of the plan if the plan were to settle (i.e. purchase annuities) for a portion or all of its liabilities. In various places in the report the results also show funded ratios and unfunded liabilities based upon varying sets of assumptions as well as market values of assets as that is required for certain disclosure information required per accounting rules or statutes. Where this has been done it has been clearly indicated.

In order to prepare the results in this report we have utilized appropriate actuarial models that were developed for this purpose. These models use assumptions about future contingent events along with recognized actuarial approaches to develop the needed results.

Future actuarial results may differ significantly from the current results presented in this report due to such factors as the following: fund experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and changes in plan provisions or applicable law. Such changes in law may include additional costs resulting from future legislated benefit improvements or cost-of-living pension increases or supplements, which are not anticipated in the actuarial valuation. Because of limited scope, CMC performed no analysis of the potential range of such future differences, except for some limited analysis in financial projections or required disclosure information.

We 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 we are available to answer questions about it.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read 'LL'.

Larry Langer, ASA, EA, FCA, MAAA
Principal and Consulting Actuary

A handwritten signature in blue ink, appearing to read 'Wendy Ludbrook'.

Wendy Ludbrook, FSA, EA, FCA, MAAA
Consulting Actuary



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Executive Summary

Overview

The North Carolina Retirement Systems Division (RSD) was established in 1941 to provide retirement benefits for public servants in the State of North Carolina. Today, under the management of the Department of State Treasurer, RSD administers seven public pension plans (defined benefit plans), three supplemental retirement plans (voluntary defined contributions plans), a health trust fund, a disability income plan, death benefit funds and a number of other benefit programs. As of December 31, 2020, the RSD defined benefit plans cover over one million current and prior public servants of the state of North Carolina. During the fiscal year ending June 30, 2021, RSD paid over \$6.7 billion in pensions to more than 330,000 retirees. And as of June 30, 2021, RSD's defined benefit plan assets were valued at over \$120 billion.

Under the supplemental retirement plans, the amount of contributions in any given year is defined by law. The amount of benefits derived is dependent on the investment returns the individual achieves. Conversely, under the pension plans, the amount of the benefit paid to a member upon retirement, termination, death or disability is defined by law. The amount of contributions needed to fund these benefits cannot be known with certainty. In North Carolina, like other states, these contributions are paid during a public servant's career so that upon retirement, termination, death, or disability, there are funds available to pay these benefits. These amounts are determined through an actuarial valuation. Actuarial valuations are performed for each of the pension plans administered by RSD and the results are contained in actuarial valuation reports like this.

The Local Governmental Employees' Retirement System (referred to as "LGERS" or the "Local Plan") was established in 1939 and began accepting participating employers in 1945. LGERS is maintained for the employees of cities, towns, counties, boards, commissions and other entities of local government in North Carolina. LGERS has over \$30 billion in assets and more than 290,000 members. This actuarial valuation report is our annual analysis of the financial health of LGERS. This report, prepared as of December 31, 2020, presents the results of the actuarial valuation of LGERS.

Purpose

An actuarial valuation is performed on LGERS annually as of the end of the calendar year. The actuary determines the amount of contributions to be made to LGERS during each member's career that, when combined with investment return, will be sufficient to pay for retirement benefits.

In addition, the annual actuarial valuation is performed to:

- Determine the actuarially recommended contribution rates for LGERS employers,
- Explore why the results of the current valuation differ from the results of the valuation of the previous year, and
- Satisfy regulatory and accounting requirements.

A detailed summary of the valuation process and a glossary of actuarial terms are provided in Appendix A.



Executive Summary

Risk

Measuring pension obligations and actuarially determined contributions requires the use of assumptions regarding future economic and demographic experience. Whenever assumptions are made about future events, there is risk that actual experience will differ from expected. Actuarial valuations include the risk that actual future measurements will deviate from expected future measurements due to actual experience that is different than the actuarial assumptions.

The primary areas of risk in this actuarial valuation are:

- Investment Risk – the potential that investment returns will be different than expected. Section 9 of this report demonstrates the sensitivity of future projected results to asset returns deviating from expected returns.
- Longevity and Other Demographic Risks – the potential that mortality or other demographic experience will be different than expected.
- Interest Rate Risk – To the extent market rates of interest affect the expected return on assets, there is a risk of change to the discount rate which determines the present value of liabilities and actuarial valuation results. Table F-1 of this report demonstrates the sensitivity of valuation results to differing discount rates.
- Contribution Risk – The potential that actual contributions are different than the actuarially determined contributions.

Annual actuarial valuations are performed for RSD which re-measure the assets and liabilities and compute a new actuarially determined contribution. RSD also has experience studies performed every five years to analyze the discrepancies between actuarial assumptions and actual experience and determine if the actuarial assumptions need to be changed. Annual actuarial valuations and periodic experience studies are practical ways to monitor and reassess risk.



Executive Summary (continued)

Key Takeaways

The actuarial valuation is performed each year to replace the estimates the actuary assumed for the prior valuation with the actual events that happened. This past year, as expected, some of the assumptions used in the prior valuation were not realized. Key results of the December 31, 2020 valuation as compared to the December 31, 2019 valuation were:

- Changes in actuarial assumptions and methods, including a decrease in the discount rate from 7.00% to 6.50%, in accordance with the latest experience study prepared as of December 31, 2019, and adopted by the Board of Trustees on January 28, 2021
- Direct-rate smoothing of the change in the employer contribution rate due to the changes in assumptions and methods over a 5-year period
- Market value returns of 11.14% during calendar year 2020 compared to 7.00% assumed
- Updated Employer Contribution Rate Stabilization Rate Policy (ECRSP) adopted April 29, 2021

When compared to the December 31, 2019 projections, the above resulted in:

- A lower funded ratio as of December 31, 2020 (87.8% in the valuation compared to 90.7% in the baseline projection)
- Higher-actuarially determined employer contribution rates for fiscal year ending June 30, 2023
 - 11.22% in the valuation compared to 10.83% in the baseline projection for general employees and firefighters
 - 13.00% in the valuation compared to 12.48% in the baseline projection for law enforcement officers
- Actuarially determined employer contribution rates are less than ECRSP rates for general employees and firefighters, and are less than ECRSP rates for law enforcement officers
 - General Employees/Firefighter ECRSP of 12.10% vs. ADEC of 11.22%
 - Law Enforcement Officer ECRSP of 13.10% vs. ADEC of 13.00%

LGERS is well funded compared to its peers. This is due to:

- Stakeholders working together to keep LGERS well-funded since inception
- A history of contributing the recommended contribution requirements
- Assumptions that in aggregate are more conservative than peers
- A funding policy that aggressively adjusts contribution rates to pay down unfunded liability
- An ad hoc cost-of-living adjustment, which typically only provides benefit increases when certain financial conditions are met, that supports the health of the system
- Modest changes in benefits when compared to peers

Continued focus on these measures will be needed to maintain the solid status of LGERS well into the future.

More details can be found later in this report. We encourage readers to start with Sections 1 and 2 and refer to other sections for additional details as needed.



Section 1: Principal Results

This report, prepared as of December 31, 2020, presents the results of the annual valuation of the system. 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 Results as of	12/31/2020	12/31/2019
Active Members		
Number	132,397	132,058
Reported Compensation	\$ 6,846,115,903	\$ 6,488,881,575
Valuation Compensation*	\$ 7,409,219,872	\$ 7,065,888,027
Retired Members and Survivors of Deceased Members Currently Receiving Benefits		
Number	77,556	75,002
Annual Allowances	\$ 1,553,600,690	\$ 1,479,483,328
Number of Participating Employers	891**	892
Assets		
Actuarial Value (AVA)	\$ 29,387,655,709	\$ 27,435,046,235
Market Value (MVA)	\$ 30,905,570,910	\$ 28,224,698,297
Actuarial Accrued Liability (AAL)	\$ 33,485,232,590	\$ 30,700,921,303
Unfunded Accrued Liability (AAL – AVA)	\$ 4,097,576,881	\$ 3,265,875,068
Funded Ratio (AVA / AAL)**	87.8%	89.4%
Unfunded Initial Prior Service Liability	\$ 15,421,007	\$ 18,263,651

* Reported compensation annualized for new hires and projected for valuation purposes.

**The number of participating employers shown in Appendices H and J include three additional employers joining after the valuation date.

***The Funded Ratio on a Market Value of Assets basis is 92.3% at December 31, 2020.



Section 1: Principal Results

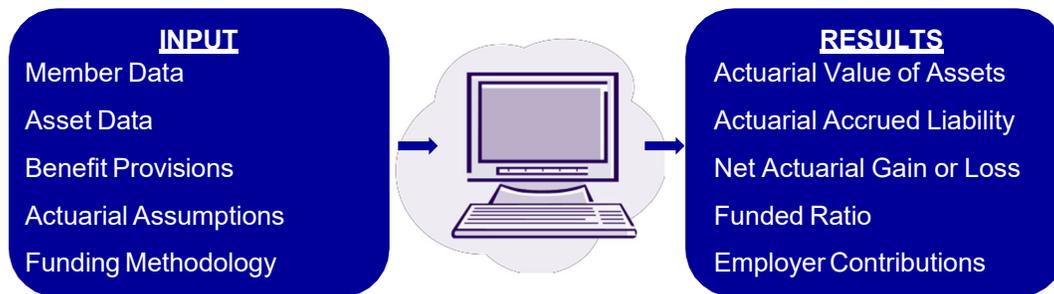
This report, prepared as of December 31, 2020, presents the results of the annual valuation of the system. The principal results of the valuation and a comparison with the preceding year's results are continued below.

Table 1: Summary of Principal Results (continued)

Valuation Results as of	12/31/2020	12/31/2019
Results for Fiscal Year Ending	6/30/2023	6/30/2022
Actuarially Determined Employer Contribution (ADEC), as a percentage of payroll		
General Employees and Firefighters		
Normal Cost	6.52%	5.44%
Accrued Liability	<u>7.10%</u>	<u>5.83%</u>
Total Preliminary ADEC	13.62%	11.27%
Total Based on Direct Rate Smoothing	11.22%	11.27%
Impact of Legislative Changes	<u>N/A</u>	<u>N/A</u>
Final ADEC	11.22%	11.27%
Law Enforcement Officers		
Normal Cost	8.91%	7.11%
Accrued Liability	<u>7.10%</u>	<u>5.83%</u>
Total Preliminary ADEC	16.01%	12.94%
Total Based on Direct Rate Smoothing	13.00%	12.94%
Impact of Legislative Changes	<u>N/A</u>	<u>N/A</u>
Final ADEC	N/A	N/A
Board Approved Contribution under the Employer Contribution Rate Stabilization Policy (ECRSP)		
General Employees and Firefighters	12.10%	11.35%
Law Enforcement Officers	13.10%	12.10%
Current Funding in Effect at	7/1/2021	7/1/2020
Employer Contribution Rate as a percentage of payroll		
General Employees and Firefighters	11.35%	10.15%
Law Enforcement Officers	12.10%	10.90%

Section 2: The Valuation Process

The following diagram summarizes the inputs and results of the actuarial valuation process.



A more detailed description of the valuation process is provided in Appendix A.

Valuation Input: Membership Data

As with any estimate, the actuary collects information that we know now. Under the actuarial valuation process, current information about LGERS members is collected annually by the Retirement Systems Division staff at the direction of the actuary. Membership data will assist the actuary in estimating benefits that could be paid in the future. Information about benefit provisions and assets held in the trust as of the valuation date is also collected.

The member information the actuary collects includes data elements such as current service, salary and benefit group identifier for members that have not separated service, and actual benefit amounts and form of payment for members that have separated service. Data elements such as gender and date of birth are used to determine when a benefit might be paid and for how long.



Section 2: The Valuation Process

Valuation Input: Membership Data (continued)

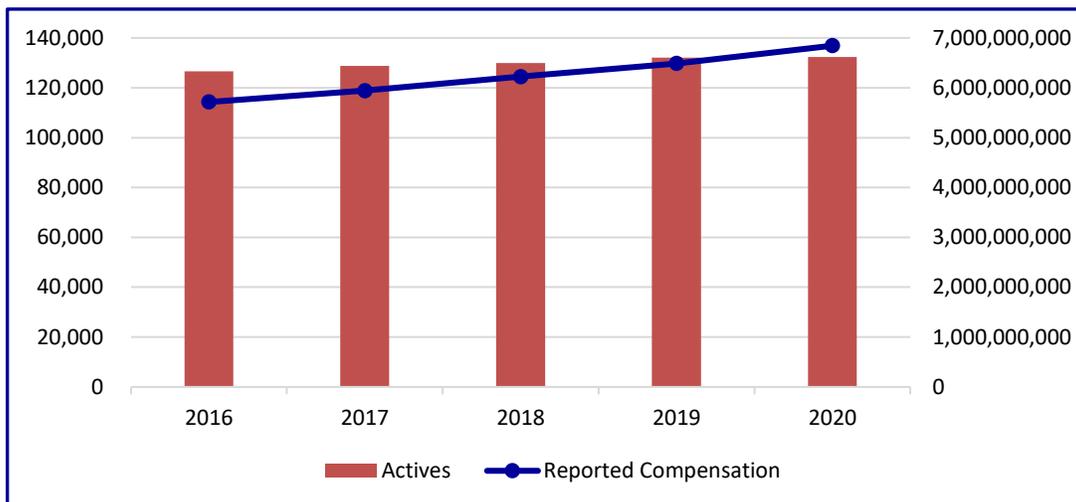
The table below provides a summary of the membership data used in this valuation compared to the prior valuation.

Number as of	12/31/2020	12/31/2019
Active Members	132,397	132,058
Terminated members and survivors of deceased members Entitled to benefits but not yet receiving benefits	84,914	79,588
Retired members and survivors of deceased members currently receiving benefits	<u>77,556</u>	<u>75,002</u>
Total	294,867	286,648

Commentary: The number of active members increased by 0.3% from the previous valuation date. The increase in the active population results in more benefits accruing, but also more contributions supporting the system. The number of retired members and survivors of deceased members currently receiving benefits increased by 3.4% from the previous valuation date. The increase in retiree population is consistent with expectations.

Graph 1: Active Members

The graph below provides a history of the number of active members and reported compensation over the past five years.



Commentary: Reported compensation has increased by 5.5% over the last year. Covered payroll was expected to increase annually by 3.50% for valuations prior to December 31, 2020 and 3.25% annually beginning with the December 31, 2020 valuation. Payroll that is increasing faster than we assume results in more benefits accruing than we anticipate, but also more contributions supporting the system.

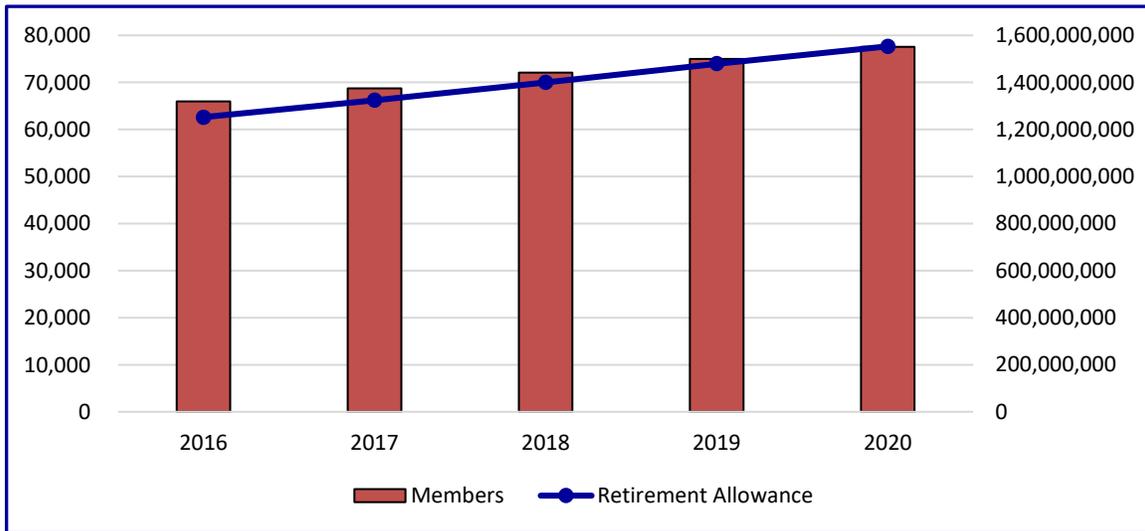


Section 2: The Valuation Process

Valuation Input: Membership Data (continued)

Graph 2: Retired Members and Survivors of Deceased Members

The graph below provides a history of the number of retired members and survivors of deceased members and benefit amounts payable over the past five years.



Commentary: The number of retired members and survivors of deceased members and the benefits paid to these members has been increasing steadily, as expected based on plan assumptions.

A detailed summary of the membership data used in this valuation is provided in Section 3 and Appendix B of this report.



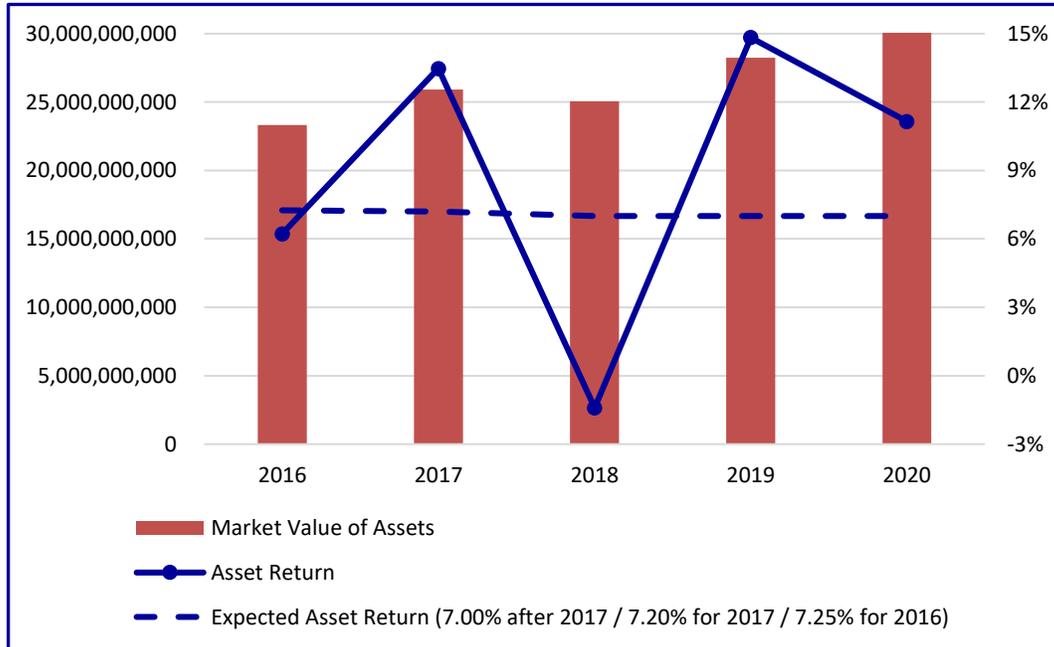
Section 2: The Valuation Process

Valuation Input: Asset Data

LGERS assets are held in trust and are invested for the exclusive benefit of plan members. The Market Value of Assets is \$30.9 billion as of December 31, 2020 and \$28.2 billion as of December 31, 2019. The investment return for the market value of assets for calendar year 2020 was 11.14%.

Graph 3: Market Value of Assets and Asset Returns

The graph below provides a history of the market value of assets and asset returns over the past five years.



Commentary: Market value returns during 2020 were much greater than the 7.0% assumed rate of return. However, required contributions are higher and the funded ratio is lower than anticipated in the December 31, 2019 baseline projections presented in the December 31, 2019 actuarial report, due to the impact of the changes in assumptions and methods from the experience study.

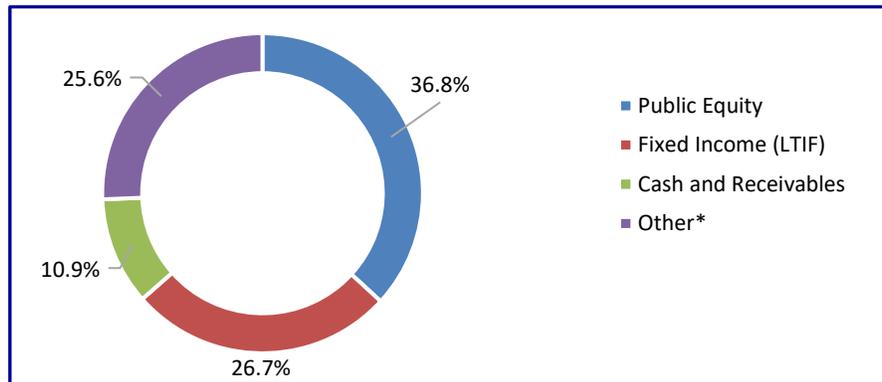


Section 2: The Valuation Process

Valuation Input: Asset Data (continued)

Graph 4: Allocation of Investments by Category

The graph below provides the breakdown of the market value of assets at December 31, 2020 by asset category.



* Real Estate, Alternatives, Inflation and Credit

Commentary: Based on historical market returns, the current asset allocation, the current investment policy, and the expectation of future asset returns, as reviewed in the recent experience study, the 6.50% discount rate used in this valuation is reasonable and appropriate.

A detailed summary of the market value of assets is provided in Section 4 of this report.



Section 2: The Valuation Process

Valuation Input: Benefit Provisions

Benefit provisions are described in North Carolina General Statutes, Chapter 128.

Highlights of the benefit provisions are described below.

- An unreduced retirement allowance is payable to non-law enforcement members who retire from service:
 - after attaining age 65 and five years of creditable service;
 - after attaining age 60 and 25 years of creditable service; or
 - after attaining 30 years of creditable service
- An unreduced retirement allowance is payable to law enforcement members who retire from service:
 - after attaining age 55 and five years of creditable service; or
 - after attaining 30 years of creditable service
- The unreduced retirement allowance is equal to 1.85% of a member's average final compensation multiplied by the number of years of creditable service. Average final compensation is based on the four highest consecutive years of service.
- A reduced retirement allowance is payable to non-law enforcement members who retire from service:
 - after attaining age 60 and five years of creditable service; or
 - after attaining age 50 and 20 years of creditable service
- A reduced retirement allowance is payable to firefighters and rescue squad workers who retire from service after attaining age 55 and five years of creditable service.
- A reduced retirement allowance is payable to law enforcement members who retire from service after attaining age 50 and 15 years of creditable service or after attaining 25 years (15 as an officer) of creditable service.
- Benefits are also payable upon the death or disability of a member.
- LGERS does not provide for automatic cost of living increases as part of the benefit package. Instead, increases may be provided if certain financial conditions are met. More details on cost-of-living increases are provided in Graph 5.

Commentary: Many Public Sector Retirement Systems in the United States have undergone pension reform where the benefits of members (active or future members) have been reduced. Because of the well-funded status of LGERS, benefit cuts have not been made in North Carolina as they have been in most other states. However, if North Carolina's investment policy shifts substantively or if the system incurs other unfavorable investment, economic, or demographic experience, the system should review likely impacts of the shift and consider corresponding changes to actuarial assumptions, funding policy and/or benefit levels.



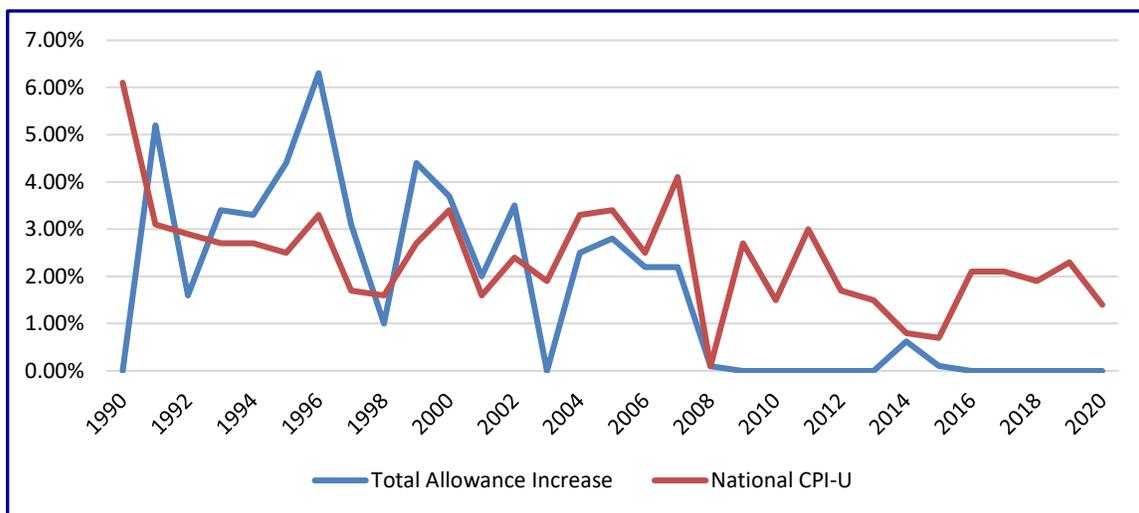
Section 2: The Valuation Process

Valuation Input: Benefit Provisions (continued)

As noted previously, cost-of-living increases are periodically considered by the Board of Trustees to the extent that certain financial conditions are met. Specifically, benefit allowance increases are generally considered when the trust experiences sufficient investment gains to cover the additional actuarial accrued liabilities created by providing the cost-of-living adjustment (generally, limited to the lesser of the CPI increase year-over-year or 4%). In addition to employers consistently contributing the actuary's recommended contribution, this benefit increase policy has helped keep costs manageable when compared to other public sector retirement systems in the United States. That being said, post-retirement increases help to reduce the risk that the benefit will be eroded by inflation.

The graph below provides a 30-year history of the allowance increases for LGERS and the national CPI-U.

Graph 5: Cost-of-Living Increase and CPI-U History



* Allowance increases are effective at July 1 the following year

Commentary: Prior to 2000, asset returns generally exceeded expectations and allowance increases exceeded the cost of living. Subsequently, asset returns on average have been lower than expected leading to lower allowance increases. Graph shows only permanent increases to the retirement allowance and not one-time supplements that have been granted.

A detailed summary of the benefit provisions is provided in Appendix C of this report.

Valuation Input: Actuarial Assumptions

Actuarial assumptions bridge the gap between the information that we know with certainty as of the valuation date (age, gender, service, pay, and benefits of the members) and what may happen in the future. The actuarial assumptions of LGERS are reviewed at least every five years. Based on this review, the actuary will make recommendations on the demographic and economic assumptions.

Demographic assumptions describe future events that relate to people such as retirement rates, termination rates, disability rates, and mortality rates. Economic assumptions describe future events that relate to the assets of LGERS such as the interest rate, salary increases, the real return, and payroll growth.



Section 2: The Valuation Process

The assumptions used for the December 31, 2020 actuarial valuation are based on the experience study prepared as of December 31, 2019 and adopted by the Board of Trustees on January 28, 2021. Material assumptions and methods that were changed since the prior valuation include:

- The investment return assumption was lowered from 7.00% to 6.50%
- The inflation assumption was lowered from 3.00% to 2.50%
- The real wage growth assumption was increased from 0.50% to 0.75%
- The payroll growth assumption was lowered from 3.50% to 3.25%
- The administrative expense assumption was changed from 0.20% of payroll for general employees and firefighters to 0.13% of payroll for general employees and firefighters
- The withdrawal rates, retirement rates, mortality assumption, annual rate of salary increase assumption and leave conversion assumptions were changed
- The marriage assumption was changed from assuming male spouses are four years older than female spouses to assume that male spouses are three years older than female spouses
- The method for valuing inactive members was changed from 200% of the member's accumulated contributions, to using existing actual data and estimating earnings and average final compensation where actual data isn't available for members with five or more years of service, and using 100% of the member's accumulated contributions for members with less than five years of service



Section 2: The Valuation Process

Valuation Input: Funding Methodology

The Funding Methodology is the payment plan for LGERS and is composed of the following three components:

- Actuarial Cost Methods allocate costs to the actuarial accrued liability (i.e. the amount of money that should be in the LGERS fund) for past service and normal cost (i.e. the cost of benefits accruing during the year) for current service.
 - The Board of Trustees has adopted Entry Age Normal as its actuarial cost method
 - Develops normal costs that stay level as a percent of payroll
- Asset Valuation Methods smooth or average the market value returns over time to alleviate contribution volatility that results from market returns. The Board of Trustees has adopted the following:
 - Asset returns in excess of or less than the expected return on market value of assets reflected over a five-year period
 - Assets corridor: not greater than 120% of market value and not less than 80% of market value
- Amortization Methods determine the payment schedule for unfunded actuarial accrued liability (i.e. the difference between the actuarial accrued liability and actuarial value of assets)
 - Payment level: the payment is determined as a level dollar amount, similar to a mortgage payment
 - Payment period: a 12-year closed amortization period was adopted for fiscal year ending 2018. A new amortization base is created each year based on the prior year experience

These elements form the traditional components of the actuarially determined employer contribution. In the addition to the policies above there are also Direct-Rate Smoothing and ECRSP policies which are used in the determination of the final employer contribution rate. The Direct-Rate Smoothing and ECRSP are discussed in more length in Section 6.

The valuation reflects the change in methodology for determining liquidation of unfunded initial prior service accrued liability, approved by the Board of Trustees in January 2012. The outstanding balance of the unfunded initial prior service accrued liability and the date of liquidation of accrued liability will be estimated as of June 30 each year. These estimates must be recalculated annually and adjusted according to each employer's actual experience.

- Five (5) employers were granted relief at 7/1/2020
- Seven (7) employers are expected to be granted relief at 7/1/2021 based on this valuation

Commentary: When compared to other Public Sector Retirement Systems in the United States, the funding policy for LGERS is quite aggressive in that the policy pays down the unfunded actuarial accrued liability over a much shorter period of time (12 years) compared to most other Public Sector Retirement Systems. As such it is a best practice in the industry.

A detailed summary of the actuarial assumptions and methods is provided in Appendix D of this report.



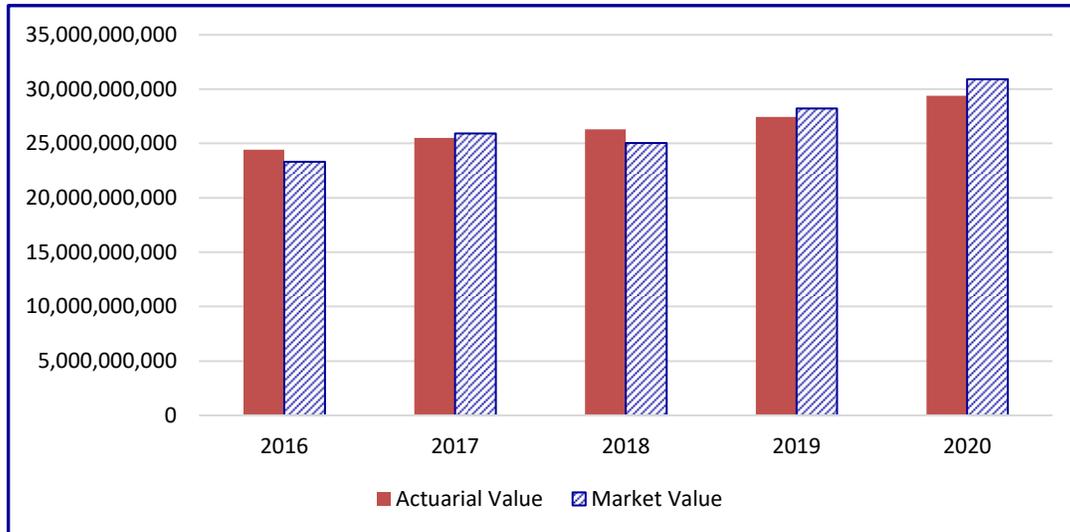
Section 2: The Valuation Process

Valuation Results: Actuarial Value of Assets

In order to reduce the volatility that investment gains and losses can have on required contributions and funded status of LGERS, the Board adopted an asset valuation method to determine the Actuarial Value of Assets used for funding purposes. The Actuarial Value of Assets is \$29.4 billion as of December 31, 2020 and \$27.4 billion as of December 31, 2019.

Graph 6: Actuarial Value and Market Value of Assets

The graph below provides a history of the market value and actuarial value of assets over the past five years.



Commentary: The market value of assets is greater than the actuarial value of assets, which is used to determine employer contributions. This indicates that overall there are unrecognized asset gains to be recognized in future valuations.

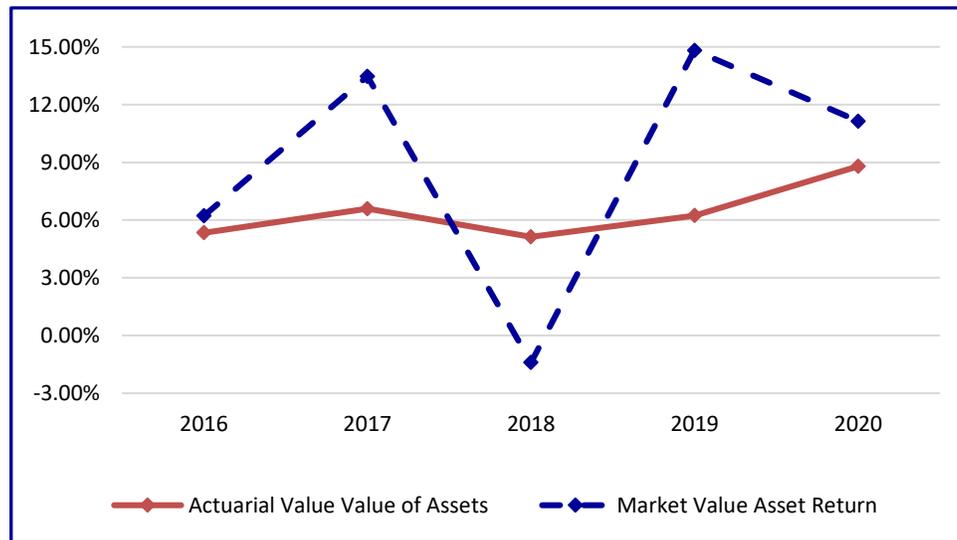


Section 2: The Valuation Process

Valuation Results: Actuarial Value of Assets (continued)

Graph 7: Asset Returns

The graph below provides a history of the market value and actuarial value of asset returns over the past five years.



Commentary: The investment return for the market value of assets for calendar year 2020 was 11.14%. The actuarial value of assets smooths investment gains and losses. Higher than expected market returns, in 2017, 2019 and 2020, resulted in an actuarial value of asset return for calendar year 2020 of 8.79% and a recognized actuarial asset gain of \$487 million during 2020.

A detailed summary of the Actuarial Value of Assets is provided in Section 4 of this report.



Section 2: The Valuation Process

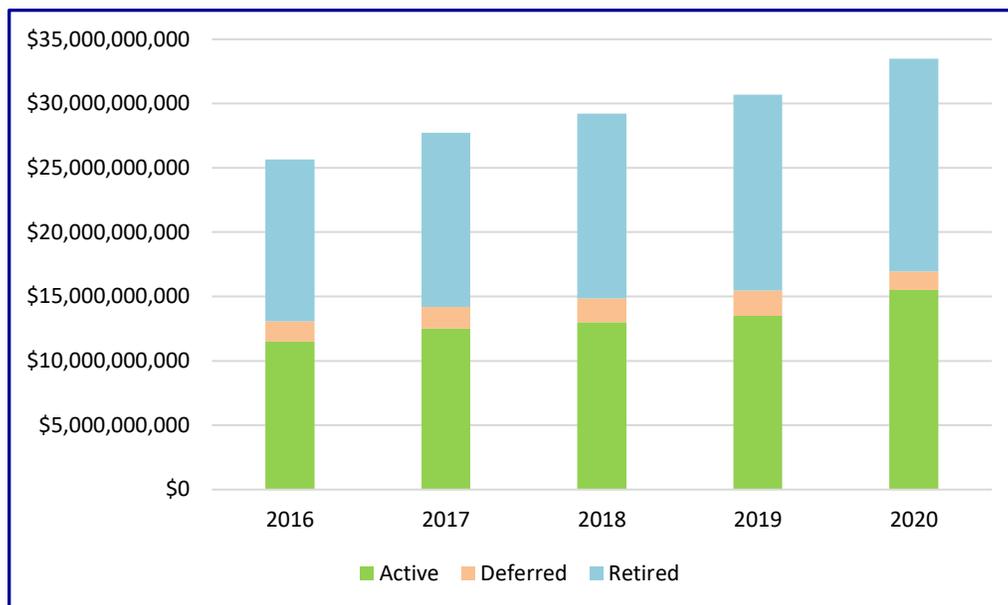
Valuation Results: Actuarial Accrued Liability

Using the provided membership data, benefit provisions, and actuarial assumptions, the future benefit payments of LGERS are estimated. These projected future benefit payments are discounted into today's dollars using the assumed rate of investment return assumption to determine the Present Value of Future Benefits (PVFB) of LGERS. The PVFB is an estimate of the current value of the benefits promised to all members as of a valuation date.

Once the PVFB is developed, an actuarial cost method is used to allocate the PVFB. Under the actuarial cost method, the PVFB is allocated to past, current and future service, respectively known as the actuarial accrued liability (AAL), normal cost (NC) and present value of future normal costs (PVFNC). The AAL is also referred to as the amount of money LGERS should ideally have in the trust. The NC is also referred to as the cost of benefits accruing during the year.

Graph 8: Actuarial Accrued Liability

The graph below provides a history of the actuarial accrued liability over the past five years.



Commentary: The AAL increased from \$30.701 billion to \$33.485 billion during 2020. LGERS is an open plan, which means that new members enter the plan each year. In an open plan, liabilities are expected to grow from one year to the next as more benefits accrue and the membership approaches retirement. The AAL was \$1.387 billion higher than expected, resulting primarily from changes in assumptions and methods.

A detailed summary of the AAL is provided in Section 5 of this report.



Section 2: The Valuation Process

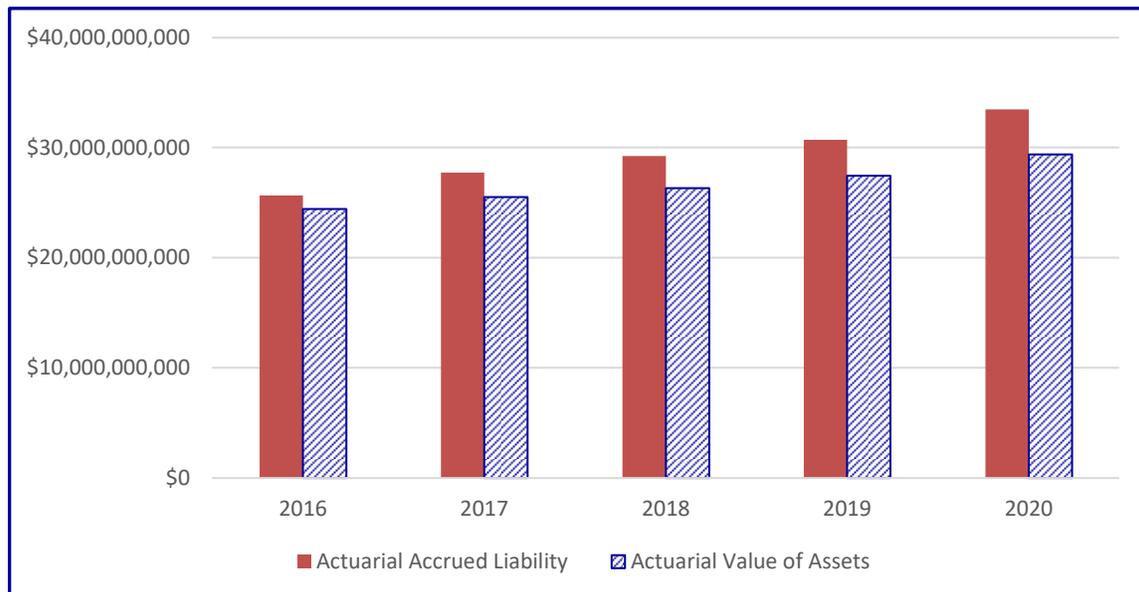
Valuation Results: Funded Ratio

The funded ratio is a measure of the progress that has been made in funding the plan as of the valuation date. It is the ratio of how much money LGERS actually has in the fund to the amount LGERS should have in the fund.

The actuarial cost method was changed to the entry age normal cost method from a frozen entry age cost method as of the December 31, 2015 valuation. Separate initial unfunded prior service cost accrued liabilities are maintained for employers who joined the system prior to November 1, 2015. Under the frozen entry age cost method, the funding target is the present value of future benefits, which includes the cost of service for past, current and future service. Under the entry age normal cost method, the funding target is the actuarial accrued liability, which includes the cost of service for only past service.

Graph 9: Actuarial Accrued Liability and Actuarial Value of Assets

The graph below provides a history of the actuarial accrued liability compared to the actuarial value of assets over the past five years.



Commentary: The actuarial value of assets basis is used for computing contributions to alleviate contribution volatility. The difference in the actuarial accrued liability and the actuarial value of assets is the amount of unfunded actuarial accrued liability to be paid off over a 12-year period.

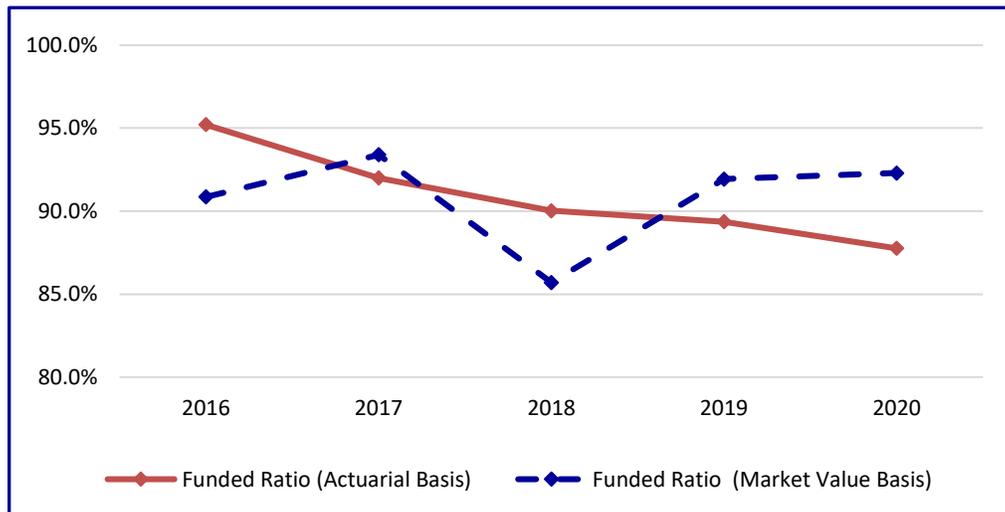


Section 2: The Valuation Process

Valuation Results: Funded Ratio (continued)

Graph 10: Funded Ratios

The graph below provides a history of the funded ratio on a market and actuarial basis over the past five years.



Commentary: The actuarial value of assets basis is used for computing contributions to alleviate contribution volatility. The funded ratio on an actuarial basis decreased from 89.4% at December 31, 2019 to 87.8% at December 31, 2020.



Section 2: The Valuation Process

Valuation Results: Employer Contributions

The North Carolina General Statutes provide that the contributions of employers shall consist of a normal contribution and an accrued liability contribution. An additional initial accrued liability contribution rate is to be set for each employer on the basis of the prior service credits allowable to the employees thereof, and is determined on the basis of separate initial valuations for each employer.

The December 31, 2019 valuation resulted in a preliminary actuarially determined employer contribution rate of 11.27% of payroll for general employees and firefighters and 12.94% of payroll for law enforcement officers at July 1, 2021. Based on the Employer Contribution Rate Stabilization Policy (ECRSP) adopted by the Board of Trustees on January 31, 2019, the Board set contributions at 11.35% of payroll for general employees and firefighters and 12.10% of payroll for law enforcement officers at July 1, 2021. As a result of the December 31, 2020 valuation, the preliminary actuarial determined employer contribution rate is 11.22% of payroll for general employees and firefighters and 13.00% of payroll for law enforcement officers. The Board of Trustees adopted a new (ECRSP) on April 29, 2021. Based on the revised ESRSP, the preliminary ECRSP contribution rate should be set at 12.10% of payroll for general employees and firefighters and 13.10% of payroll for law enforcement officers at July 1, 2022.

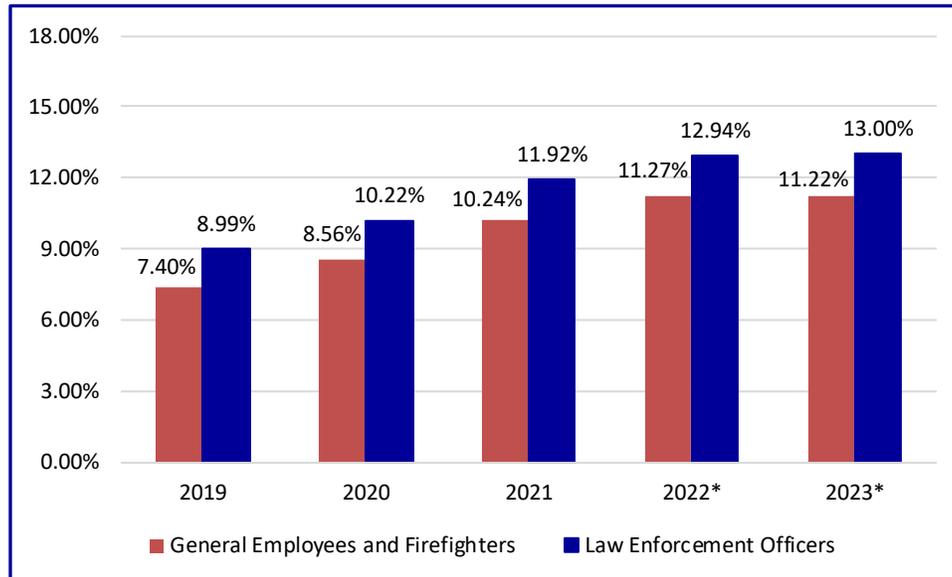


Section 2: The Valuation Process

Valuation Results: Employer Contributions (continued)

Graph 11: Actuarially Determined Employer Contribution Rates

The graph below provides a history of actuarially determined employer contribution rates over the past five years.



* Subject to the impact of future legislative changes effective before or during that fiscal year

Commentary: The normal cost rate is the employer's portion of the cost of benefits accruing after reducing for the 6% of pay contribution the members make. The accrued liability rate is the payment toward the unfunded liability needed to pay it off over a 12-year period. The 12-year period is a relatively short period for Public Sector Retirement Systems in the United States, with most Systems using a longer period to pay off unfunded pension liabilities. The shorter period results in higher contributions and more benefit security.

These contribution rates do not include an employer's additional initial contribution for unfunded prior service cost accrued liability. In addition, the actual contributions under ECRSP are not necessarily equal to the ADEC.

A detailed summary of the actuarially determined employer contribution rates is provided in Section 6 of this report.



Section 2: The Valuation Process

Valuation Results: Projections

Projections of contribution requirements and funded status into the future can be helpful planning tools for stakeholders. This section provides such projections. The projections of the actuarial valuation are known as deterministic projections. Deterministic projections are based on one scenario in the future. The baseline deterministic projection is based on December 31, 2020 valuation results and assumptions.

Key Projection Assumptions:

- Valuation interest rate of 6.50% for all years, with direct rate smoothing of the employer contribution rates over a five-year period beginning July 1, 2022.
- 6.50% investment return on market value of assets
- Actuarial assumptions and methods as described in Appendix D. All future demographic experience is assumed to be exactly realized.
- The contribution rate under the Employer Contribution Rate Stabilization Policy (ECRSP) is contributed until fiscal year ending 2027.
- The actuarially determined contribution rate is contributed for fiscal years ending 2028 and beyond.
- 0% increase in the total active member population
- No cost-of-living adjustments granted
- Future pay increases based on long-term valuation assumptions

The ECRSP adopted by the Board of Trustees on April 29, 2021 requires that recommended contributions for general employees be set at 11.35% of payroll for fiscal year ending 2022 and will increase each fiscal year by 0.75% per year, with adjustments for the impact of any benefit or assumption changes that were made and not incorporated in the previous scheduled rate, with the following additional adjustments, if applicable:

- (1) If the underlying actuarially determined employer contribution rate (ADEC) for a given fiscal year exceeds the adjusted scheduled employer contribution rate for that fiscal year by more than 1.00% of compensation, an increase equal to 50% of the difference is added to the adjusted scheduled employer contribution rate for the current and future fiscal years
- (2) Beginning July 1, 2024, if the adjusted scheduled employer contribution rate for that fiscal year exceeds the underlying actuarially determined employer contribution rate (ADEC) for a given fiscal year by more than 1.00% of compensation, a decrease equal to 50% of the difference is subtracted from the adjusted scheduled employer contribution rate for the current and future fiscal years

The ECRSP contribution rates for law enforcement officers will be 1.00% higher than contribution rates for general employees for fiscal year 2023. The 1.00% difference will increase by 0.25% each year until fiscal year 2027, when the contribution rates for law enforcement officers will be 2.00% higher than the contribution rates for general employees. Details on the projected contribution rates for law enforcement officers are shown in Section 9.



Section 2: The Valuation Process

Valuation Results: Projections (continued)

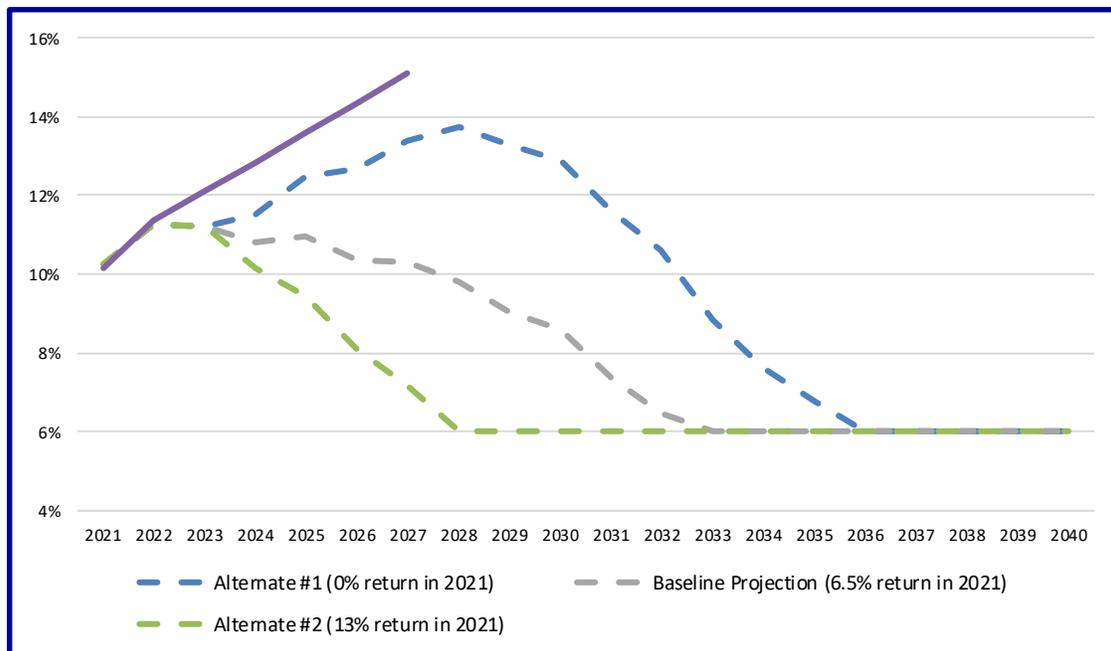
In addition, we have provided two alternate deterministic projections. The first alternate deterministic projection is based on the same assumptions as the baseline deterministic projection except that it assumes a 0.0% asset return for calendar year 2021. The second alternate deterministic projection is based on the same assumptions as the baseline deterministic projection except that it assumes a 13.0% asset return for calendar year 2021.

Finally, stochastic projections, where hundreds of projections based on varying rates of return are performed and results are ordered, are periodically performed by the Investment Management Division and shared with the Board of Trustees and RSD staff.

Valuation Results: Projections (continued)

Graph 12: Projected Actuarially Determined Employer Contribution Rates

The graph below provides the actuarially determined employer contributions rates for general employees and firefighters projected for 15 years, as well as the board-approved stable contribution under the Employer Contribution Rate Stabilization Policy.



Commentary: The minimum employer contribution rate is equal to the employee contribution rate of 6.00%. The contribution rates shown in the graph above do not include an employer's additional initial contribution for unfunded prior service cost accrued liability.

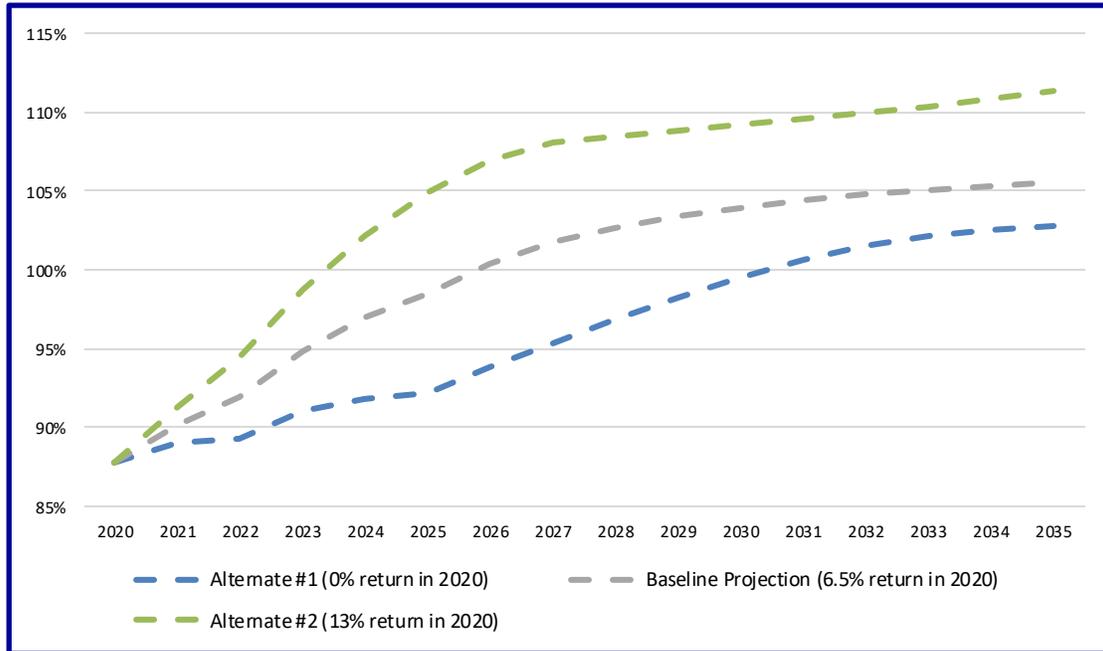


Section 2: The Valuation Process

Valuation Results: Projections (continued)

Graph 13: Projected Funded Ratio

The graph below provides the funded ratio projected for 15 years.



Commentary: Note that if the 6.50% return under the Baseline Projection is achieved, the funded ratio reaches the long-term target of 100% within 5 years. This is a direct result of using a 12-year period to pay off the unfunded actuarial accrued liability.

A detailed summary of the deterministic projections is provided in Section 9 of this report.

Valuation Results: Accounting Information

The Governmental Accounting Standards Board (GASB) issues statements which establish financial reporting standards for defined benefit pension plans and accounting for pension expenditures and expenses for governmental employers.

The valuation has been prepared in accordance with the parameters of Statement No. 67 of the GASB and all applicable Actuarial Standards of Practice. The Net Pension Liability (Asset) under GASB 67 for the fiscal year ending June 30, 2021, is \$1,533,596,000 (compared to \$3,573,426,000 for fiscal year ending June 30, 2020). The required financial reporting information for LGERS under GASB No. 67 can be found in Section 8 of this report.



Section 3: Membership Data

The Retirement Systems Division provided membership data as of the valuation date for each member of LGERS. The membership data assists the actuary in estimating benefits that could be paid in the future. The tables below provide a summary of the membership data used in this valuation. Detailed tabulations of data are provided in Appendix B.

Table 2: Active Member Data

	Member Count	Average Age	Average Service	Reported Compensation
General Employees	97,608	45.66	9.68	\$ 4,886,677,725
Firefighters	13,363	37.83	9.97	718,474,611
Law Enforcement Officers	<u>21,426</u>	<u>39.06</u>	<u>11.33</u>	<u>1,240,963,567</u>
Total	132,397	43.80	9.97	\$ 6,846,115,903

The table above includes members not in receipt of benefits who had reported compensation in 2020.

Table 3: Terminated Vested Member Data

	Member Count	Average Age	Average Service	Accumulated Contributions
General Employees	70,977	45.44	3.52	\$ 837,316,179
Firefighters	4,960	38.19	4.17	68,753,274
Law Enforcement Officers	<u>8,977</u>	<u>40.96</u>	<u>5.15</u>	<u>160,541,190</u>
Total	84,914	44.55	3.73	\$ 1,066,610,643

The table above includes members not in receipt of benefits who did not have reported compensation in 2020.



Section 3: Membership Data

Table 4: Data for Members Currently Receiving Benefits

	Member Count	Average Age	Annual Retirement Allowances
<u>Retired Members (Healthy at Retirement)</u>			
General Employees	48,959	70.77	\$ 931,549,722
Firefighters	2,817	65.50	90,466,184
Law Enforcement Officers	<u>9,488</u>	<u>64.94</u>	<u>265,524,425</u>
Total	61,264	69.62	\$ 1,287,540,331
<u>Retired Members (Disabled at Retirement)*</u>			
General Employees	6,337	64.52	\$ 107,679,854
Firefighters	1,207	62.38	32,933,080
Law Enforcement Officers	<u>1,587</u>	<u>57.62</u>	<u>33,815,906</u>
Total	9,131	63.04	\$ 174,428,840
<u>Survivors of Deceased Members</u>			
General Employees	5,296	72.11	61,713,108
Firefighters	479	74.09	7,862,947
Law Enforcement Officers	<u>1,386</u>	<u>70.81</u>	<u>22,055,464</u>
Total	7,161	71.99	\$ 91,631,519
Grand Total	77,556	69.07	\$ 1,553,600,690

* Includes retired members reported as disabled in a prior valuation and not subsequently reported as returned to work.



Section 4: Asset Data

Assets are held in trust and are invested for the exclusive benefit of LGERS members. The tables below provide the details of the Market Value of Assets for the current and prior years' valuations.

Table 5: Market Value of Assets

Asset Data as of	12/31/2020	12/31/2019
Beginning of Year Market Value of Assets	\$ 28,224,698,297	\$ 25,045,130,611
Employer Contributions	706,191,024	593,620,018
Employee Contributions	442,996,553	423,480,874
Court Costs	1,988,562	2,817,521
Benefit Payments Other Than Refunds	(1,531,981,296)	(1,452,519,505)
Refunds	(54,037,982)	(59,643,764)
Administrative Expenses	(5,112,894)	(4,676,875)
Investment Income	<u>3,120,828,646</u>	<u>3,676,489,417</u>
Net Increase / (Decrease)	2,680,872,613	3,179,567,686
End of Year Market Value of Assets	\$ 30,905,570,910	\$ 28,224,698,297
Estimated Net Investment Return	11.14%	14.83%

Table 6: Allocation of Investments by Category of the Market Value of Assets

Asset Data as of	12/31/2020	12/31/2019
Allocation by Dollar Amount		
Public Equity	\$ 11,364,288,681	\$ 9,233,219,503
Fixed Income (LTIF)	8,251,584,163	7,434,903,107
Cash and Receivables	3,362,801,559	3,790,398,830
Other *	<u>7,926,896,507</u>	<u>7,766,176,857</u>
Total Market Value of Assets	\$ 30,905,570,910	\$ 28,224,698,297
Allocation by Percentage of Asset Value		
Public Equity	36.8%	32.7%
Fixed Income (LTIF)	26.7%	26.3%
Cash and Receivables	10.9%	13.4%
Other *	<u>25.6%</u>	<u>27.6%</u>
Total Market Value of Assets	100.0%	100.0%

* Real Estate, Alternatives, Inflation and Credit



Section 4: Asset Data

In order to reduce the volatility that investment gains and losses can have on the required contributions and funded status of LGERS, the Board adopted an asset valuation method to determine the Actuarial Value of Assets used for funding purposes. The table below provides the calculation of the Actuarial Value of Assets at the valuation date.

Table 7: Actuarial Value of Assets

Asset Data as of	12/31/2020
Beginning of Year Actuarial Value of Assets	\$ 27,435,046,235
Beginning of Year Market Value of Assets	28,224,698,297
Total Contributions and Court Costs	1,151,176,139
Benefit Payments, Refunds and Administrative Expenses	<u>(1,591,132,172)</u>
Net Cash Flow	(439,956,033)
Expected Investment Return	1,960,590,855
Expected End of Year Market Value of Assets	29,745,333,119
End of Year Market Value of Assets	30,905,570,910
Excess of Market Value of Assets over Expected Market Value of Assets	1,160,237,791
80% of 2020 Asset Gain / (Loss)	928,190,233
60% of 2019 Asset Gain / (Loss)	1,164,257,027
40% of 2018 Asset Gain / (Loss)	(863,749,164)
20% of 2017 Asset Gain / (Loss)	<u>289,217,105</u>
Total Deferred Asset Gain / (Loss)	1,517,915,201
Preliminary End of Year Actuarial Value of Assets	29,387,655,709
Final End of Year Actuarial Value of Assets (not less than 80% and not greater than 120% of Market Value of Assets)	\$ 29,387,655,709
Estimated Net Investment Return	8.79%

Commentary: The actuarial value of assets smooths investment gains/losses, resulting in less volatility in the employer contribution. The asset valuation method recognizes asset returns in excess of or less than the expected return on the market value of assets over a five-year period. Actuarial value of assets was reset to market value of assets at December 31, 2014.

Higher than expected market returns, in 2017, 2019 and 2020, resulted in an actuarial value of asset return for calendar year 2020 of 8.79% and a recognized actuarial asset gain of \$487 million during 2020.



Section 4: Asset Data

The valuation assumed that the funds would earn a 7.00% asset return during 2020. The table below provides a history of the Actuarial Value and Market Value of Asset returns.

Table 8: Historical Asset Returns

Calendar Year	Expected Asset Return	Actuarial Value of Asset Return	Market Value of Asset Return	20 Year Average Market Return
1996	7.50%	10.20%	9.36%	NA
1997	7.25%	10.19%	18.10%	NA
1998	7.25%	9.93%	16.64%	NA
1999	7.25%	15.61%	9.99%	NA
2000	7.25%	12.27%	2.65%	NA
2001	7.25%	8.98%	-1.69%	NA
2002	7.25%	6.13%	-4.44%	NA
2003	7.25%	8.52%	18.63%	NA
2004	7.25%	9.00%	10.77%	NA
2005	7.25%	8.58%	7.00%	NA
2006	7.25%	9.19%	11.41%	NA
2007	7.25%	9.03%	8.36%	NA
2008	7.25%	2.97%	-19.47%	NA
2009	7.25%	4.92%	14.94%	NA
2010	7.25%	6.10%	11.53%	NA
2011	7.25%	5.33%	2.14%	NA
2012	7.25%	6.51%	11.79%	NA
2013	7.25%	7.61%	12.21%	NA
2014	7.25%	7.32%	6.19%	NA
2015	7.25%	5.87%	0.34%	NA
2016	7.25%	5.34%	6.22%	6.78%
2017	7.20%	6.59%	13.47%	6.57%
2018	7.00%	5.13%	-1.41%	5.67%
2019	7.00%	6.23%	14.83%	5.90%
2020	7.00%	8.79%	11.14%	6.32%
20-Yr Average	7.21%	6.89%	6.32%	NA
Range	0.25%	6.22%	38.10%	NA

Commentary: The average investment return recognized for purposes of determining the annual change in contribution each year is the actuarial value of assets return. Currently, the average actuarial return over the past 20 years of 6.89% compares with an average market return of 6.32%. The range of returns on market value of assets is markedly more volatile, 38.10% versus 6.22%. This results in much lower employer contribution volatility using the actuarial value of assets versus market, while ensuring that the actuarial needs of LGERS are met.



Section 5: Liability Results

Using the provided membership data, benefit provisions, and actuarial assumptions, the Retirement System's future benefit payments are estimated. These projected future benefit payments are discounted into today's dollars using the assumed rate of investment return assumption to determine the Present Value of Future Benefits. The Present Value of Future Benefits is allocated to past, current and future service, respectively known as the actuarial accrued liability, normal cost and present value of future normal costs. The table below provides these liability numbers for the current and prior years' valuations.

Table 9: Liability Summary

Valuation Results as of	12/31/2020	12/31/2019
(a) Present Value of Future Benefits		
(1) Active Members	\$ 22,887,543,731	\$ 20,051,687,895
(2) Terminated Members	1,442,127,239	1,984,320,009
(3) Members Currently Receiving Benefits	<u>16,527,449,324</u>	<u>15,228,521,929</u>
(4) Total	\$ 40,857,120,294	\$ 37,264,529,833
(b) Present Value of Future Normal Costs		
(1) Employee Future Normal Costs	\$ 3,474,103,383	\$ 3,326,446,821
(2) Employer Future Normal Costs	<u>3,897,784,321</u>	<u>3,237,161,709</u>
(3) Total	\$ 7,371,887,704	\$ 6,563,608,530
(c) Actuarial Accrued Liability: (a4) – (b3)	\$ 33,485,232,590	\$ 30,700,921,303
(d) Actuarial Value of Assets	\$ 29,387,655,709	\$ 27,435,046,235
(e) Unfunded Actuarial Accrued Liability: (c) – (d)	\$ 4,097,576,881	\$ 3,265,875,068
(f) Unfunded Initial Service Liability*	\$ 15,421,007	\$ 18,263,651
(g) Unfunded Accrued Liability to be Amortized over 12 years: (e) – (f)	\$ 4,082,155,874	\$ 3,247,611,417

*The unfunded initial prior service liability balance as of December 31, 2020 and the applicable employer contribution rate as of July 1, 2022 is provided in Appendix I, for participating employers with remaining initial prior service liability as of December 31, 2020. Appendix I also provides a non-binding estimated date of liquidation of the liability based on this valuation.

Commentary: The actuarial cost method was changed to the entry age normal cost method from a frozen entry age cost method as of the December 31, 2015 valuation. Separate initial unfunded prior service accrued liabilities are still maintained for employers who joined the system prior to November 1, 2015.



Section 5: Liability Results

The “Estimated Date of Liquidation of Initial Prior Service Liability”, shown in Appendix I, must be recalculated annually and adjusted according to each unit’s actual experience. The estimated date for liquidation of the liability as of the valuation date does not constitute a guarantee that a local unit will complete the liquidation as of the estimated date, for the reason that actual experience may not match the projections used to create the estimate.

The table below provides a summary of the participating employers in the current and prior years’ valuations.

Table 10: Participating Employers

Valuation Date	12/31/2020	12/31/2019
Total Participating Employers	891*	892
Employers Paying a Prior Service Liability Rate at Prior Valuation Date	64	68
Employers Completing Scheduled Payments Since Prior Valuation Date	3	3
Employers Granted Early Relief Since Prior Valuation Date	1	1
Total Participating Employers Paying a Prior Service Liability Rate at Valuation Date	60	64
Employers Granted Relief for Fiscal Year Beginning 6 Months after Valuation Date	5	5
Employers with Expected Relief for Fiscal Year Beginning 18 Months after Valuation Date	7	7

*The number of participating employers shown in Appendices H and J include three additional employers joining after the valuation date.



Section 5: Liability Results

The table below provides a reconciliation of the prior year's unfunded actuarial accrued liability to the current year's unfunded actuarial accrued liability.

Table 11: Reconciliation of Unfunded Actuarial Accrued Liability

(in millions)	
Unfunded Actuarial Accrued Liability (UAAL) as of 12/31/2019	\$ 3,266
Normal Cost and Administrative Expense during 2020	840
Reduction due to Actual Contributions during 2020	(1,127)
Interest on UAAL, Normal Cost, and Contributions	219
Asset (Gain) / Loss	(487)
Actuarial Accrued Liability (Gain) / Loss	250
Impact of Assumption Changes	1,137
Impact of Legislative Changes	-
Unfunded Actuarial Accrued Liability (UAAL) as of 12/31/2020	\$ 4,098

Commentary: During 2020, the UAAL increased more than expected primarily due to the assumption changes of \$1,137. This was offset by an asset gain during the year of \$487 million. Additionally, demographic experience increased the UAAL by \$250 million.



Section 6: Actuarially Determined Employer Contribution

The actuarially determined employer contribution consists of a normal cost rate and an accrued liability rate. The normal cost rate is the employer's portion of the cost of benefits accruing during the year after reducing for the member contribution. The accrued liability rate is the payment toward the unfunded accrued liability in order to pay off the unfunded accrued liability over 12 years. For fiscal years beginning subsequent to January 1, 2017, the sum of the normal cost rate and the accrued liability rate shall not be less than the employee contribution.

The Employer Contribution Rate Stabilization Policy (ECRSP) adopted by the Board of Trustees on April 29, 2021 requires that recommended contributions for general employees be set at 11.35% of payroll for fiscal year ending 2022 and will increase each fiscal year by 0.75% per year, with adjustments for the impact of any benefit or assumption changes that were made and not incorporated in the previous scheduled rate, with the following additional adjustments, if applicable:

- (1) If the underlying actuarially determined employer contribution rate (ADEC) for a given fiscal year exceeds the adjusted scheduled employer contribution rate for that fiscal year by more than 1.00% of compensation, an increase equal to 50% of the difference is added to the adjusted scheduled employer contribution rate for the current and future fiscal years
- (2) Beginning July 1, 2024, if the adjusted scheduled employer contribution rate for that fiscal year exceeds the underlying actuarially determined employer contribution rate (ADEC) for a given fiscal year by more than 1.00% of compensation, a decrease equal to 50% of the difference is added to the adjusted scheduled employer contribution rate for the current and future fiscal years

The ECRSP contribution rates for law enforcement officers will be 1.00% higher than contribution rates for general employees for fiscal year 2023. The 1.00% difference will increase by 0.25% each year until fiscal year 2027, when the contribution rates for law enforcement officers will be 2.00% higher than the contribution rates for general employees,



Section 6: Actuarially Determined Employer Contribution

The table below provides the calculation of the actuarially determined employer contribution for the current and prior years' valuations. The contribution rates shown in the table below do not include an employer's additional initial contribution for unfunded prior service liability.

Table 12: Calculation of the Actuarially Determined Employer Contribution (ADEC)

Valuation Date ADEC for Fiscal Year Ending	12/31/2020 6/30/2023	12/31/2019 6/30/2022
Normal Cost Rate Calculation		
(a) Normal Cost Rate		
General Employees and Firefighters	12.39%	11.24%
Law Enforcement Officers	14.91%	13.11%
(b) Employee Rate	6.00%	6.00%
(c) Expenses		
General Employees and Firefighters	0.13%	0.20%
Law Enforcement Officers	0.00%	0.00%
(d) Total Normal Cost Rate: (a) - (b) + (c)		
General Employees and Firefighters	6.52%	5.44%
Law Enforcement Officers	8.91%	7.11%
Accrued Liability Rate Calculation		
(e) Total Annual Amortization Payments*	\$ 540,200,277	\$ 425,655,621
(f) Projected Compensation**	\$ 7,605,240,537	\$ 7,301,604,347
(g) Accrued Liability Rate: (e) / (f)	7.10%	5.83%
Preliminary ADEC: (d) + (g)		
General Employees and Firefighters	13.62%	11.27%
Law Enforcement Officers	16.01%	12.94%
ADEC With Direct Rate Smoothing		
General Employees and Firefighters	11.22%	11.27%
Law Enforcement Officers	13.00%	12.94%

*See Table 15 for more detail

** Beginning with the December 31, 2017 valuation, compensation is projected to the fiscal year over which contributions will occur



Section 6: Actuarially Determined Employer Contribution

A detailed table of contribution rates payable by participating employers is provided in Appendix H. In addition to the actuarially determined employer contribution, as determined by the December 31, 2020 valuation (see Table 12 for more details), the unfunded initial prior service liability contribution rate is reflected for those employers that have not liquidated this liability as of June 30, 2022 (see Appendix I for more details).

The table below provides a reconciliation of the actuarially determined employer contribution rates.

Table 13: Reconciliation of the Change in the ADEC Rates

	General Employees and Firefighters	Law Enforcement Officers
Fiscal year ending June 30, 2022 Preliminary ADEC (based on December 31, 2019 valuation)	11.27%	12.94%
Impact of Legislative Changes	<u>0.00</u>	<u>0.00</u>
Fiscal year ending June 30, 2022 ADEC for Reconciliation	11.27%	12.94%
Change Due to Anticipated Reduction in UAAL*	(0.27)	(0.27)
Change Due to Demographic (Gain) / Loss	0.40	0.36
Change Due to Investment (Gain) / Loss	(0.86)	(0.86)
Change Due to Contributions Different from ADEC**	0.08	0.08
Impact of Assumption Change	3.00	3.76
Impact of Direct Rate Smoothing	(2.40)	(3.01)
Fiscal year ending June 30, 2023 Preliminary ADEC (based on December 31, 2020 valuation)	11.22%	13.00%

*Amortization of the UAAL is determined as a level dollar amount with payments expected to remain the same over the amortization period but was calculated as a percentage of valuation payroll in the previous valuation. Payroll is expected to increase annually while the expected amortization payment does not increase. This causes the expected amortization payment to be a lesser percentage of the expected payroll.

** Employer contribution rate for Law Enforcement Officers during 2020 was less than the ADEC. In addition, reflects the impact of direct-rate smoothing.



Section 6: Actuarially Determined Employer Contribution

Amortization methods determine the payment schedule for the unfunded actuarial accrued liability. LGERS adopted a 12-year closed amortization period for fiscal year ending 2018. A new amortization base is created each year based on the prior years' experience. The tables below provide the calculation of the new amortization base and the amortization schedule for the current year's valuation.

Table 14: Calculation of the New Amortization Base

Calculation as of	12/31/2020	12/31/2019
(a) Unfunded Actuarial Accrued Liability*	\$ 4,082,155,874	\$ 3,247,611,417
(b) Prior Years' Outstanding Balance	\$ 3,134,575,986	\$ 2,869,931,706
(c) New Amortization Base: (a) – (b)	\$ 947,579,888	\$ 377,679,711
(d) New Amortization Payment	\$ 123,691,102	\$ 50,878,535

* Does not include the unfunded initial prior service liability

Table 15: Amortization Schedule for Unfunded Accrued Liability

Date Established	Original Balance	12/31/2020 Outstanding Balance	Annual Payment
December 31, 2015	\$ 677,367,798	\$ 591,875,007	\$ 89,938,080
December 31, 2016	472,513,055	446,844,432	62,510,871
December 31, 2017	961,083,903	972,994,807	126,675,678
December 31, 2018	667,733,439	718,744,449	87,853,163
December 31, 2019	377,679,711	404,117,291	49,531,383
December 31, 2020	947,579,888	947,579,888	123,691,102
Total		\$ 4,082,155,874	\$ 540,200,277



Section 6: Actuarially Determined Employer Contribution

The tables below provide a history of the actuarially determined employer contribution rates.

Table 16: Actuarially Determined Employer Contribution Rates for General Employees and Firefighters

Valuation Date	Rate Effective	Preliminary ADEC	Change due to Legislation	Final ADEC	Actual Contribution
12/31/2020	7/1/2022	11.22%	N/A	N/A	N/A
12/31/2019	7/1/2021	11.27%	N/A	N/A	N/A
12/31/2018	7/1/2020	10.24%	0.00%	10.24%	10.15%
12/31/2017	7/1/2019	8.56%	0.00%	8.56%	8.95%
12/31/2016	7/1/2018	7.40%	0.00%	7.40%	7.75%
12/31/2015	7/1/2017	6.25%	0.00%	6.25%	7.50%

Table 17: Actuarially Determined Employer Contribution Rates for Law Enforcement Officers

Valuation Date	Rate Effective	Preliminary ADEC	Change due to Legislation	Final ADEC	Actual Contribution
12/31/2020	7/1/2022	13.00%	N/A	N/A	N/A
12/31/2019	7/1/2021	12.94%	N/A	N/A	N/A
12/31/2018	7/1/2020	11.92%	0.00%	11.92%	10.90%
12/31/2017	7/1/2019	10.22%	0.00%	10.22%	9.70%
12/31/2016	7/1/2018	8.99%	0.00%	8.99%	8.50%
12/31/2015	7/1/2017	7.84%	0.00%	7.84%	8.25%



Section 6: Actuarially Determined Employer Contribution

The following table shows estimates of the potential cost of two types of benefit improvements if they were enacted based on the results of the December 31, 2020 or December 31, 2019 valuations. The first benefit improvement is a permanent one-time cost-of-living increase and the second is an increase in the defined benefit formula multiplier.

Table 18: Cost of Benefits Enhancements

Calculation as of	12/31/2020	12/31/2019
Increase in UAAL for a 1% COLA	\$ 183,045,000	\$ 168,738,000
Increase in ADEC for a 1% COLA	0.31%	0.31%
Increase in UAAL for a 0.1% Increase in the Defined Benefit Formula	\$ 179,508,000	\$ 165,951,000
Increase in ADEC for a 0.1% Increase in the Defined Benefit Formula	0.37%	0.36%

The 1% COLA in the December 31, 2020 column would be effective July 1, 2022 and includes expected costs of COLAs paid for retirements after December 31, 2020 and before June 30, 2022. The COLA would be paid in full to retired members and survivors of deceased members on the retirement roll on July 1, 2021 and would be prorated for retired members and survivors of deceased members who commence benefits after July 1, 2021 but before June 30, 2022.

A corresponding increase in retirement allowances would be paid in the event of an increase in the defined benefit formula. An increase of 0.01% in the Defined Benefit Formula would result in an increase in AAL of \$179.5 million.

N.C.G.S. 128-27(k) COLA Disclosure for Board of Trustees:

- (1) The maximum COLA that could be granted under N.C.G.S. 128-27(k) by the Board payable in Fiscal Year 2022 is 2.66%
- (2) Amount of actuarial accrued liability that would be added if that COLA is granted: \$487.0 million
- (3) Amount that COLA would increase the underlying ADEC: 0.82%
- (4) ECRSP rate for General/Firefighters including the impact for this COLA: 12.92% (12.10% + 0.82%)
- (5) ECRSP rate for Law Enforcement Officers including the impact for this COLA: 13.92% (13.10% + 0.82%)



Section 7: Valuation Balance Sheet

The valuation balance sheet shows the projected assets and liabilities of LGERS. The items shown in the balance sheet are present values actuarially determined as of the relevant valuation date. The table below provides the valuation balance sheet for the current year and prior year.

Table 19: Valuation Balance Sheet on a Projected Basis

Balance Sheet as of	12/31/2020	12/31/2019
Assets		
Current Actuarial Value of Assets		
Annuity Savings Fund	\$ 5,792,939,657	\$ 5,557,854,032
Pension Accumulation Fund	<u>23,594,716,052</u>	<u>21,877,192,203</u>
Total	\$ 29,387,655,709	\$ 27,435,046,235
Future Member Contributions to the Annuity Savings Fund	\$ 3,474,103,383	\$ 3,326,446,821
Prospective Contributions to the Pension Accumulation Fund		
Normal Contributions	\$ 3,897,784,321	\$ 3,237,161,709
Unfunded Accrued Liability Contributions	<u>4,097,576,881</u>	<u>3,265,875,068</u>
Total	\$ 7,995,361,202	\$ 6,503,036,777
Total Assets	<u>\$ 40,857,120,294</u>	<u>\$ 37,264,529,833</u>
Liabilities		
Annuity Savings Fund		
Past Member Contributions	\$ 5,792,939,657	\$ 5,557,854,032
Future Member Contributions	<u>3,474,103,383</u>	<u>3,326,446,821</u>
Total Contributions	\$ 9,267,043,040	\$ 8,884,300,853
Pension Accumulation Fund		
Benefits Currently in Payment	\$ 16,527,449,324	\$ 15,228,521,929
Benefits to be Paid to Current Active and Inactive Members	15,062,627,930	13,151,707,051
Reserve for Increases in Retirement Allowances	<u>0</u>	<u>0</u>
Total Benefits Payable	\$ 31,590,077,254	\$ 28,380,228,980
Total Liabilities	<u>\$ 40,857,120,294</u>	<u>\$ 37,264,529,833</u>



Section 8: Accounting Results

This section contains the accounting information for Governmental Accounting Standards Board (GASB) Statement No. 67 for fiscal year ending June 30, 2021 based on a valuation date of December 31, 2020.

Please note that GASB Statement No. 67 (*Financial Reporting for Pension Plans*) is applicable for fiscal years ending 2014 and later.

The June 30, 2021 total pension liability presented in this section was determined by an actuarial valuation as of December 31, 2020, based on the assumptions, methods and plan provisions described in this report. The actuarial cost method used to develop the total pension liability is the Entry Age Normal Cost method, as required by GASB Statement No. 67.

GASB Statement No. 67 set forth certain items of information to be disclosed in the financial statements of the Plan. The tables below provide a distribution of the number of employees by type of membership.

Table 20: Number of Active and Retired Members as of December 31, 2020

Group	Number
Retired members and survivors of deceased members currently receiving benefit	77,556
Terminated members and survivors of deceased members entitled to benefits but not yet receiving benefits	84,914
Active Members	<u>132,397</u>
Total	294,867



Section 8: Accounting Results

GASB Statement No. 67 set forth certain items of information to be disclosed in the financial statements of the Plan. The tables below provide the schedule of changes in Net Pension Liability (Asset).

Table 21: Schedule of Changes in Net Pension Liability (Asset)

Schedule of Changes in Net Pension Liability as of June 30, 2021	
Total Pension Liability	
Service Cost	\$ 876,765,000
Interest	2,139,954,000
Changes of Benefit Terms	0
Difference between Expected and Actual Experience	296,054,000
Change of Assumptions	1,125,778,000
Benefit Payments, including Refund of Member Contributions	<u>(1,630,148,000)</u>
Net Change in Total Pension Liability	2,808,403,000
Total Pension Liability - Beginning of Year	\$ 31,372,060,000
Total Pension Liability - End of Year	\$ 34,180,463,000
Plan Fiduciary Net Position	
Employer Contributions	\$ 745,308,000
Member Contributions	453,112,000
Net Investment Income	5,283,300,000
Benefit Payments, including Refund of Member Contributions	(1,630,148,000)
Administrative Expenses	(5,295,000)
Other	<u>1,956,000</u>
Net Change in Plan Fiduciary Net Position	4,848,233,000
Plan Fiduciary Net Position - Beginning of Year	\$ 27,798,634,000
Plan Fiduciary Net Position - End of Year	\$ 32,646,867,000

Table 22: Net Pension Liability (Asset)

Net Pension Liability (Asset)		
	June 30, 2021	June 30, 2020
Total Pension Liability	\$ 34,180,463,000	\$ 31,372,060,000
Plan Fiduciary Net Position	<u>32,646,867,000</u>	<u>27,798,634,000</u>
Net Pension Liability (Asset)	\$ 1,533,596,000	\$ 3,573,426,000
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability (Asset)	95.51%	88.61%



Section 8: Accounting Results

The table below is the sensitivity of the net pension liability to changes in the discount rate.

Table 23: Sensitivity of the Net Pension Liability (Asset) at June 30, 2021 to Changes in the Discount Rate

Sensitivity of the Net Pension Liability to Changes in the Discount Rate			
	1% Decrease	Current	1% Increase
Discount Rate	5.50%	6.50%	7.50%
Net Pension Liability (Asset)	\$ 5,953,292,000	\$ 1,533,596,000	\$ (2,103,557,000)

The discount rate used to measure the total pension liability was 6.50%. The projection of cash flows used to determine the discount rate assumed that for fiscal year ending 2022, System contributions will follow the Employer Contribution Rate Stabilization Policy as adopted by the Board of Trustees on January 31, 2019, and “direct-rate smoothing” as adopted by the Board of Trustees on April 26, 2018. It is assumed that for fiscal years ending 2023 through 2027, System contributions will follow the Employer Contribution Rate Stabilization Policy as adopted by the Board of Trustees on April 29, 2021, and “direct-rate smoothing” as adopted by the Board of Trustees on January 28, 2021. It is assumed that for fiscal years 2028 and beyond, System contributions will be based on the actuarially determined contribution rates with a minimum employer contribution rate of 6.00% of payroll in accordance with G.S. 128-30(d)(10). Based on those policies, the System’s fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Please see Appendix E for additional detail.

The table below provides the methods and assumptions used to calculate the actuarially determined contribution rate.

Table 24: Additional Information for GASB Statement No. 67

Valuation Date	12/31/2020
Actuarial Cost Method	Entry Age
Amortization Method	Level dollar closed
Amortization Period	12 year closed periods
Asset Valuation Method	Asset returns in excess of or less than the expected return on market value of assets reflected over a five-year period (not greater than 120% of market value and not less than 80% of market value)
Actuarial Assumptions:	
Investment Rate of Return*	6.50%
Projected Salary Increases**	3.25% - 8.25%
*Includes Inflation of	2.50%
**Includes Inflation and Productivity of	3.25%
Cost-of-living Adjustments	N/A



Section 9: Projections

Projections of contribution requirements and funded status into the future can be helpful planning tools for stakeholders. This section provides such projections. The projections of the actuarial valuation are known as deterministic projections. Deterministic projections are based on one scenario in the future. The baseline deterministic projection is based on December 31, 2020 valuation results and assumptions.

Key Projection Assumptions

- Valuation interest rate of 6.50% for all years in conjunction with direct rate smoothing of the employer contribution rate over a 5-year period beginning July 1, 2022.
- 6.50% investment return on market value of assets
- Actuarial assumptions and methods as described in Appendix D. All future demographic experience is assumed to be exactly realized.
- The contribution rate under the Employer Contribution Rate Stabilization Policy (ECRSP) is contributed until fiscal year ending 2027 not recognizing the decline in scheduled rates that would occur under the ECRSP in FY 2025-2027 if the ADEC is less than the schedule by at least 1% of pay..
- The actuarially determined contribution rate is contributed for fiscal years ending 2028 and beyond.
- 0% increase in the total active member population
- No cost-of-living adjustments granted
- Future pay increases based on long-term valuation

The Employer Contribution Rate Stabilization Policy (ECRSP) adopted by the Board of Trustees on April 29, 2021 requires that recommended contributions for general employees be set at 11.35% of payroll for fiscal year ending 2020 and will increase each fiscal year by 0.75% per year, with adjustments for the impact of any benefit or assumption changes that were made and not incorporated in the previous scheduled rate, with the following additional adjustments, if applicable:

- (1) If the underlying actuarially determined employer contribution rate (ADEC) for a given fiscal year exceeds the adjusted scheduled employer contribution rate for that fiscal year by more than 1.00% of compensation, an increase equal to 50% of the difference is added to the adjusted scheduled employer contribution rate for the current and future fiscal years
- (2) Beginning July 1, 2024, if the adjusted scheduled employer contribution rate for that fiscal year exceeds the underlying actuarially determined employer contribution rate (ADEC) for a given fiscal year by more than 1.00% of compensation, a decrease equal to 50% of the difference is added to the adjusted scheduled employer contribution rate for the current and future fiscal years

The ECRSP contribution rates for law enforcement officers will be 1.00% higher than contribution rates for general employees for fiscal year 2023. The 1.00% difference will increase by 0.25% each year until fiscal year 2027, when the contribution rates for law enforcement officers will be 2.00% higher than the contribution rates for general employees,

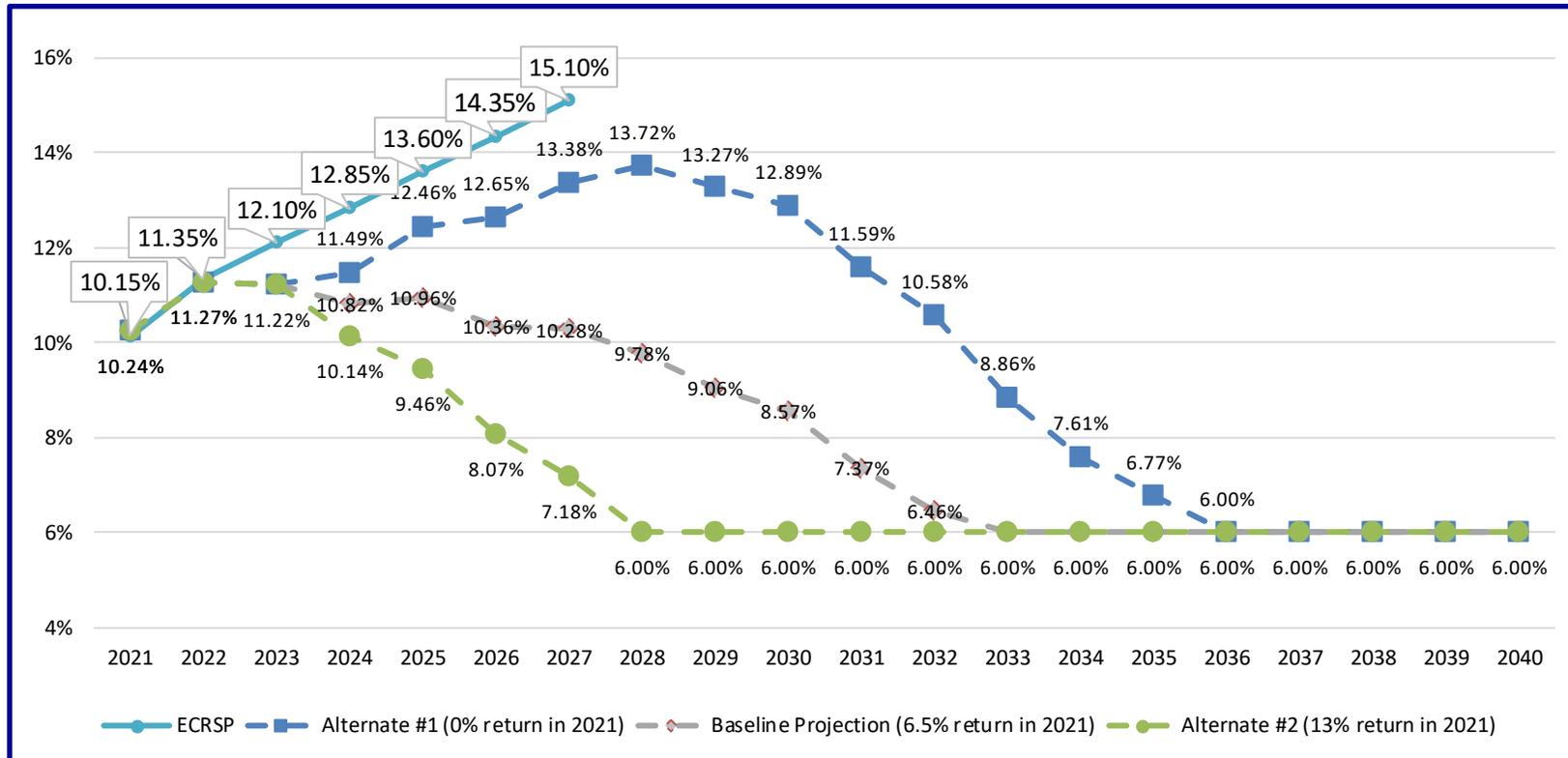
In addition, we have provided two alternate deterministic projections. The first alternate deterministic projection is based on the same assumptions as the baseline deterministic projection except that it assumes a 0.0% asset return for calendar year 2021. The second alternate deterministic projection is based on the same assumptions as the baseline deterministic projection except that it assumes a 13.0% asset return for calendar year 2021.



Section 9: Projections

The graph below provides the actuarially determined employer contribution rates projected for 15 years, as well as the board approved stable contribution under the Employer Contribution Rate Stabilization Policy.

Projected Actuarially Determined Employer Contribution Rates for General Employees and Firefighters

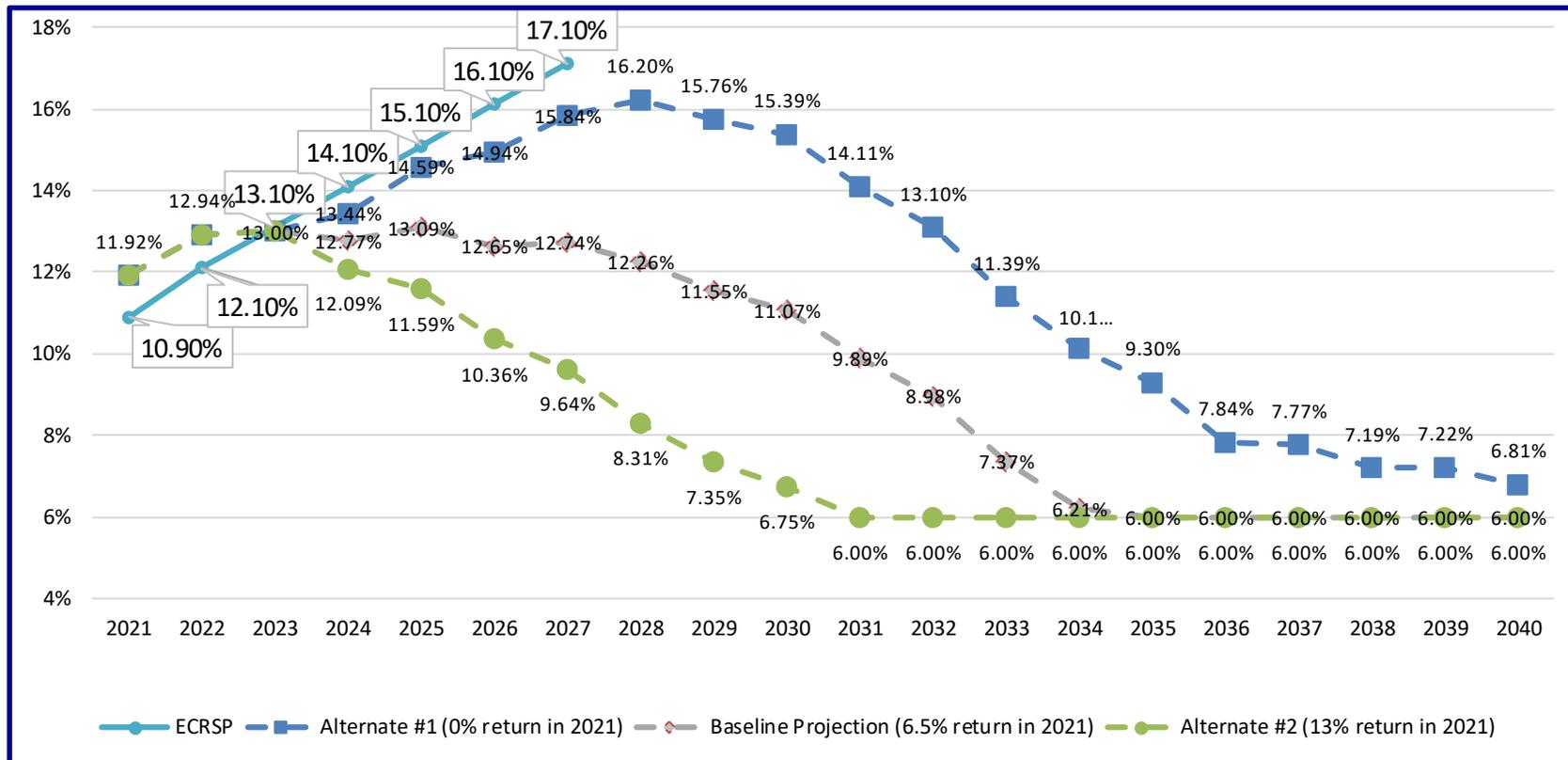




Section 9: Projections

The graph below provides the actuarially determined employer contribution rates projected for 15 years, as well as the board approved stable contribution under the Employer Contribution Rate Stabilization Policy.

Projected Actuarially Determined Employer Contribution Rates for Law Enforcement Officers

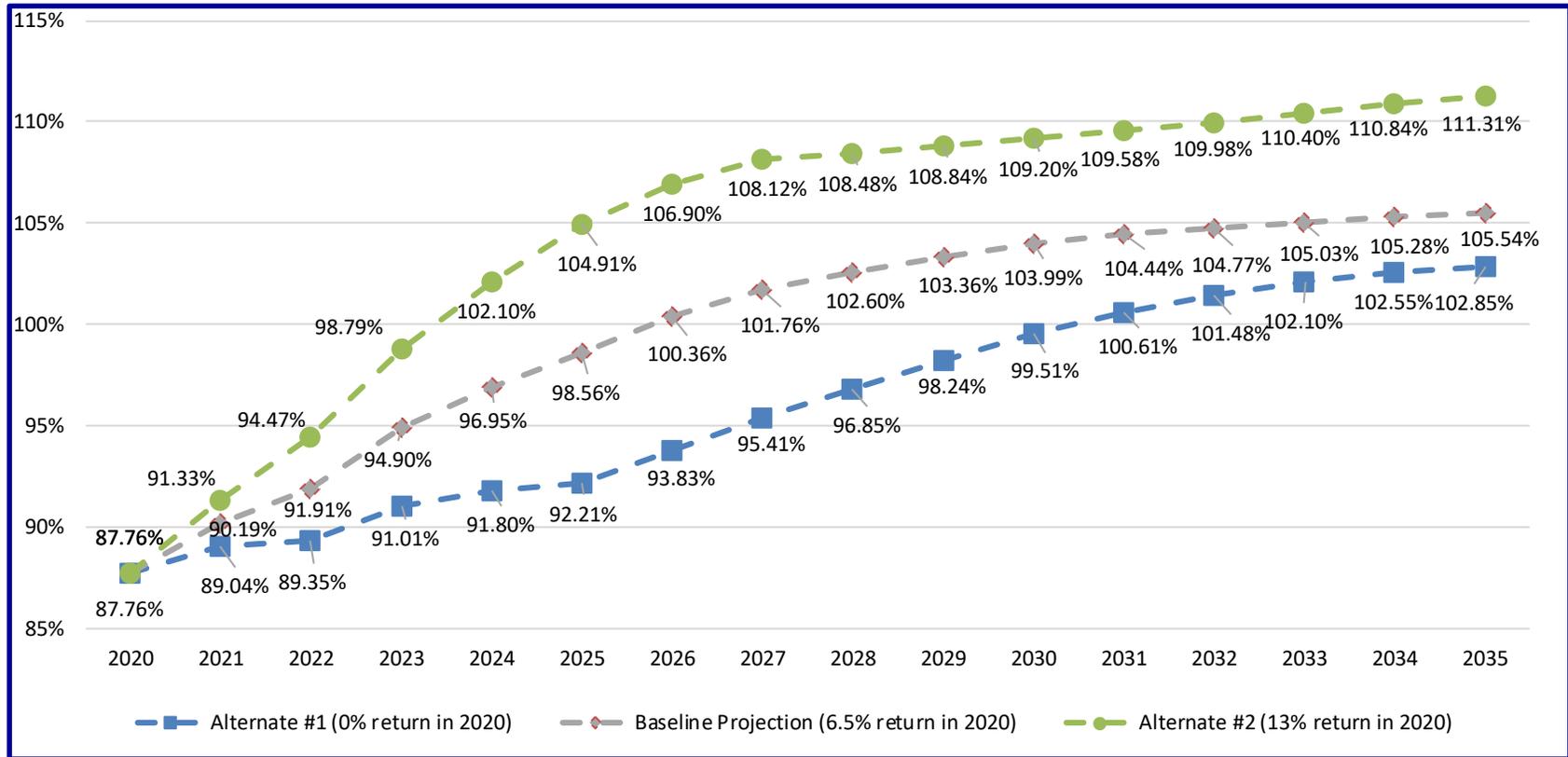




Section 9: Projections

The graph below provides the funded ratio projected for 15 years.

Projected Funded Ratio





Appendix A: Valuation Process and Glossary of Actuarial Terms

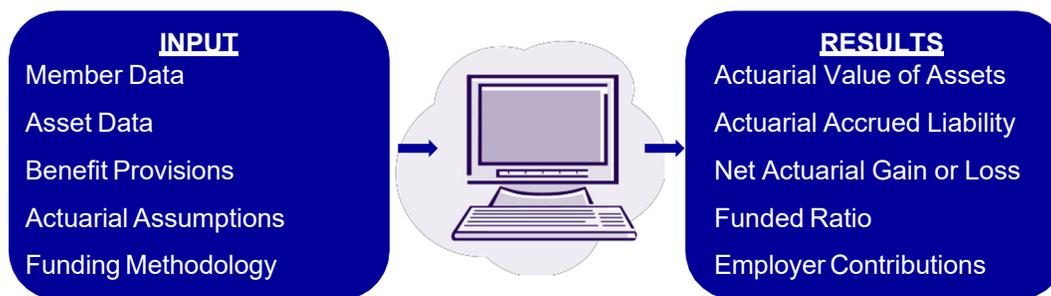
Purpose of an Actuarial Valuation

The majority of Public Sector Retirement Systems in the State of North Carolina are defined benefit (DB) retirement systems. Under a DB retirement system, the amount of benefits payable to a member upon retirement, termination, death or disability is defined in various contracts and legal instruments and is based, in part, on the member's years of credited service and final compensation. The amount of contribution needed to fund these benefits cannot be known with certainty. A primary responsibility of the Board of Trustees of a Retirement System is to establish and monitor a funding policy for the contributions made to the Retirement System.

While somewhat uncommon, in some jurisdictions, contributions are made by the plan sponsor as benefits come due. This is known as pay-as-you-go financing. More commonly, contributions for benefits are made in advance during the course of active employment of the members. This is known as actuarial pre-funding. For example, the State of North Carolina mandates for the Teachers' and State Employees' Retirement System ("TSERS") under G.S.135-8(d), that that "on account of each member there shall be paid into the pension accumulation fund by employers an amount equal to a certain percentage of the actual compensation of each member to be known as the 'normal contribution' and an additional amount equal to a percentage of the member's actual compensation to be known as the 'accrued liability contribution'. The rate per centum of such contributions shall be fixed on the basis of the liabilities of the Retirement System as shown by actuarial valuation, duly approved by the Board of Trustees, and shall be called the 'actuarially determined employer contribution rate'...The actuarially determined employer contribution rate shall be calculated annually by the actuary using assumptions and a cost method approved by the Actuarial Standards Board of the American Academy of Actuaries and selected by the Board of Trustees."

The Actuarial Valuation Process

The following diagram summarizes the inputs and results of the actuarial valuation process. A narrative of the process follows the diagram. The reader may find it worthwhile to refer to the diagram from time to time.



Under the actuarial valuation process, current information about Retirement System members is collected annually by staff at the direction of the actuary, namely member data, asset data and information on benefit provisions. Member data is collected for each member of the Retirement System. The member data will assist the actuary in estimating benefits that could be paid in the future. The member information the actuary collects to estimate the amount of benefit includes elements such as current service, salary and benefit group identifier for members that have not separated service; for those that have, the actual benefit amounts are collected. The actuary collects information such as gender and date of birth to determine when a benefit might be paid and for how long.



Appendix A: Valuation Process and Glossary of Actuarial Terms

The actuary collects summary information about assets as of the valuation date and information on cash flows for the year ending on the valuation date. Information about benefit provisions as of the valuation date is also collected. To bridge the gap between the information collected and potential benefits to be paid in the future, the actuary must make assumptions about future activities. These assumptions are recommended by the actuary to the Boards based on the results of an experience review. An experience review is a review of the Retirement System over a period of time, typically five years, where the actuary analyzes the demographic and economic assumptions of the Retirement System. Based on this review, the actuary will make recommendations on the demographic assumptions, such as when members will be projected to retire, terminate, become disabled and/or die in the future, as well as the economic assumptions, such as what rate of return is projected to be earned by the fund based on the Retirement System investment policy and what level of future salary increases is expected for members. To maintain the assumptions, the Board should adopt a prudent policy of having an experience review being performed every five years. The next experience review for the North Carolina Retirement Systems will be based on the five-year period ending on December 31, 2024, and will be presented during 2025. Using these assumptions, the actuary is able to use the member data, asset data and benefit provision information collected to project the benefits that will be paid from the Retirement System to current members. These projected future benefit payments are based not only on service and pay through the valuation date but includes future pay and service, which has not yet been earned by the members but is expected to be earned.

These projected future benefit payments are discounted into today's dollars using the assumed rate of investment return assumption to determine the Present Value of Future Benefits (PVFB) of the Retirement System. The PVFB is an estimate of the value of the benefits promised to all members as of a valuation date. If the Retirement System held assets equal to the PVFB and all the assumptions were realized, there would be sufficient funds to pay off all the benefits to be paid in the future for members in the Retirement System as of the valuation date.

The PVFB is a large sum of money, typically much larger than the amount of Retirement System assets held in the trust. The next step is for the actuary to apply the Funding Policy as adopted by the Board to determine the employer contributions to be made to the Retirement System so that the gap between the PVFB and assets is systematically paid off over time. The Funding Policy is adopted by the Board based on discussions with the actuary. When the Board develops a funding policy, a balance between contributions which are responsive to the needs of the Retirement System yet stable should be struck. There are many different funding policies for the Board to consider, and the actuary is responsible for discussing the various features of the funding policies under consideration. Funding Policies are generally reviewed during an experience review, but it is not uncommon to review a funding policy in between, particularly during period where large increases or decreases in contributions are expected. The Funding Policy is composed of three components: the actuarial cost method, the asset valuation method, and the amortization method.

Once the PVFB is developed, an actuarial cost method is used to allocate the PVFB. Under the actuarial cost method, the PVFB is allocated to past, current and future service, respectively known as the actuarial accrued liability (AAL), normal cost (NC) and present value of future normal costs (PVFNC). The actuary computes the liability components (PVFB, NC, AAL, and PVFNC) for each participant in the Retirement System at the valuation date. These liability components are then totaled for the Retirement System. There are many actuarial cost methods. Different actuarial methods will produce different contribution patterns, but do not change the ultimate cost of the benefits. The entry age normal cost method is the most prevalent method used for public sector plans in the United States, because the expected normal cost is calculated in such a way that it will tend to stay level as a percent of pay over a member's career.



Appendix A: Valuation Process and Glossary of Actuarial Terms

The actuarial accrued liability (AAL) is also referred to as the amount of money the Retirement System should ideally have in the trust. The unfunded actuarial accrued liability (UAAL) is the portion of actuarial accrued liability that is not covered by the assets of the Retirement System. The UAAL can be a negative number, which means that the Retirement System has more assets than actuarial accrued liability. We refer to this condition as overfunded liability in this summary. Having UAAL does not indicate that the Retirement System is in failing actuarial health. Most retirement systems have UAAL. Another related statistic of the Retirement System is the funded ratio. The funded ratio is the percent of the actuarial accrued liabilities covered by the actuarial value of assets. The assets used for these purposes are an actuarial value of assets (AVA), not market. The actuarial value of assets is based on the asset valuation method as recommended by the actuary and adopted by the Board. An actuarial value of assets is a smoothed, or averaged, value of assets, which is used to limit employer contribution volatility. Typically, assets are smoothed, or averaged, over a period of 3 to 5 years. By averaging returns, the UAAL is not as volatile, which we will see later results in contributions that are not as volatile as well. The North Carolina Retirement Systems use an actuarial value of assets with a smoothing period of 5 years.

While having UAAL is common, it is acceptable only if it is systematically being paid off. The method by which the UAAL is paid off is known as the amortization method. The concept is similar to that of a mortgage payment. The Board adopts the amortization method used to pay off the UAAL over a period of time. The amortization method is composed of the amortization period, the amount of payment increase, whether the period is open or closed and by the amount of amortization schedules. The amortization period is the amount of time over which the UAAL will be paid off. This is generally a period of thirty years or less, but actuaries are beginning to recommend shorter periods. The payments can be developed to stay constant from year to year like a mortgage, but often they are developed to increase each year at the same level payroll increases. Amortization type can be closed or open. Under a closed period, the UAAL is expected to be paid off over the amortization period. This is similar to a typical mortgage. Under an open period, the amortization period remains unchanged year after year. The concept is similar to re-mortgaging annually. In many instances, an amortization schedule is developed, whereby the UAAL is amortized over a closed period from the point the UAAL is incurred. Finally, some amortization methods are defined by a schedule of payments, where a new schedule of payments is added with each valuation. Regardless of the amortization type or period, the funding policy should generate a contribution that pays off the UAAL, which results in the funded ratio trending to 100% over time. Caution should be used when an open method is used, because typically an open amortization policy does not result in the UAAL being paid off. North Carolina pays off a much larger amount of UAAL compared to other states. While many states struggle to pay a 30-year level percent of pay UAAL contribution, which doesn't even reduce the amount of UAAL, North Carolina pays down the UAAL with level dollar payments over a 12-year period. This aggressive payment schedule of the UAAL results in North Carolina being home to many of the best funded Public Retirement Systems in the United States.

To satisfy the requirements of the State of North Carolina, the actuary calculates the total annual contribution to the Retirement System as the normal cost plus a contribution towards UAAL. Said another way, this contribution is sufficient to pay for the cost of benefits accruing during the year (normal cost) plus the mortgage payment (UAAL payment). The total contribution is reduced by the amount of member contributions, if any, to arrive at the employer contribution. Continuing to follow the aggressive North Carolina contribution policy will keep the North Carolina Retirement Systems among the best funded in the United States.



Appendix A: Valuation Process and Glossary of Actuarial Terms

An actuarial valuation report is produced annually, which contains the contribution for the fiscal year as well as the funded ratio of the Retirement System. The primary purpose of performing an actuarial valuation annually is to replace the estimated activities from the previous valuation, which were based on assumptions, with the actual experience of the Retirement System for the prior year. The experience gain (loss) is the difference between the expected and the actual UAAL of the Retirement System. An experience loss can be thought of as the amount of additional UAAL over and above the amount that was expected from the prior year due to deviation of actual experience from the assumption. Similarly, an experience gain can be thought of as having less UAAL than that which was expected from the prior year assumptions. As an example, if the Retirement System achieves an asset return of 15% when the assumption was a 6.50 return, an actuarial gain is said to have happened, which typically results in lower contributions and higher funded ratio, all else being equal. Alternatively, a return of 2% under the same circumstances would result in an actuarial loss, requiring an increase in contributions and a funded ratio that is lower than anticipated. Experience gains and losses are common within the valuation process. Typically gains and losses offset each other over time. To the extent that does not occur, the reasons for the gains and losses should be understood, and appropriate recommendations should be made by the actuary after an experience review to adjust the assumptions.

The actuarial valuation report will contain histories of key statistics from prior actuarial valuation reports. In particular, a history of the funded ratio of the Retirement System is an important exhibit. Trustees should understand the reason for the trend of the funded ratio of the Retirement System over time. The actuary will discuss the reasons for changes in the funded ratio of the Retirement System with each valuation report. To the extent that there are unexplained changes in funded ratio corrective action should be explored and the actuary will make recommendations as to whether there should be changes in the assumptions, funding policy, or some other portion of the actuarial valuation process.

In addition to historical information, projections of contributions and funded ratio based on current assumptions can sometimes be found in an actuarial valuation report. Projections of contributions can allow the employer to plan their budget accordingly. Surprises in Retirement System contributions to be paid by the employer serve no one. A one-year projection based on “bad” asset returns can provide ample time for the employer to plan, or allow for a discussion of changing the funding policy to occur. Contribution surprises are a primary contributor to employers considering pension reform. It is important to keep the employer apprised of future contribution requirements. A projection of funded ratio can serve the Trustees by illustrating the trend of the funded ratio over time. The funded ratio, under a prudent funding policy, should trend to 100% over a period of less than 30 years. (It is worthwhile to note that while 30 years has served as an industry standard for the longest period over which 100% funding should be achieved, that period is coming under scrutiny by the actuarial community and will likely be shortened.) If a projection of funded ratio does not trend to 100% over time, consideration should be given to fixing the funding policy to achieve this goal. For the North Carolina Retirement Systems, projections are generally performed for the January board meetings.

The actuarial report will contain schedules of information about the census, plan and asset information submitted by Retirement System staff upon which the actuarial valuation is based. It is important that the Board of Trustees review that information and determine if the information is consistent with their understanding of the Retirement System. If after questioning staff, the Board of Trustees is not comfortable that the information provided is correct, the actuary should be notified to determine if the actuarial valuation report should be corrected.

Finally, the valuation report and/or presentation should contain sufficient information in an understandable fashion to allow the Board to take action and adopt the contribution rate for the upcoming year. It should also allow stakeholders to understand key observations over the past year that resulted in contributions increasing (or decreasing) and where contributions are headed. The actuary is always open to making the results understandable. CMC works with the North Carolina Retirement Systems Division to make your reports and presentations understandable and actionable. If something doesn't make sense – speak up!!



Appendix A: Valuation Process and Glossary of Actuarial Terms

Glossary

Note that the first definitions given are the “official” definitions of the term. For some terms there is a second definition, in italics, which is the unofficial definition.

Actuarial Accrued Liability (AAL). The portion of the Present Value of Projected Benefits (PVFB) allocated to past service. Also difference between (i) the actuarial present value of future benefits, and (ii) the present value of future normal cost. Sometimes referred to as “accrued liability” or “past service liability.” The amount of money that should be in the fund. *The funding target.*

Actuarial Assumptions. Estimates of future plan experience with respect to rates of mortality, disability, retirement, investment income and salary increases. Demographic (“people”) assumptions (rates of mortality, separation, and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic (“money”) assumptions (salary increases and investment income) consist of an underlying rate appropriate in an inflation-free environment plus a provision for a long-term average rate of inflation. *Estimates of future events used to project what we know now - current member data, assets, and benefit provisions – into an estimate of future benefits.*

Actuarial Cost Method. A mathematical budgeting procedure for allocating the dollar amount of the Present Value of Projected Benefits (PVFB) between the normal costs to be paid in the future and the actuarial accrued liability. Sometimes referred to as the “actuarial funding method.”

Actuarial Methods. The collective term for the Actuarial Cost Method, the Amortization Payment for UAAL Method, and the Asset Valuation Method used to develop the contribution requirements for the Retirement System. *The funding policy.*

Actuarial Equivalent. Benefits whose actuarial present values are equal.

Actuarial Present Value. The amount of funds presently required to provide a payment or series of payments in the future. It is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Actuarial Value of Assets (AVA). A smoothed value of assets which is used to limit contribution volatility. Also known as the funding value of assets. *Smoothed value of assets.*

Amortization Payment for UAAL. Payment of the unfunded actuarial accrued liability by means of periodic contributions of interest and principal, as opposed to a lump sum payment. The components of the amortization payment for UAAL include:

- Amortization Period Length – Generally amortization periods up to 15 to 20 years (and certainly not longer than 30) are allowed. Similar to a mortgage, the shorter the amortization period, the higher the payment and the faster the UAAL is paid off.
- Amortization payment increases – Future payments can be level dollar, like a mortgage, or as a level percent of pay. Most Retirement Systems amortize UAAL as a level percent of pay which when combined with the employer normal cost that is developed as a level percent of pay can result in contributions that are easier to budget.
- Amortization type – An amortization schedule can be closed or open. A closed amortization schedule is similar to a mortgage – at the end of the amortization period the UAAL is designed to be paid off. An open amortization period is similar to refinancing the UAAL year after year.
- Amortization schedule – UAAL can be amortized over a single amortization period, or it can be amortized over a schedule.

The amortization payment for UAAL can be thought of as the UAAL mortgage payment.



Appendix A: Valuation Process and Glossary of Actuarial Terms

Asset Valuation Method. The components of how the actuarial value of assets is to be developed. LGERS uses a five-year smoothing of asset gains and losses, which is the most commonly used method

Experience Gain (Loss). A measure of the difference between actual experience and experience anticipated by a set of actuarial assumptions during the period between two actuarial valuation dates, in accordance with the actuarial cost method being used. *The experience Gain (Loss) represents how much the actuary missed the mark in a given year.*

Funded Ratio. The percent of the actuarial accrued liabilities covered by the actuarial value of assets. Also known as the funded status. *The ratio of how much money you actually have in the fund to the amount you should have in the fund.*

Normal Cost. The annual cost assigned, under the actuarial funding method, to current and subsequent plan years. Sometimes referred to as “current service cost.” An amortization payment toward the unfunded actuarial accrued liability is paid in addition to the normal cost to arrive at the total contribution in a given year. *The cost of benefits accruing during the year.*

Present Value of Future Normal Cost (PVFNC). The portion of the Present Value of Projected Benefits (PVFB) allocated to future service. *The value in today’s dollars of the amount of contribution to be made in the future for benefits accruing for members in the Retirement System as of the valuation date.*

Present Value of Future Benefits (PVFB). The projected future benefit payments of the plan are discounted into today’s dollars using an assumed rate of investment return assumption to determine the Present Value of Future Benefits (PVFB) of the Retirement System. The PVFB is the discounted value of the projected benefits promised to all members as of a valuation date, including future pay and service for members which has not yet been earned. *If the Retirement System held assets equal to the PVFB and all the assumptions were realized, there would be sufficient funds to pay off all the benefits to be paid in the future for members in the Retirement System as of the valuation date.*

Reserve Account. An account used to indicate that funds have been set aside for a specific purpose and are not generally available for other uses.

Unfunded Actuarial Accrued Liability (UAAL). The difference between the actuarial accrued liability (AAL) and actuarial value of assets (AVA). The UAAL is sometimes referred to as “unfunded accrued liability.” *Funding shortfall, or prefunded amount if negative.*

Valuation Date. The date that the actuarial valuation calculations are performed as of. *Also known as the “snapshot date”.*



Appendix B: Detailed Tabulation of Member Data

Table B-1: The Number and Average Reported Compensation of Active Members Distributed by Age and Service as of December 31, 2020

Age	Years of Service										Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & Up	
Under 25	1,149	4,201	99	0	0	0	0	0	0	0	5,449
	7,661	35,334	42,806	0	0	0	0	0	0	0	29,635
25 to 29	1,090	9,660	3,031	17	0	0	0	0	0	0	13,798
	8,394	40,569	47,807	52,058	0	0	0	0	0	0	39,631
30 to 34	760	7,073	6,446	1,896	55	0	0	0	0	0	16,230
	8,586	42,355	50,550	55,901	57,007	0	0	0	0	0	45,661
35 to 39	535	4,952	4,642	4,198	1,962	65	0	0	0	0	16,354
	8,809	44,112	52,758	58,459	61,711	64,582	0	0	0	0	51,287
40 to 44	417	3,976	3,642	3,076	3,497	1,674	29	0	0	0	16,311
	8,203	45,098	52,970	58,606	64,307	67,932	63,687	0	0	0	54,955
45 to 49	390	3,506	3,243	2,726	2,947	3,696	1,404	20	0	0	17,932
	8,767	44,834	52,700	57,763	63,242	70,782	76,054	65,987	0	0	58,279
50 to 54	376	3,198	3,011	2,574	2,600	2,831	2,790	496	8	0	17,884
	8,802	44,602	51,522	56,114	61,689	68,398	77,728	76,686	73,539	0	58,993
55 to 59	307	2,673	2,504	2,163	2,182	1,961	1,432	757	180	8	14,167
	9,543	45,174	50,978	55,376	57,766	62,875	70,093	81,236	77,150	68,916	56,240
60 to 64	136	1,561	1,800	1,610	1,571	1,339	771	446	238	89	9,561
	8,792	42,959	49,817	55,242	56,803	61,600	65,261	73,082	82,230	83,530	55,277
65 to 69	50	540	689	588	518	376	229	175	75	75	3,315
	7,288	36,304	48,554	55,315	58,773	59,840	62,678	69,451	75,436	86,710	53,563
70 & Over	35	326	298	207	197	127	75	48	38	45	1,396
	6,364	24,669	32,639	45,227	51,366	53,099	54,788	73,933	71,909	91,479	42,065
Total	5,245	41,666	29,405	19,055	15,529	12,069	6,730	1,942	539	217	132,397
	8,399	42,071	50,989	56,944	61,286	66,963	73,498	76,801	78,732	85,739	51,709



Appendix B: Detailed Tabulation of Member Data

Table B-2: The Number and Reported Compensation of Active Members Distributed by Age as of December 31, 2020

Age	Men		Women	
	Number	Compensation	Number	Compensation
18	10	71,440	0	0
19	87	1,320,321	21	339,347
20	241	5,625,268	62	1,100,411
21	456	12,296,021	113	2,662,812
22	738	21,787,128	320	7,137,383
23	946	30,948,480	505	13,302,570
24	1,219	42,795,380	731	22,092,193
25	1,503	56,785,228	910	31,000,999
26	1,503	59,657,809	977	34,936,206
27	1,662	68,869,612	1,172	44,297,386
28	1,826	77,468,740	1,158	45,852,087
29	1,847	79,893,700	1,240	48,072,405
30	2,005	89,211,207	1,337	53,978,948
31	1,921	88,868,723	1,285	52,848,643
32	1,895	91,543,767	1,330	57,018,202
33	1,878	92,738,599	1,275	56,460,165
34	1,943	97,840,584	1,361	60,563,300
35	1,925	101,237,749	1,381	62,403,602
36	1,888	101,578,041	1,367	63,317,163
37	1,823	98,436,603	1,351	62,648,688
38	1,882	103,616,774	1,395	68,413,200
39	1,903	107,331,188	1,439	69,760,610
40	1,837	104,953,913	1,405	68,985,054
41	1,756	99,896,321	1,441	70,661,332
42	1,783	104,685,776	1,481	76,202,900
43	1,724	102,589,829	1,510	78,892,503
44	1,866	111,929,882	1,508	77,570,241
45	1,778	109,104,368	1,422	73,289,989
46	2,006	123,401,979	1,567	82,555,153
47	1,970	125,480,176	1,612	84,468,277
48	2,018	127,181,658	1,553	80,458,240
49	2,280	146,610,509	1,726	92,505,106
50	2,295	150,756,455	1,895	101,915,015
51	2,044	132,309,110	1,796	96,204,917
52	1,868	119,571,392	1,598	82,115,815
53	1,801	115,080,692	1,540	82,842,606
54	1,587	98,003,231	1,460	76,226,753
55	1,498	91,739,459	1,515	79,742,696



Appendix B: Detailed Tabulation of Member Data

Table B-2: The Number and Reported Compensation of Active Members Distributed by Age as of December 31, 2020 (continued)

Age	Men		Women	
	Number	Compensation	Number	Compensation
56	1,400	84,326,101	1,459	75,698,044
57	1,375	83,853,382	1,506	77,692,759
58	1,345	79,419,922	1,437	74,984,849
59	1,249	75,614,702	1,383	73,683,754
60	1,169	70,175,651	1,353	69,461,027
61	977	58,294,523	1,147	58,257,795
62	912	55,467,396	1,020	51,102,583
63	760	46,142,229	869	43,725,433
64	659	38,933,522	695	36,939,002
65	564	33,438,172	569	27,408,766
66	382	22,610,058	416	20,399,554
67	288	16,281,615	269	14,159,246
68	255	14,542,901	198	9,807,787
69	211	10,981,776	163	7,930,273
70	163	8,772,394	137	6,595,368
71	126	5,562,865	102	4,244,893
72	113	5,189,546	76	3,159,012
73	74	3,125,609	70	2,896,176
74	74	3,043,143	65	2,749,069
75	50	1,869,040	31	1,098,413
76	36	1,275,079	23	847,259
77	38	1,471,190	35	1,272,886
78	36	1,177,916	17	712,251
79	25	637,371	6	179,282
80	22	751,009	8	239,944
81	16	433,596	5	95,316
82	5	121,437	3	109,756
83	7	235,560	5	119,139
84	7	181,637	4	121,898
85	2	81,357	1	8,327
86	3	64,760	4	105,440
88	1	9,953	0	0
89	0	0	1	38,419
91	2	69,213	0	0
92	1	5,140	0	0
93	1	47,127	0	0
95	0	0	1	5,262
Total	73,560	4,017,424,004	58,837	2,828,691,899



Appendix B: Detailed Tabulation of Member Data

Table B-3: The Number and Reported Compensation of Active Members Distributed by Service as of December 31, 2020

Service	Men		Women	
	Number	Compensation	Number	Compensation
0	2,589	21,444,491	2,656	22,606,691
1	6,314	222,362,067	5,806	199,738,912
2	5,938	263,815,313	5,421	230,111,520
3	5,243	243,519,345	4,435	195,488,561
4	4,488	215,539,593	4,021	182,367,998
5	3,989	200,401,652	3,453	161,001,675
6	3,602	187,543,137	3,022	144,362,766
7	3,165	166,838,198	2,510	123,800,608
8	2,884	158,300,818	2,430	123,904,055
9	2,517	140,844,530	1,833	92,348,089
10	2,120	120,132,151	1,536	80,451,604
11	2,001	119,153,701	1,412	74,732,462
12	2,122	125,818,028	1,475	78,577,717
13	2,568	156,425,321	1,876	100,322,353
14	2,283	138,550,253	1,662	90,895,709
15	2,174	135,121,855	1,578	88,615,426
16	2,099	133,703,383	1,397	79,479,871
17	1,808	115,399,929	1,306	74,372,402
18	1,549	101,883,375	1,035	59,977,823
19	1,454	97,571,733	1,129	65,580,324
20	1,576	106,801,951	1,138	65,969,161
21	1,528	107,366,874	1,148	68,814,111
22	1,528	109,230,750	1,029	62,143,276
23	1,297	95,142,076	880	55,355,445
24	1,212	90,722,548	733	46,634,524
25	1,047	80,940,192	685	43,008,529
26	986	76,647,346	641	42,431,514
27	876	69,601,967	556	36,333,705
28	689	57,137,143	414	27,011,906
29	464	37,237,931	372	24,289,579
30	324	25,928,197	275	19,238,123



Appendix B: Detailed Tabulation of Member Data

Table B-3: The Number and Reported Compensation of Active Members Distributed by Service as of December 31, 2020 (continued)

Service	Men		Women	
	Number	Compensation	Number	Compensation
31	239	19,558,085	193	13,148,280
32	201	17,077,237	179	12,769,982
33	166	14,088,384	153	11,353,732
34	124	10,183,329	88	5,802,892
35	84	6,747,375	88	6,372,255
36	92	8,149,355	62	4,765,143
37	42	3,133,518	44	3,004,397
38	43	4,002,517	28	1,866,358
39	32	2,832,692	24	1,562,814
40	29	2,712,175	32	2,199,868
41	16	1,578,623	11	996,873
42	16	1,694,671	13	738,294
43	15	1,315,235	13	797,764
44	8	770,434	12	896,177
45	8	1,045,704	8	494,274
46	3	316,088	3	335,884
47	1	192,241	4	248,107
48	1	176,595	3	150,705
49	1	68,639	6	473,730
50	1	142,899	3	275,316
51	2	251,536	2	216,110
52	1	159,352	0	0
53	1	101,472	0	0
54	0	0	1	97,407
55	0	0	1	50,366
59	0	0	1	51,652
66	0	0	1	57,080
Total	73,560	4,017,424,004	58,837	2,828,691,899



Appendix B: Detailed Tabulation of Member Data

Table B-4: The Number and Accumulated Contributions of Terminated Vested Members Distributed by Age as of December 31, 2020

Age	Men		Women	
	Number	Contributions	Number	Contributions
19	11	5,760	5	3,949
20	41	37,124	12	9,763
21	101	128,872	28	24,704
22	217	313,012	92	108,153
23	313	641,068	149	240,061
24	433	837,581	242	416,633
25	591	1,414,472	361	863,158
26	688	1,864,832	465	1,286,804
27	800	2,552,131	585	1,761,350
28	849	3,309,654	701	2,516,539
29	975	4,013,998	817	3,526,601
30	1,026	5,386,023	901	4,120,705
31	1,168	6,718,765	928	4,552,709
32	1,108	7,105,831	1,026	5,531,321
33	1,125	7,443,182	1,074	6,128,070
34	1,208	9,347,557	1,104	6,897,158
35	1,184	10,396,797	1,116	8,308,583
36	1,284	11,621,581	1,257	9,924,757
37	1,149	10,852,640	1,198	10,722,758
38	1,241	12,974,599	1,239	11,206,875
39	1,177	13,423,439	1,231	12,133,780
40	1,120	12,905,561	1,310	13,190,503
41	1,119	14,369,509	1,368	14,150,533
42	1,026	13,709,446	1,376	16,075,955
43	1,066	15,026,666	1,325	15,873,629
44	1,106	16,148,516	1,251	15,753,949
45	1,018	15,571,586	1,256	16,461,358
46	1,037	17,506,498	1,346	17,961,937
47	1,058	18,531,602	1,328	19,637,970
48	1,081	19,465,426	1,300	20,448,398
49	1,107	20,368,174	1,280	20,537,508
50	1,204	21,639,135	1,435	22,965,464
51	1,127	20,757,379	1,332	21,440,006
52	986	18,201,176	1,231	21,095,121
53	898	16,408,597	1,117	18,792,002
54	922	16,145,507	1,060	17,405,344
55	844	14,220,884	1,064	18,722,916



Appendix B: Detailed Tabulation of Member Data

Table B-4: The Number and Accumulated Contributions of Terminated Vested Members Distributed by Age as of December 31, 2020 (continued)

Age	Men		Women	
	Number	Contributions	Number	Contributions
56	882	16,843,923	1,051	19,528,955
57	776	15,416,845	1,061	19,355,607
58	723	12,800,597	1,051	20,210,031
59	763	15,405,846	1,014	20,050,291
60	639	12,245,667	902	18,080,138
61	514	10,597,787	745	15,482,405
62	413	8,321,630	681	14,181,716
63	403	7,826,359	628	12,032,905
64	384	6,639,091	499	10,230,219
65	310	5,715,774	433	7,388,953
66	258	3,716,225	324	5,248,772
67	209	3,066,759	265	4,254,094
68	167	2,128,503	243	4,032,981
69	167	2,038,898	195	2,434,503
70	110	974,382	173	2,656,056
71	104	759,308	125	1,734,966
72	42	263,563	43	395,989
73	41	288,129	32	469,435
74	35	261,242	19	105,826
75	26	190,440	15	107,714
76	11	53,106	5	38,725
77	7	26,418	5	73,185
78	15	205,739	10	81,517
79	10	15,714	5	7,941
80	6	24,726	4	57,310
81	7	99,039	0	0
82	4	8,942	4	30,724
83	1	10,677	4	12,976
84	2	9,673	0	0
85	6	74,028	3	27,640
86	2	3,169	6	31,680
87	2	7,422	0	0
88	4	5,576	1	50,361
89	2	4,937	0	0
91	2	4,428	0	0
94	0	0	1	288
100+	2	574	0	0
Total	40,457	507,419,716	44,457	559,190,927



Appendix B: Detailed Tabulation of Member Data

Table B-5: The Number and Annual Retirement Allowances of Retired Members (Healthy at Retirement) and Survivors of Deceased Members Distributed by Age as of December 31, 2020

Age	Men		Women	
	Number	Allowances	Number	Allowances
<20	4	45,366	1	20,786
20	0	0	2	33,495
21	5	41,849	0	0
22	2	35,793	0	0
23	4	35,238	2	67,999
24	2	23,778	1	5,417
26	1	7,872	1	26,660
27	1	11,727	1	5,412
28	2	16,221	6	54,559
29	4	59,886	5	71,371
30	2	14,522	6	86,023
31	5	65,070	4	22,705
32	0	0	7	59,160
33	7	55,686	6	43,459
34	5	52,746	4	55,827
35	6	52,276	3	31,157
36	8	104,999	7	55,660
37	6	118,146	5	62,483
38	6	80,033	11	95,512
39	10	102,049	9	87,863
40	11	114,301	9	111,821
41	7	41,553	11	128,160
42	8	87,128	17	243,980
43	7	54,093	13	162,634
44	7	64,487	10	79,762
45	9	67,545	16	184,476
46	7	111,767	24	231,006
47	15	202,114	20	201,359
48	22	542,881	20	310,526
49	55	1,806,466	32	624,475
50	130	3,901,293	59	1,125,589
51	234	7,625,820	104	2,080,626
52	332	11,563,064	120	2,929,566
53	411	13,770,609	171	4,314,897
54	523	18,892,188	233	5,860,389
55	583	19,161,816	262	6,734,967
56	740	23,756,919	365	9,306,811
57	882	27,745,571	413	11,041,679
58	802	25,020,919	455	11,924,086
59	873	27,164,944	547	15,333,363
60	925	28,041,184	674	17,353,545



Appendix B: Detailed Tabulation of Member Data

Table B-5: The Number and Annual Retirement Allowances of Retired Members (Healthy at Retirement) and Survivors of Deceased Members Distributed by Age as of December 31, 2020 (continued)

Age	Men		Women	
	Number	Allowances	Number	Allowances
61	989	29,018,625	855	20,908,170
62	1,029	28,042,553	968	21,996,903
63	1,099	28,296,411	1,172	24,417,422
64	1,258	32,104,405	1,267	25,053,170
65	1,285	31,290,135	1,362	25,629,307
66	1,437	34,756,604	1,591	28,177,310
67	1,479	35,086,686	1,623	28,624,611
68	1,498	34,565,884	1,705	29,718,404
69	1,517	34,293,681	1,724	27,233,134
70	1,532	32,813,179	1,649	26,504,598
71	1,388	30,108,799	1,614	26,263,460
72	1,392	29,197,619	1,584	24,593,355
73	1,377	27,399,726	1,564	23,924,667
74	1,403	27,691,224	1,614	24,380,602
75	892	17,378,763	1,158	16,943,818
76	896	17,252,373	1,095	16,540,570
77	726	13,347,850	977	13,473,082
78	785	14,824,974	1,032	14,151,267
79	589	10,063,554	850	11,336,740
80	512	9,356,137	730	9,444,310
81	484	8,265,982	706	9,255,593
82	402	6,911,214	665	8,775,837
83	392	6,697,671	560	7,019,283
84	363	6,290,002	551	6,506,272
85	306	5,385,674	476	6,201,972
86	261	4,153,056	437	5,407,401
87	222	3,049,615	377	4,297,108
88	180	2,865,549	347	3,996,206
89	160	2,428,286	312	3,482,750
90	114	1,542,362	273	3,350,771
91	86	1,274,606	211	2,163,557
92	77	1,065,276	182	2,306,606
93	60	1,032,966	154	1,623,382
94	43	532,227	141	1,423,185
95	23	277,804	70	917,021
96	21	300,053	51	406,485
97	13	162,359	50	576,226
98	8	119,169	24	230,686
99	8	92,408	28	249,181
100+	6	134,041	45	368,742
Total	32,975	780,129,421	35,450	599,042,429



Appendix B: Detailed Tabulation of Member Data

Table B-6: The Number and Annual Retirement Allowances of Retired Members (Healthy at Retirement) and Survivors of Deceased Members Distributed by Annuity Type as of December 31, 2020

Annuity Type	Men		Women	
	Number	Allowances	Number	Allowances
0:Maximum	10,352	\$220,001,257	17,859	\$295,561,943
1:Option 1: 10-year guaranteed	179	3,738,627	248	2,917,129
2:Option 2: 100% joint and survivor	7,641	180,280,356	2,165	33,345,084
3:Option 3: 50% joint and survivor	1,969	51,712,258	1,048	19,735,424
4:Option 4: Social security leveling	2,587	64,102,248	3,258	65,484,033
5:Option 5- 2:100% joint and surv.	29	571,125	8	51,553
6:Option 5-3: 50% joint and surv.	12	398,164	11	198,258
7:Option 6-2: 100% joint and surv. w/ pop-up	6,871	183,208,086	2,858	56,725,291
8:Option 6-3: 50% joint and surv. w/ pop-up	2,234	64,472,757	1,931	44,919,027
9:Special	4	117,711	0	0
3:Survivor	1,097	\$ 11,526,832	6,064	\$ 80,104,687
Total	32,975	\$780,129,421	35,450	\$599,042,429



Appendix B: Detailed Tabulation of Member Data

Table B-7: The Number and Annual Retirement Allowances of Retired Members (Disabled at Retirement) Distributed by Age of December 31, 2020

Age	Men		Women	
	Number	Allowances	Number	Allowances
28	1	23,629	0	0
29	2	49,408	1	22,526
30	2	46,390	0	0
31	4	75,265	0	0
32	4	86,085	1	21,424
33	7	182,549	1	22,469
34	4	80,231	5	104,150
35	7	181,814	5	117,403
36	12	280,860	1	31,810
37	14	315,684	6	114,478
38	19	409,721	7	151,845
39	19	388,061	5	117,589
40	26	582,039	12	299,283
41	34	790,149	7	153,826
42	41	866,918	13	326,040
43	33	752,439	19	363,915
44	44	1,013,714	23	437,233
45	67	1,594,606	20	413,664
46	51	1,142,821	26	518,259
47	66	1,472,540	29	605,107
48	68	1,584,312	39	847,695
49	117	2,691,473	54	1,241,716
50	129	2,966,025	52	1,051,011
51	125	2,784,181	69	1,384,412
52	135	3,166,727	63	1,219,329
53	106	2,321,197	78	1,709,671
54	151	3,275,659	84	1,767,829
55	160	3,370,225	98	1,864,225
56	149	3,265,648	90	1,843,327
57	179	3,754,541	121	2,438,880
58	189	3,801,363	104	1,929,898
59	191	3,580,747	140	2,652,724
60	171	3,164,843	132	2,363,609
61	181	3,293,166	142	2,628,585
62	166	3,102,280	167	2,749,645
63	165	2,892,542	141	2,451,073
64	200	3,638,653	152	2,416,314



Appendix B: Detailed Tabulation of Member Data

Table B-7: The Number and Annual Retirement Allowances of Retired Members (Disabled at Retirement) Distributed by Age of December 31, 2020 (continued)

Age	Men		Women	
	Number	Allowances	Number	Allowances
65	187	3,446,959	164	2,708,512
66	205	3,887,421	137	2,288,294
67	185	3,749,795	138	2,223,564
68	172	3,505,706	120	1,892,568
69	202	4,592,496	143	2,241,354
70	173	3,585,573	101	1,656,237
71	175	3,938,786	103	1,519,914
72	171	3,521,114	106	1,629,646
73	156	3,364,489	88	1,242,845
74	144	3,021,135	96	1,378,657
75	115	2,338,433	79	1,066,061
76	115	2,322,903	70	928,645
77	77	1,542,401	75	945,773
78	73	1,505,066	67	892,202
79	46	964,038	34	344,101
80	56	1,012,952	41	565,803
81	36	637,676	39	480,889
82	35	655,908	31	368,899
83	27	413,759	22	253,729
84	22	433,753	17	189,885
85	23	375,510	18	175,392
86	13	207,233	7	74,437
87	12	164,476	13	121,813
88	7	102,387	6	46,326
89	8	88,979	5	32,811
90	6	95,053	4	45,197
91	4	84,819	4	38,848
92	1	21,741	0	0
93	1	23,072	2	17,551
94	1	19,847	1	3,844
95	1	24,757	1	5,028
96	0	0	1	10,529
97	1	9,045	1	6,340
100	0	0	1	6,395
Total	5,489	112,645,787	3,642	61,783,053



Appendix B: Detailed Tabulation of Member Data

Table B-8: The Number and Annual Retirement Allowances of Retired Members (Disabled at Retirement) Distributed by Annuity Type of December 31, 2020

Annuity Type	Men		Women	
	Number	Allowances	Number	Allowances
0:Maximum	3,772	\$ 81,848,042	3,123	\$53,545,407
1:Option 1: 10-year guaranteed	100	2,128,202	49	749,330
2:Option 2: 100% joint and survivor	420	6,894,849	89	1,187,394
3:Option 3: 50% joint and survivor	348	5,900,671	82	1,287,530
4:Option 4: Social security leveling	8	227,601	8	143,375
5:Option 5- 2:100% joint and surv.	4	81,403	0	0
6:Option 5-3: 50% joint and surv.	7	88,024	1	7,003
7:Option 6-2: 100% joint and surv. w/ pop-up	400	7,172,408	116	1,864,411
8:Option 6-3: 50% joint and surv. w/ pop-up	423	8,154,066	174	2,998,603
9:Special	7	150,521	0	0
Total	5,489	\$112,645,787	3,642	\$61,783,053



Appendix B: Detailed Tabulation of Member Data

Table B-9: The Number and Annual Retirement Allowances of Retired Members and Survivors of Deceased Members Distributed by Amount of Annual Retirement Allowance of December 31, 2020

Amount of Annual Retirement Allowance	Number of Retired Members and Survivors	Sum of Annual Retirement Allowances
\$0 - \$ 4,999	9,662	\$ 30,177,689
\$5,000 - \$9,999	13,542	101,320,557
\$10,000 - \$14,999	12,133	151,096,336
\$15,000 - \$19,999	10,124	176,431,857
\$20,000 - \$24,999	8,547	191,819,799
\$25,000 - \$29,999	6,899	189,084,077
\$30,000 - \$34,999	5,197	168,322,551
\$35,000 - \$39,999	3,854	144,061,192
\$40,000 - \$ 44,999	2,583	109,314,961
\$45,000 - \$49,999	1,704	80,656,017
\$50,000 & over	3,311	211,315,654
Total	77,556	\$ 1,553,600,690



Appendix C: Summary of Main Benefit & Contribution Provision

The following summary presents the main benefit and contribution provisions of the system, as interpreted in preparing the actuarial valuation. Items in parentheses in the text are the provisions applicable only to law enforcement officers. As used in the summary, "average final compensation" means the average annual compensation of a member during the four consecutive calendar years of creditable service producing the highest such average. "Membership service" means service represented by regular contributions. "Prior service" means service prior to the date of participation of the employer for which credit is allowed. "Creditable service" means the sum of prior service plus membership service. "Creditable service" may also include certain special purchased service.

BENEFITS

Unreduced Retirement Allowance

Condition for Allowance	An unreduced retirement allowance is payable to any member who retires from service after attaining age 65 (55), or after age 60 and completion of 25 years of creditable service, or after completion of 30 years of creditable service.
Amount of Allowance	1.85% of average final compensation multiplied by the number of years of creditable service.

Reduced Retirement Allowance

Condition for Allowance	A reduced retirement allowance is payable to any member who retires from service after attaining age 60 (50) and completion of 5 (15) years of creditable service (or in the case of a firefighter or rescue squad worker, after attaining age 55 and five years of creditable service), but prior to becoming eligible for an unreduced retirement allowance.
Amount of Allowance	<p>The member's reduced retirement allowance is equal to 1.85% of average final compensation multiplied by the number of years of creditable service at the date of retirement reduced by 1/4 of 1% for each month by which the member's age at retirement is less than age 65 (55).</p> <p>If a firefighter has not attained age 60 nor completed 30 or more years of service at the time of retirement, his or her allowance is the actuarial equivalent of the allowance payable at age 60.</p>

OR

Condition for Allowance	A reduced retirement allowance is payable to any member who retires from service after age 50 and completion of 20 (15) years of creditable service, but prior to becoming eligible for a reduced or unreduced retirement allowance.
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Appendix C: Summary of Main Benefit & Contribution Provision

Amount of Allowance	<p>The member's reduced retirement allowance is equal to 1.85% of average final compensation multiplied by the number of years of creditable service at date of retirement reduced by the lesser of:</p> <ul style="list-style-type: none">(i) $5/12$ ($1/3$) of 1% for each month by which age is less than 60 (55), plus, if the member is not a law enforcement officer, $1/4$ of 1% for each month by which age 60 is less than 65.(ii) 5% times the difference between 30 years and creditable service at retirement. <p style="text-align: center;">OR</p>
Condition for Allowance	<p>A reduced retirement allowance is payable to any law enforcement officer who retires from service at any age with 25 years of service (15 years as an officer), but prior to becoming eligible for a reduced or unreduced retirement allowance.</p>
Amount of Allowance	<p>The member's reduced retirement allowance is equal to 1.85% of average final compensation multiplied by the number of years of creditable service at date of retirement reduced by the lesser of:</p> <ul style="list-style-type: none">(i) $1/3$ of 1% for each month by which his or her age is less than 55,(ii) 5% times the difference between 30 years and creditable service at retirement plus 4% times the difference between age 50 and the member's age at retirement.
Disability Retirement Allowance	
Condition for Allowance	<p>A disability retirement allowance may be granted to a member who becomes totally and permanently incapacitated for duty before becoming eligible for an unreduced retirement allowance, and who had five or more years of creditable service. A law enforcement officer, firefighter or rescue squad worker who becomes totally and permanently disabled as the natural and proximate result of an accident occurring in the actual performance of duty may also be retired on a disability retirement allowance.</p>
Amount of Allowance	<p>On retirement for disability a member receives a service retirement allowance after attaining age 65 (55) or attaining age 60 and completion of 25 years of creditable service or completion of 30 years of creditable service; otherwise the allowance is equal to the retirement allowance calculated on the basis of average final compensation at time of disability retirement and service projected to the earliest age at which the member would have qualified for an unreduced retirement allowance except that any member who had five years of creditable service on or before July 1, 1982 shall have service projected to age 65.</p>



Appendix C: Summary of Main Benefit & Contribution Provision

Deferred Retirement Allowance

Any member who separates from service after completing five or more years of membership service prior to becoming eligible for an unreduced or reduced retirement allowance and who leaves his or her total accumulated contributions in the system may receive a deferred retirement allowance, beginning at age 60 (55), computed in the same way as a reduced retirement allowance, or, if the member has 20 (15) or more years of service, at age 50 computed in the same way as a reduced service retirement allowance, on the basis of creditable service and compensation to the date of separation.

Return of Contributions

Upon the withdrawal of a member without a retirement allowance and upon request, the member's accumulated contributions are returned to him or her, together with accumulated regular interest.

Upon the death of a member before retirement, his or her accumulated contributions, together with the full accumulated regular interest thereon, are paid to the estate or to person(s) designated by the member provided no survivor's alternate benefit is payable.

The current interest rate on member contributions is 4%.

Survivor's Alternate Benefit

Upon the death of a member in service who has attained age 60 (55) and completed five years of creditable service, or completed 20 years of creditable service (or attained age 50 and completed 15 years of creditable service), the designated beneficiary may elect to receive a benefit equal to that which would have been payable under the provisions of Option 2 had the member retired on the first day of the month following his or her death and elected such option, in lieu of the member's accumulated contributions, provided the member had not instructed the Board of Trustees in writing that he or she did not wish the alternate benefit to apply. Law Enforcement Officers, Firefighters and Rescue Squad Workers are eligible for this benefit at any age after 15 years of creditable service if death occurs in the line of duty,

Death After Retirement

Upon the death of a beneficiary who did not retire under an effective election of Options 2, 3, 5, or 6, an amount equal to the excess, if any, of his or her accumulated contributions at retirement over the retirement allowance payments received is paid to a designated person or to the beneficiary's estate.

Upon the death of the survivor of a beneficiary who retired under an effective election of Options 2, 3, 5, or 6, an amount equal to the excess, if any, of the beneficiary's accumulated contributions at retirement over the total retirement allowance payments received is paid to such other person designated by the beneficiary or to the beneficiary's estate.

Upon the death of a beneficiary, a benefit may be provided by the Retiree's Contributory Death Benefit Plan.



Appendix C: Summary of Main Benefit & Contribution Provision

Other Death Benefits	Upon the death of a member in service, other benefits may be provided by the Death Benefit Plan or Separate Insurance Benefit Plan for Law Enforcement Officers.
Optional Arrangements at Retirement	<p>In lieu of the full retirement allowance any member may, until the first payment of his or her allowance becomes normally due, elect to receive a reduced retirement allowance equal in value to the full allowance with the provision that:</p> <p>Option 1 - A member retiring prior to July 1, 1993, may elect that at his or her death within 10 years from retirement date, an amount equal to his or her accumulated contributions at retirement, less 1/120 for each month the member has received a retirement allowance, is paid to the estate, or to person(s) designated by the member, or</p> <p>Option 2 - At the death of the member his or her allowance shall be continued throughout the life of such other person as the member shall have designated at the time of retirement, or</p> <p>Option 3 - At the death of the member one-half of his or her allowance shall be continued throughout the life of such other person as the member shall have designated at the time of retirement.</p> <p>Option 4 - A member may elect to receive a retirement allowance in such amount that, together with his or her Social Security benefit, he or she will receive approximately the same income per annum before and after the earliest age at which he or she becomes eligible to receive the Social Security benefit.</p> <p>Option 5 - A member retiring prior to July 1, 1993 may elect to receive a reduced retirement allowance under the provisions of Option 2 or Option 3 in conjunction with the provisions of Option 1.</p> <p>Option 6 - The member may elect Option 2 or 3 with the added provision that should the designated beneficiary predecease the member, the allowance which would have been payable to the member had he not elected the option will be payable thereafter.</p>
Post-Retirement Increases in Allowance	Future increases in allowances may be granted by the Board of Trustees or the State in accordance with G.S. 128- 27(k).



Appendix C: Summary of Main Benefit & Contribution Provision

Service Reciprocity	For the purpose of determining eligibility for a deferred, reduced or unreduced service retirement allowance, the membership and creditable service of a member shall include such prior service earned as a member of the Teachers' and State Employees' Retirement System (TSERS), the Consolidated Judicial Retirement System (CJRS), or the Legislative Retirement System (LRS). In addition, if the member's accumulated contributions and reserves are transferred from the prior System to this System, the creditable service earned as a member of the prior System may be included for purposes of determining the amount of benefits payable under this System.
Military Service	Periods of active duty in the United States military may be counted as creditable service if the member was an employee upon entering the military and returned to employment within two years of discharge or for a period of 10 additional years.
Service Purchases	Additional creditable service may include service that the member purchased to restore a period of service for which the member (1) received a refund of contributions, (2) had a leave of absence for educational purposes, extended illness or parental or maternity reasons, (3) had full-time temporary or part-time local or State government employment, (4) was in a probationary or waiting period with a unit of the LGERS, (5) had a leave of absence under Workers' Compensation, (6) performed service with a unit of local government not covered by LGERS, (7) performed service with the federal government not covered by any other retirement system, (8) performed service with a public community service entity funded entirely with federal funds, (9) performed service as a member of the General Assembly, (10) performed service as a member of a charter school not participating in the system, (11) was employed by The University of North Carolina and participated in the Optional Retirement Program but not eligible to receive any benefits from that program, or (12) performed service which was omitted by reason of error.
Unused Sick Leave	Unused sick leave counts as creditable service at retirement. Sick leave which was converted from unused vacation leave is also creditable. One month of credit is allowed for each 20 days of unused sick leave, plus an additional month for any part of 20 days left over.



Appendix C: Summary of Main Benefit & Contribution Provision

Transfer of Defined Contribution Balances (Special Retirement Allowances)

A member may make a one-time election to transfer any portion of their eligible accumulated contributions to this plan on or after retirement. Eligible accumulated contributions are those from the Supplemental Retirement Income Plan or Public Employee Deferred Compensation Plan, not including Roth after-tax contributions. A member who became a member of the Supplemental Retirement Income Plan prior to retirement and who remains a member of the Supplemental Retirement Income Plan may also make a one-time election to transfer eligible balances, not including any Roth after-tax contributions, from any of the following plans to the Supplemental Retirement Income Plan, subject to the applicable requirements of the Supplemental Retirement Income Plan, and then through the Supplemental Retirement Income Plan to this Retirement System:

- (1) A plan participating in the North Carolina Public School Teachers' and Professional Educators' Investment Plan.
- (2) A plan described in section 403(b) of the Internal Revenue Code.
- (3) A plan described in section 457(b) of the Internal Revenue Code that is maintained by a state, political subdivision of a state, or any agency or instrumentality of a state or political subdivision of a state.
- (4) An individual retirement account or annuity described in Section 408(a) or 408(b) of the Internal Revenue Code that is eligible to be rolled over and would otherwise be includible in gross income.
- (5) A tax-qualified plan described in section 401(a) or 403(a) of the Internal Revenue Code.

The member may elect to convert the accumulated contributions to a life annuity with or without annual increases equal to the annual increase in the U.S. Consumer Price Index. Any ad-hoc COLA increases granted will not apply to benefits under this section. A member may elect Options 2, 3, or 6 under the Plan and may also elect either a guaranteed number of months of payments or a guarantee of total payments at least equal to the amount of contributions transferred to the Plan. In addition, any transfer may be paid in whole or in part with employer contributions paid directly to the Retirement System at the time of transfer.



Appendix C: Summary of Main Benefit & Contribution Provision

Contributions

By Members

Members contribute 6% of compensation.

By Employers

Participating employers make annual contributions consisting of a normal contribution and an accrued liability contribution. The normal contribution covers the liability on account of current service and is determined by the actuary after each valuation.

The accrued liability contribution rate is determined based on eliminating the unfunded actuarial accrued liability over a 12-year period. Some employers have additional prior service contributions.

The minimum total employer contribution rate is 6.00%.

Changes Since Prior Valuation

None.



Appendix D: Actuarial Assumptions and Methods

Assumptions are based on the experience investigation prepared as of December 31, 2019 and adopted by the Board of Trustees on January 28, 2021 for use beginning with the December 31, 2020 annual actuarial valuation.

Interest Rate: 6.50% per annum, compounded annually.

Price Inflation: 2.50% per annum, compounded annually.

Real Wage Growth: 0.75% per annum.

Payroll Growth: 3.25% per annum.

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

Annual Rates of Withdrawal						
Up to five years of membership						
	General Employees		Firefighters & Rescue Squad Workers		Law Enforcement Officers	
Service	Male	Female	Male	Female	Male	Female
0	0.1100	0.1100	0.0750	0.0750	0.0900	0.0900
1	0.1750	0.1750	0.1250	0.1250	0.0875	0.0875
2	0.1500	0.1550	0.1100	0.1100	0.0900	0.0900
3	0.1250	0.1300	0.1000	0.1000	0.0925	0.0925
4	0.1050	0.1150	0.1000	0.1000	0.0725	0.0725
After five years of membership						
	General Employees		Firefighters & Rescue Squad Workers		Law Enforcement Officers	
Age	Male	Female	Male	Female	Male	Female
25	0.1200	0.1750	0.0700	0.0700	0.1000	0.1000
30	0.0750	0.1100	0.0700	0.0700	0.0600	0.0600
35	0.0550	0.0900	0.0500	0.0500	0.0600	0.0600
40	0.0550	0.0700	0.0400	0.0400	0.0400	0.0400
45	0.0425	0.0500	0.0350	0.0350	0.0300	0.0300
50	0.0425	0.0450	0.0500	0.0500	0.0450	0.0450
55	0.0425	0.0450	0.0500	0.0500	0.0450	0.0450
60	0.0425	0.0450	0.0500	0.0500		



Appendix D: Actuarial Assumptions and Methods

Annual Rates of Mortality for Employees						
(Base rates using Pub-2010 Amount weighted)						
Age	General Employees		Firefighters & Rescue Squad Workers		Law Enforcement Officers	
	Male	Female	Male	Female	Male	Female
25	0.00028	0.00009	0.00037	0.00020	0.00037	0.00020
30	0.00036	0.00015	0.00041	0.00027	0.00041	0.00027
35	0.00047	0.00023	0.00047	0.00036	0.00047	0.00036
40	0.00066	0.00036	0.00059	0.00049	0.00059	0.00049
45	0.00098	0.00056	0.00082	0.00067	0.00082	0.00067
50	0.00149	0.00083	0.00120	0.00091	0.00120	0.00091
55	0.00219	0.00123	0.00175	0.00123	0.00175	0.00123
60	0.00319	0.00186	0.00264	0.00168	0.00264	0.00168
65	0.00468	0.00296	0.00410	0.00228	0.00410	0.00228
70	0.00703	0.00489	0.00766	0.00454	0.00766	0.00454
74	0.01001	0.00731	0.01263	0.00787	0.01263	0.00787

Annual Rates of Disability						
Age	General Employees		Firefighters & Rescue Squad Workers		Law Enforcement Officers	
	Male	Female	Male	Female	Male	Female
25	0.00040	0.00050	0.00060	0.00060	0.00060	0.00250
30	0.00050	0.00050	0.00100	0.00090	0.00100	0.00300
35	0.00050	0.00050	0.00070	0.00240	0.00200	0.00400
40	0.00100	0.00050	0.00400	0.00380	0.00300	0.00500
45	0.00200	0.00150	0.00400	0.00480	0.00400	0.00600
50	0.00300	0.00300	0.00800	0.00760	0.00400	0.00700
55	0.00500	0.00450	0.01200	0.01760	0.00400	0.00700
60	0.00650	0.00450	0.01500	0.02760	0.00400	0.00700
64	0.00650	0.00450	0.01500	0.02760	0.00400	0.00700



Appendix D: Actuarial Assumptions and Methods

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

Annual Rates of Retirement

General Employees

Male	Service						
Age	5	10	15	20	25	30	35
50				0.030	0.055	0.400	0.400
55				0.030	0.055	0.350	0.250
60	0.080	0.070	0.070	0.075	0.200	0.400	0.225
65	0.250	0.250	0.275	0.325	0.300	0.350	0.300
70	0.200	0.250	0.200	0.275	0.300	0.350	0.300
75	0.250	0.200	0.300	0.275	0.300	0.350	0.300
80	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Female	Service						
Age	5	10	15	20	25	30	35
50				0.035	0.050	0.400	0.450
55				0.050	0.055	0.300	0.300
60	0.080	0.090	0.070	0.100	0.250	0.375	0.250
65	0.250	0.250	0.350	0.350	0.350	0.350	0.300
70	0.200	0.250	0.225	0.300	0.200	0.300	0.250
75	0.200	0.200	0.225	0.300	0.200	0.250	0.250
80	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Firefighters & Rescue Squad Workers

	Service						
Age	5	10	15	20	25	30	35
50				0.0325	0.0425	0.5500	0.5000
55	0.1200	0.0575	0.0575	0.0325	0.0425	0.5500	0.4000
60	0.1000	0.0575	0.0575	0.1250	0.3500	0.6000	0.4000
65	0.1000	0.2500	0.2500	0.2500	0.3500	0.5000	0.3250
70	0.3200	0.2500	0.2500	0.2500	0.3500	0.5000	0.3250
75	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000



Appendix D: Actuarial Assumptions and Methods

Law Enforcement Officers							
Age	Service						
	5	10	15	20	25	30	35
50			0.040	0.035	0.030	0.900	0.825
55	0.150	0.225	0.300	0.350	0.600	0.900	0.500
60	0.150	0.150	0.125	0.250	0.325	0.350	0.250
65	0.175	0.200	0.250	0.250	0.375	0.350	0.300
70	0.175	0.300	0.350	0.200	0.375	0.350	0.275
75	1.000	1.000	1.000	1.000	1.000	1.000	1.000

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

Annual Rate of Salary Increase			
Service	General Employees	Firefighters & Rescue Squad Workers	Law Enforcement Officers
0	8.25%	8.00%	7.75%
5	5.95%	5.90%	5.85%
10	4.98%	4.93%	5.06%
15	4.33%	4.28%	4.61%
20	3.94%	3.89%	4.35%
25	3.80%	3.75%	4.10%
30	3.80%	3.75%	3.85%
35	3.25%	3.75%	3.60%
>=40	3.25%	3.25%	3.25%



Appendix D: Actuarial Assumptions and Methods

Post-Retirement Mortality: Representative values of the assumed post-retirement mortality rates as of 2010 (the most recent developed Public Pension mortality tables) prior to any mortality improvements are as follows:

Annual Rates of Post-Retirement Mortality				
(Members Healthy at Retirement)				
	General Employees		Firefighters, Rescue Squad Workers, & Law Enforcement Officers	
Age	Male	Female	Male	Female
55	0.00477	0.00286	0.00327	0.00279
60	0.00684	0.00384	0.00549	0.00482
65	0.01064	0.00613	0.00957	0.00832
70	0.01828	0.01063	0.01711	0.01438
75	0.03227	0.01883	0.03085	0.02483
80	0.05810	0.03360	0.05571	0.04287

Annual Rates of Post-Retirement Mortality						
	(Contingent Survivors of Deceased members)		(Members Disabled at Retirement)			
	All Survivors		General Employees		Firefighters, Rescue Squad Workers, & Law Enforcement Officers	
Age	Male	Female	Male	Female	Male	Female
55	0.01147	0.00742	0.02355	0.01692	0.01818	0.01587
60	0.01450	0.00975	0.02785	0.01914	0.02280	0.01833
65	0.02086	0.01332	0.03524	0.02178	0.02677	0.02051
70	0.03221	0.01931	0.04599	0.02706	0.03353	0.02450
75	0.04971	0.02946	0.06347	0.03718	0.04344	0.03239
80	0.07802	0.04698	0.09259	0.05517	0.05921	0.04678

Mortality Assumption: All mortality rates use Pub-2010 amount-weighted tables.

Mortality Projection: All mortality rates are projected from 2010 using generational improvement with Scale MP-2019.

Deaths After Retirement (General Employees): Mortality rates are based on the General Mortality Table for Retirees. Rates for male members are first Set Forward 2 years, then are multiplied by 96% for ages under 81, and increase until reaching 100% at age 85 and above. Rates for female members are 100% for ages under 92, and increase until reaching 110% at age 94 and above. Because the retiree tables have no rates prior to age 50, the General Mortality Table for Employees is used for ages less than 50.



Appendix D: Actuarial Assumptions and Methods

Deaths After Retirement (Firefighters, Rescue Squad Workers & Law Enforcement Officers): Mortality rates are based on the Safety Mortality Table for Retirees. Rates for all members are multiplied by 97% and Set Forward by 1 year. Because the retiree tables have no rates prior to age 45, the Safety Mortality Table for Employees is used for ages less than 45.

Deaths After Retirement (Survivors of Deceased Members): Mortality rates are based on the Below-median Teachers Mortality Table for Contingent Survivors. Rates for male members are Set Forward 3 years. Rates for female members are Set Forward 1 year. Because the contingent survivor tables have no rates prior to age 45, the Below-median Teachers Mortality Table for Employees is used for ages less than 45.

Deaths After Retirement (Disabled Members at Retirement): Mortality rates are based on the General Mortality Table for Disabled Retirees. Rates for General Employee male members are Set Forward 3 years, while Firefighter, Rescue Squad Worker & Law Enforcement Officer male members are Set Back 3 years. Rates for General Employee female members are Set Back 1 year, while Firefighter, Rescue Squad Worker & Law Enforcement Officer female members are Set Back 3 years.

Deaths Prior to Retirement: Mortality rates for General Employees are based on the General Mortality Table for Employees. Mortality rates for Firefighters, Rescue Squad Workers & Law Enforcement Officers are based on the Safety Mortality Table for Employees.

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.

Timing of Assumptions: All withdrawals, deaths, disabilities, retirements and salary increases are assumed to occur July 1 of each year. The timing of retirement changes from mid-year to beginning of year at and after the 100% retirement age.

Leave Conversions: Sick leave can be converted to increase creditable service and used to meet the eligibility requirements for retirement. Unused vacation leave can be converted to increase creditable service or compensation, but does not add to the eligibility service. The assumed impact of these conversions is shown in the table below.

	General Employees		Firefighters & Rescue Squad Workers		Law Enforcement Officers	
	Male	Female	Male	Female	Male	Female
Increase in AFC (percentage) – Unused Vacation Leave						
	1.50%	1.50%	1.75%	1.75%	1.50%	1.50%
Increase in Service (years) – Unused Sick Leave						
Credited	0.80	0.60	1.20	1.20	1.10	1.10
Eligibility	1.00	1.00	1.00	1.00	1.00	1.00

Liability for Inactive Members: For inactive members with five or more years of service, without actual deferred benefit amounts a deferred benefit amount is estimated based on available data and contribution balances projecting backwards assuming 4% salary growth and 4% interest on contribution balances where necessary. For inactive members with less than five years of service the liability is equal to the member's accumulated contributions.



Appendix D: Actuarial Assumptions and Methods

Administrative Expenses: 0.13% of payroll for general employees and firefighters is added to the normal cost.

Marriage Assumption: 100% married with male spouses three years older than female spouses.

Missing Gender Code: For members reported on the data without a gender code, we use the prior year's code where available or assign a code based on inspection.

Reported Compensation: Calendar year compensation as furnished by the system's office.

Valuation Compensation: Reported compensation adjusted to reflect the assumed rate of pay as of the valuation date and the probability of decrement during the year.

Compensation Limits: No compensation limits are applied.

Actuarial Cost Method: Entry age normal cost method. Entry age is established on an individual basis.

Normal Cost: Normal cost rate reflects the impact of new entrants during the year.

Amortization Period: 12-year closed, level-dollar amount. The first amortization base was created for the contribution payable for fiscal year ending 2018.

Asset Valuation Method: Actuarial value, as developed in Table 7. The actuarial value of assets is based upon a smoothed market value method. Under this method, asset returns in excess of or less than the expected return on market value of assets will be reflected in the actuarial value of assets over a five-year period. The calculation of the Actuarial Value of Assets is based on the following formula:

$$MV - 80\% \times G/(L)_1 - 60\% \times G/(L)_2 - 40\% \times G/(L)_3 - 20\% \times G/(L)_4$$

MV = the market value of assets as of the valuation date

G/(L)_i = the asset gain or (loss) for the i-th year preceding the valuation date



Appendix D: Actuarial Assumptions and Methods

Changes Since Prior Valuation:

The assumptions used for the December 31, 2020 actuarial valuation are based on the experience study prepared as of December 31, 2019 and adopted by the Board of Trustees on January 28, 2021. Material assumptions and methods that were changed since the prior valuation:

- The investment return assumption was lowered from 7.00% to 6.50%
- The inflation assumption was lowered from 3.00% to 2.50%
- The real wage growth assumption was increased from 0.50% to 0.75%
- The payroll growth assumption was lowered from 3.50% to 3.25%
- The administrative expense assumption was changed from 0.20% of payroll for general employees and firefighters to 0.13% of payroll for general employees and firefighters
- The withdrawal rates, retirement rates, mortality assumption, annual rate of salary increase assumption and leave conversion assumptions were changed
- The marriage assumption was changed from assuming male spouses are four years older than female spouses to assume that male spouses are three years older than female spouses
- The method for valuing inactive members was changed from 200% of the member's accumulated contributions, to using existing actual data and estimating earnings and average final compensation where actual data isn't available for members with five or more years of service, and using 100% of the member's accumulated contributions for members with less than five years of service



Appendix E: GASB 67 Fiduciary Net Position Projection

Table E-1: Projection of Fiduciary Net Positions (in thousands)

Calendar Year	Beginning Fiduciary Position	Member Contributions	Employer Contributions	Benefit Payments	Administrative Expenses	Investment Earnings	Ending Fiduciary Position
2021	\$ 30,905,571	\$ 444,553	\$ 842,521	\$ 1,695,716	\$ 7,912	\$ 1,995,537	\$ 32,484,554
2022	32,484,554	421,363	903,712	1,785,278	7,499	2,096,535	34,113,386
2023	34,113,386	399,830	903,197	1,875,468	7,116	2,198,831	35,732,661
2024	35,732,661	380,201	829,622	1,968,950	6,766	2,298,123	37,264,891
2025	37,264,891	361,695	750,354	2,066,280	6,437	2,391,488	38,695,711
2026	38,695,711	344,142	671,857	2,170,564	6,125	2,478,093	40,013,114
2027	40,013,114	326,968	617,851	2,279,371	5,819	2,557,976	41,230,719
2028	41,230,719	309,901	599,211	2,389,421	5,515	2,632,468	42,377,363
2029	42,377,363	292,760	597,155	2,499,316	5,210	2,702,880	43,465,632
2030	43,465,632	276,086	534,466	2,606,097	4,914	2,767,672	44,432,845
2031	44,432,845	259,860	441,204	2,710,209	4,625	2,823,718	45,242,793
2032	45,242,793	244,303	330,211	2,808,035	4,348	2,869,196	45,874,120
2033	45,874,120	229,325	229,325	2,902,617	4,081	2,903,509	46,329,580
2034	46,329,580	214,422	214,422	2,996,008	3,816	2,929,181	46,687,782
2035	46,687,782	199,425	199,425	3,087,284	3,549	2,948,594	46,944,392
2036	46,944,392	184,789	184,789	3,145,323	3,289	2,962,489	47,127,847
2037	47,127,847	170,457	170,457	3,229,350	3,034	2,970,817	47,207,193
2038	47,207,193	156,161	156,161	3,307,770	2,779	2,972,559	47,181,525
2039	47,181,525	142,927	142,927	3,377,602	2,544	2,967,818	47,055,051
2040	47,055,051	130,377	130,377	3,440,328	2,320	2,956,795	46,829,952
2041	46,829,952	118,278	118,278	3,500,145	2,105	2,939,483	46,503,740
2042	46,503,740	106,199	106,199	3,557,457	1,890	2,915,680	46,072,471
2043	46,072,471	94,288	94,288	3,609,683	1,678	2,885,221	45,534,908
2044	45,534,908	82,636	82,636	3,657,424	1,471	2,848,014	44,889,298
2045	44,889,298	70,989	70,989	3,701,340	1,263	2,803,906	44,132,579
2046	44,132,579	59,543	59,543	3,739,610	1,060	2,752,769	43,263,764
2047	43,263,764	48,398	48,398	3,768,967	861	2,694,650	42,285,383
2048	42,285,383	37,695	37,695	3,787,032	671	2,629,799	41,202,869
2049	41,202,869	27,776	27,776	3,791,275	494	2,558,671	40,025,323
2050	40,025,323	18,945	18,945	3,770,692	337	2,482,229	38,774,413
2051	38,774,413	13,292	13,292	3,722,906	237	2,402,090	37,479,943
2052	37,479,943	9,699	9,699	3,655,776	173	2,319,869	36,163,261
2053	36,163,261	7,129	7,129	3,577,568	127	2,236,623	34,836,448
2054	34,836,448	5,254	5,254	3,490,008	94	2,153,063	33,509,916
2055	33,509,916	3,872	3,872	3,393,879	69	2,069,825	32,193,538
2056	32,193,538	2,851	2,851	3,292,889	51	1,987,427	30,893,726
2057	30,893,726	2,094	2,094	3,186,172	37	1,906,305	29,618,010
2058	29,618,010	1,534	1,534	3,074,817	27	1,826,910	28,373,144
2059	28,373,144	1,120	1,120	2,960,257	20	1,749,632	27,164,738
2060	27,164,738	815	815	2,842,626	15	1,674,829	25,998,555
2061	25,998,555	592	592	2,723,031	11	1,602,838	24,879,535
2062	24,879,535	429	429	2,602,165	8	1,533,958	23,812,179
2063	23,812,179	309	309	2,481,169	6	1,468,443	22,800,064
2064	22,800,064	222	222	2,360,920	4	1,406,496	21,846,080
2065	21,846,080	158	158	2,241,805	3	1,348,294	20,952,881
2066	20,952,881	112	112	2,124,114	2	1,293,997	20,122,987
2067	20,122,987	78	78	2,008,101	1	1,243,763	19,358,804
2068	19,358,804	53	53	1,893,992	1	1,197,740	18,662,656
2069	18,662,656	36	36	1,782,011	1	1,156,071	18,036,788
2070	18,036,788	23	23	1,672,344	-	1,118,897	17,483,387
2071	17,483,387	15	15	1,565,185	-	1,086,353	17,004,585
2072	17,004,585	9	9	1,460,699	-	1,058,573	16,602,477

*Employer contributions are not less than 6.00% of payroll in accordance with G.S. 128-30(d)(10).



Appendix E: GASB 67 Fiduciary Net Position Projection

Table E-1: Projection of Fiduciary Net Positions (in thousands) (continued)

Calendar Year	Beginning Fiduciary Position	Member Contributions	Employer Contributions	Benefit Payments	Administrative Expenses	Investment Earnings	Ending Fiduciary Position
2073	\$ 16,602,477	\$ 6	\$ 6	\$ 1,359,055	\$ -	\$ 1,035,687	\$ 16,279,121
2074	16,279,121	3	3	1,260,415	-	1,017,824	16,036,536
2075	16,036,536	2	2	1,164,929	-	1,005,111	15,876,722
2076	15,876,722	1	1	1,072,745	-	997,672	15,801,650
2077	15,801,650	0	-	984,001	-	995,631	15,813,280
2078	15,813,280	0	-	898,832	-	999,111	15,913,560
2079	15,913,560	0	-	817,370	-	1,008,235	16,104,425
2080	16,104,425	0	-	739,741	-	1,023,124	16,387,808
2081	16,387,808	0	-	666,066	-	1,043,901	16,765,643
2082	16,765,643	0	-	596,458	-	1,070,687	17,239,872
2083	17,239,872	0	-	531,015	-	1,103,605	17,812,463
2084	17,812,463	0	-	469,817	-	1,142,781	18,485,427
2085	18,485,427	0	-	412,924	-	1,188,344	19,260,848
2086	19,260,848	0	-	360,368	-	1,240,428	20,140,908
2087	20,140,908	0	-	312,148	-	1,299,174	21,127,934
2088	21,127,934	0	-	268,230	-	1,364,735	22,224,439
2089	22,224,439	0	-	228,540	-	1,437,278	23,433,177
2090	23,433,177	0	-	192,970	-	1,516,984	24,757,190
2091	24,757,190	0	-	161,374	-	1,604,055	26,199,872
2092	26,199,872	0	-	133,567	-	1,698,719	27,765,024
2093	27,765,024	0	-	109,337	-	1,801,229	29,456,916
2094	29,456,916	0	-	88,450	-	1,911,870	31,280,336
2095	31,280,336	0	-	70,650	-	2,030,962	33,240,648
2096	33,240,648	0	-	55,671	-	2,158,861	35,343,838
2097	35,343,838	0	-	43,239	-	2,295,966	37,596,566
2098	37,596,566	0	-	33,072	-	2,442,719	40,006,213
2099	40,006,213	0	-	24,893	-	2,599,608	42,580,928
2100	42,580,928	0	-	18,424	-	2,767,171	45,329,674
2101	45,329,674	0	-	13,403	-	2,946,000	48,262,272
2102	48,262,272	0	-	9,579	-	3,136,741	51,389,435
2103	51,389,435	0	-	6,725	-	3,340,098	54,722,808
2104	54,722,808	0	-	4,640	-	3,556,834	58,275,001
2105	58,275,001	0	-	3,150	-	3,787,774	62,059,626
2106	62,059,626	0	-	2,108	-	4,033,808	66,091,326
2107	66,091,326	0	-	1,394	-	4,295,892	70,385,824
2108	70,385,824	0	-	916	-	4,575,049	74,959,957
2109	74,959,957	0	-	601	-	4,872,378	79,831,734
2110	79,831,734	0	-	397	-	5,189,050	85,020,386
2111	85,020,386	0	-	266	-	5,526,317	90,546,436
2112	90,546,436	0	-	182	-	5,885,513	96,431,767
2113	96,431,767	0	-	127	-	6,268,061	102,699,700
2114	102,699,700	0	-	91	-	6,675,478	109,375,087
2115	109,375,087	0	-	66	-	7,109,379	116,484,399
2116	116,484,399	0	-	49	-	7,571,484	124,055,834
2117	124,055,834	0	-	37	-	8,063,628	132,119,426
2118	132,119,426	0	-	27	-	8,587,762	140,707,160
2119	140,707,160	0	-	20	-	9,145,965	149,853,105
2120	149,853,105	0	-	15	-	9,740,451	159,593,541

*Employer contributions are not less than 6.00% of payroll in accordance with G.S. 128-30(d)(10).



Appendix E: GASB 67 Fiduciary Net Position Projection

Table E-2: Actuarial Present Value of Projected Benefit Payments (in thousands)

Calendar Year	Beginning Fiduciary Position	Benefit Payments	Funded Benefit Payments	Unfunded Benefit Payments	Present Value of Benefit Payments		
					Funded Payments at 6.50%	Unfunded Payments at 2.16%	Using Single Discount Rate of 6.50%
2021	\$ 30,905,571	\$ 1,695,716	\$ 1,695,716	\$ -	\$ 1,643,155	\$ -	\$ 1,643,155
2022	32,484,554	1,785,278	1,785,278	-	1,624,357	-	1,624,357
2023	34,113,386	1,875,468	1,875,468	-	1,602,269	-	1,602,269
2024	35,732,661	1,968,950	1,968,950	-	1,579,469	-	1,579,469
2025	37,264,891	2,066,280	2,066,280	-	1,556,381	-	1,556,381
2026	38,695,711	2,170,564	2,170,564	-	1,535,146	-	1,535,146
2027	40,013,114	2,279,371	2,279,371	-	1,513,710	-	1,513,710
2028	41,230,719	2,389,421	2,389,421	-	1,489,946	-	1,489,946
2029	42,377,363	2,499,316	2,499,316	-	1,463,354	-	1,463,354
2030	43,465,632	2,606,097	2,606,097	-	1,432,746	-	1,432,746
2031	44,432,845	2,710,209	2,710,209	-	1,399,046	-	1,399,046
2032	45,242,793	2,808,035	2,808,035	-	1,361,075	-	1,361,075
2033	45,874,120	2,902,617	2,902,617	-	1,321,051	-	1,321,051
2034	46,329,580	2,996,008	2,996,008	-	1,280,334	-	1,280,334
2035	46,687,782	3,087,284	3,087,284	-	1,238,817	-	1,238,817
2036	46,944,392	3,145,323	3,145,323	-	1,185,076	-	1,185,076
2037	47,127,847	3,229,350	3,229,350	-	1,142,475	-	1,142,475
2038	47,207,193	3,307,770	3,307,770	-	1,098,796	-	1,098,796
2039	47,181,525	3,377,602	3,377,602	-	1,053,515	-	1,053,515
2040	47,055,051	3,440,328	3,440,328	-	1,007,587	-	1,007,587
2041	46,829,952	3,500,145	3,500,145	-	962,541	-	962,541
2042	46,503,740	3,557,457	3,557,457	-	918,593	-	918,593
2043	46,072,471	3,609,683	3,609,683	-	875,191	-	875,191
2044	45,534,908	3,657,424	3,657,424	-	832,644	-	832,644
2045	44,889,298	3,701,340	3,701,340	-	791,213	-	791,213
2046	44,132,579	3,739,610	3,739,610	-	750,605	-	750,605
2047	43,263,764	3,768,967	3,768,967	-	710,326	-	710,326
2048	42,285,383	3,787,032	3,787,032	-	670,170	-	670,170
2049	41,202,869	3,791,275	3,791,275	-	629,972	-	629,972
2050	40,025,323	3,770,692	3,770,692	-	588,312	-	588,312
2051	38,774,413	3,722,906	3,722,906	-	545,405	-	545,405
2052	37,479,943	3,655,776	3,655,776	-	502,883	-	502,883
2053	36,163,261	3,577,568	3,577,568	-	462,089	-	462,089
2054	34,836,448	3,490,008	3,490,008	-	423,267	-	423,267
2055	33,509,916	3,393,879	3,393,879	-	386,487	-	386,487
2056	32,193,538	3,292,889	3,292,889	-	352,100	-	352,100
2057	30,893,726	3,186,172	3,186,172	-	319,896	-	319,896
2058	29,618,010	3,074,817	3,074,817	-	289,874	-	289,874
2059	28,373,144	2,960,257	2,960,257	-	262,041	-	262,041
2060	27,164,738	2,842,626	2,842,626	-	236,271	-	236,271
2061	25,998,555	2,723,031	2,723,031	-	212,517	-	212,517
2062	24,879,535	2,602,165	2,602,165	-	190,689	-	190,689
2063	23,812,179	2,481,169	2,481,169	-	170,725	-	170,725
2064	22,800,064	2,360,920	2,360,920	-	152,536	-	152,536
2065	21,846,080	2,241,805	2,241,805	-	136,000	-	136,000
2066	20,952,881	2,124,114	2,124,114	-	120,996	-	120,996
2067	20,122,987	2,008,101	2,008,101	-	107,406	-	107,406
2068	19,358,804	1,893,992	1,893,992	-	95,120	-	95,120
2069	18,662,656	1,782,011	1,782,011	-	84,034	-	84,034
2070	18,036,788	1,672,344	1,672,344	-	74,049	-	74,049
2071	17,483,387	1,565,185	1,565,185	-	65,074	-	65,074



Appendix E: GASB 67 Fiduciary Net Position Projection

Table E-2: Actuarial Present Value of Projected Benefit Payments (in thousands) (continued)

Calendar Year	Beginning Fiduciary Position	Benefit Payments	Funded Benefit Payments	Unfunded Benefit Payments	Present Value of Benefit Payments		
					Funded Payments at 6.50%	Unfunded Payments at 2.16%	Using Single Discount Rate of 6.50%
2072	\$ 17,004,585	\$ 1,460,699	\$ 1,460,699	\$ -	\$ 57,024	\$ -	\$ 57,024
2073	16,602,477	1,359,055	1,359,055	-	49,818	-	49,818
2074	16,279,121	1,260,415	1,260,415	-	43,382	-	43,382
2075	16,036,536	1,164,929	1,164,929	-	37,648	-	37,648
2076	15,876,722	1,072,745	1,072,745	-	32,553	-	32,553
2077	15,801,650	984,001	984,001	-	28,038	-	28,038
2078	15,813,280	898,832	898,832	-	24,048	-	24,048
2079	15,913,560	817,370	817,370	-	20,534	-	20,534
2080	16,104,425	739,741	739,741	-	17,449	-	17,449
2081	16,387,808	666,066	666,066	-	14,753	-	14,753
2082	16,765,643	596,458	596,458	-	12,404	-	12,404
2083	17,239,872	531,015	531,015	-	10,369	-	10,369
2084	17,812,463	469,817	469,817	-	8,614	-	8,614
2085	18,485,427	412,924	412,924	-	7,109	-	7,109
2086	19,260,848	360,368	360,368	-	5,826	-	5,826
2087	20,140,908	312,148	312,148	-	4,738	-	4,738
2088	21,127,934	268,230	268,230	-	3,823	-	3,823
2089	22,224,439	228,540	228,540	-	3,059	-	3,059
2090	23,433,177	192,970	192,970	-	2,425	-	2,425
2091	24,757,190	161,374	161,374	-	1,904	-	1,904
2092	26,199,872	133,567	133,567	-	1,480	-	1,480
2093	27,765,024	109,337	109,337	-	1,137	-	1,137
2094	29,456,916	88,450	88,450	-	864	-	864
2095	31,280,336	70,650	70,650	-	648	-	648
2096	33,240,648	55,671	55,671	-	479	-	479
2097	35,343,838	43,239	43,239	-	350	-	350
2098	37,596,566	33,072	33,072	-	251	-	251
2099	40,006,213	24,893	24,893	-	177	-	177
2100	42,580,928	18,424	18,424	-	123	-	123
2101	45,329,674	13,403	13,403	-	84	-	84
2102	48,262,272	9,579	9,579	-	57	-	57
2103	51,389,435	6,725	6,725	-	37	-	37
2104	54,722,808	4,640	4,640	-	24	-	24
2105	58,275,001	3,150	3,150	-	15	-	15
2106	62,059,626	2,108	2,108	-	10	-	10
2107	66,091,326	1,394	1,394	-	6	-	6
2108	70,385,824	916	916	-	4	-	4
2109	74,959,957	601	601	-	2	-	2
2110	79,831,734	397	397	-	1	-	1
2111	85,020,386	266	266	-	1	-	1
2112	90,546,436	182	182	-	1	-	1
2113	96,431,767	127	127	-	-	-	-
2114	102,699,700	91	91	-	-	-	-
2115	109,375,087	66	66	-	-	-	-
2116	116,484,399	49	49	-	-	-	-
2117	124,055,834	37	37	-	-	-	-
2118	132,119,426	27	27	-	-	-	-
2119	140,707,160	20	20	-	-	-	-
2120	149,853,105	15	15	-	-	-	-



Appendix F: Additional Disclosures

Table F-1 illustrates the sensitivity of certain valuation results to changes in the discount rate on a market value of assets basis. Table F-2 provides an estimate of future market value of asset returns based on the current portfolio structure and summarized in the “TSERS Asset-Liability and Investment Strategy Project” report dated April 19, 2016.

Section 6(c) of Session Law 2016-108 requires that the actuarial valuation report for certain Retirement Systems provide the valuation results using a 30-year treasury rate as of December 31 of the year of the valuation as the discount rate. This is 1.65% at December 31, 2020 and has been used as the lower bound of the sensitivity analysis presented. The range between the current discount rate (6.50%) and the 30-year treasury rate (1.65%) was used to establish an upper bound for sensitivity analysis (11.35%). The remaining rates illustrated represent mid-points between the selected rates. Table F-2 illustrates our best estimate of the plausibility of such rates. The lower bound of 1.65% falls below the 5th percentile of estimated future 30-year returns while the upper bound of 11.35% falls close to the 95th percentile of estimated future 30-year returns.

Table F-1: Sensitivity of Valuation Results as of December 31, 2020

Discount Rate	1.65%	4.08%	6.50%	8.93%	11.35%
Market Value of Asssets	\$ 30,905,570,910	\$ 30,905,570,910	\$ 30,905,570,910	\$ 30,905,570,910	\$ 30,905,570,910
Actuarial Accrued Liability	\$ 64,605,626,233	\$ 45,201,397,056	\$ 33,485,232,590	\$ 26,011,908,055	\$ 21,089,815,809
Unfunded Accrued Liability (UAL)	\$ 33,700,055,323	\$ 14,295,826,146	\$ 2,579,661,680	\$ (4,893,662,855)	\$ (9,815,755,101)
Funded Ratio	47.8%	68.4%	92.3%	118.8%	146.5%
20-Year Amortization of UAL	\$ 2,024,898,845	\$ 1,102,596,763	\$ 249,336,918	N/A	N/A
(as % of general local revenue)	11.2%	6.1%	1.4%	N/A	N/A



Appendix G: Data for Section 2 Graphs

Table F-2: Estimate of Future Asset Returns

Horizon	95% Chance (19 out of every 20 scenarios)	75% Chance (3 out of every 4 scenarios)	50% Chance (1 out of every 2 scenarios)	25% Chance (1 out of every 4 scenarios)	5% Chance (1 out of every 20 scenarios)
10 Years (2025)	0.2%	4.0%	5.9%	8.0%	11.5%
20 Years (2035)	2.2%	4.8%	6.7%	8.5%	11.8%
30 Years (2045)	3.1%	5.3%	7.1%	8.7%	12.0%

Other than the discount rate, these results are based on the other economic and demographic assumptions presented in the report. For purposes of simplicity in this disclosure, no adjustments to the valuation assumption for inflation were reflected in the sensitivities above. The statute also requires that the actuarial valuation report show the results using a market value of assets basis. The “funded ratio” and “unfunded accrued liability” in Table F-1 are based upon the market value of assets. In order to alleviate volatility, future employer contributions are determined based on the actuarial value of assets, which smooths market value returns.

None of the liability amounts shown are intended to imply the amount that might represent the cost of any settlement of the plan’s obligations. The various caveats, constraints, and discussions presented earlier in the report apply to these results as well.

This analysis was conducted by the prior actuary as of 12/31/2015, and capital market return expectations (including those of the Board of Trustees) have generally been reduced since that time. We understand that an updated study is being performed for DST.



Appendix G: Data for Section 2 Graphs

The tables below provide the numbers associated with the graphs in Section 2 of this report.

Graph 1: Active Members

	Active Member Count	Reported Compensation
2016	126,647	\$ 5,716,583,136
2017	128,779	5,944,507,039
2018	129,986	6,225,257,140
2019	132,058	6,488,881,575
2020	132,397	6,846,115,903

Graph 2: Retired Members and Survivors of Deceased Members

	Retired and Survivors of Deceased Member Count	Retirement Allowance
2016	65,930	\$ 1,251,874,605
2017	68,766	1,324,257,015
2018	72,087	1,400,113,021
2019	75,002	1,479,483,328
2020	77,556	1,553,600,690

Graph 3: Market Value of Assets and Asset Returns

	Market Value of Assets	Asset Return
2016	23,308,817,567	6.22%
2017	25,918,361,041	13.47%
2018	25,045,130,611	-1.41%
2019	28,224,698,297	14.83%
2020	30,905,570,910	11.14%



Appendix G: Data for Section 2 Graphs

Graph 5: Cost-of-Living Increase and CPI-U History

	Total Allowance Increase	National CPI-U
1990	0.00%	6.10%
1991	5.20%	3.10%
1992	1.60%	2.90%
1993	3.40%	2.70%
1994	3.30%	2.70%
1995	4.40%	2.50%
1996	6.30%	3.30%
1997	3.10%	1.70%
1998	1.00%	1.60%
1999	4.40%	2.70%
2000	3.70%	3.40%
2001	2.00%	1.60%
2002	3.50%	2.40%
2003	0.00%	1.90%
2004	2.50%	3.30%
2005	2.80%	3.40%
2006	2.20%	2.50%
2007	2.20%	4.10%
2008	0.10%	0.10%
2009	0.00%	2.70%
2010	0.00%	1.50%
2011	0.00%	3.00%
2012	0.00%	1.70%
2013	0.00%	1.50%
2014	0.63%	0.80%
2015	0.11%	0.70%
2016	0.00%	2.10%
2017	0.00%	2.10%
2018	0.00%	1.90%
2019	0.00%	2.30%
2020	0.00%	1.40%

* Allowance increases are effective at July 1 the following year



Appendix G: Data for Section 2 Graphs

Graph 6: Actuarial Value and Market Value of Assets

	Actuarial Value of Assets	Market Value of Assets
2016	24,424,927,820	23,308,817,567
2017	25,520,733,159	25,918,361,041
2018	26,307,348,445	25,045,130,611
2019	27,435,046,235	28,224,698,297
2020	29,387,655,709	30,905,570,910

Graph 7: Asset Returns

	Actuarial Value Value of Assets	Market Value Asset Return
2016	5.34%	6.22%
2017	6.59%	13.47%
2018	5.13%	-1.41%
2019	6.23%	14.83%
2020	8.79%	11.14%

Graph 8: Actuarial Accrued Liability

	Liability for Active Members	Liability for Deferred Members	Liability for Retired Members	Total Liability
2016	\$ 11,498,250,153	\$ 1,580,234,469	\$ 12,575,121,366	\$ 25,653,605,988
2017	12,498,471,452	1,689,255,707	13,558,140,471	27,745,867,630
2018	13,007,988,139	1,835,817,327	14,379,321,186	29,223,126,652
2019	13,488,079,365	1,984,320,009	15,228,521,929	30,700,921,303
2020	15,515,656,027	1,442,127,239	16,527,449,324	33,485,232,590



Appendix G: Data for Section 2 Graphs

Graph 9: Actuarial Accrued Liability and Actuarial Value of Assets

	Actuarial Accrued Liability	Actuarial Value of Assets
2016	\$ 25,653,605,988	\$ 24,424,927,820
2017	27,745,867,630	25,520,733,159
2018	29,223,126,652	26,307,348,445
2019	30,700,921,303	27,435,046,235
2020	33,485,232,590	29,387,655,709

Graph 10: Funded Ratios

	Funded Ratio (Actuarial Basis)	Funded Ratio (Market Value Basis)
2016	95.2%	90.9%
2017	92.0%	93.4%
2018	90.0%	85.7%
2019	89.4%	91.9%
2020	87.8%	92.3%

Graph 11: Actuarially Determined Employer Contribution Rates

Fiscal Year	General Employees and Firefighters	Law Enforcement Officers
2019	7.40%	8.99%
2020	8.56%	10.22%
2021	10.24%	11.92%
2022*	11.27%	12.94%
2023*	11.22%	13.00%

* Subject to the impact of future legislative changes effective during that fiscal year



Appendix G: Data for Section 2 Graphs

Graph 12: Projected Actuarially Determined Employer Contribution Rates

	Alternate #1 (0.0% 2020 Return)	Baseline Projection	Alternate #2 (13.0% 2020 Return)
2021	10.24%	10.24%	10.24%
2022	11.27%	11.27%	11.27%
2023	11.22%	11.22%	11.22%
2024	11.49%	10.82%	10.14%
2025	12.46%	10.96%	9.46%
2026	12.65%	10.36%	8.07%
2027	13.38%	10.28%	7.18%
2028	13.72%	9.78%	6.00%
2029	13.27%	9.06%	6.00%
2030	12.89%	8.57%	6.00%
2031	11.59%	7.37%	6.00%
2032	10.58%	6.46%	6.00%
2033	8.86%	6.00%	6.00%
2034	7.61%	6.00%	6.00%
2035	6.77%	6.00%	6.00%
2036	6.00%	6.00%	6.00%
2037	6.00%	6.00%	6.00%
2038	6.00%	6.00%	6.00%

Graph 13: Projected Funded Ratio

	Alternate #1 (0.0% 2020 Return)	Baseline Projection	Alternate #2 (13.0% 2020 Return)
2020	87.76%	87.76%	87.76%
2021	89.04%	90.19%	91.33%
2022	89.35%	91.91%	94.47%
2023	91.01%	94.90%	98.79%
2024	91.80%	96.95%	102.10%
2025	92.21%	98.56%	104.91%
2026	93.83%	100.36%	106.90%
2027	95.41%	101.76%	108.12%
2028	96.85%	102.60%	108.48%
2029	98.24%	103.36%	108.84%
2030	99.51%	103.99%	109.20%
2031	100.61%	104.44%	109.58%
2032	101.48%	104.77%	109.98%
2033	102.10%	105.03%	110.40%
2034	102.55%	105.28%	110.84%
2035	102.85%	105.54%	111.31%

Appendix H: Detailed Table of Rates of Contributions Payable by Employer



The table below provides the total contribution rates payable for the year beginning July 1, 2022 by all participating employers.

Employer Code	LEO Employer Code	Employer	Total Rate**		Death Benefit Rate		12/31/2020 Unfunded Prior Service Liability	Estimated Date of Liquidation of Prior Service Liability*
			General Employees	Law Enforcement	General Employees	Law Enforcement		
	70505	Eastern Band of Cherokee Indians		13.24%		0.14%		
	72265	Piedmont Triad Airport Authority		13.24%		0.14%		
	72593	Seagrove, Town		13.24%		0.14%		
	72657	Sparta, Town of		13.24%		0.14%		
90001	73190	Yancey County	12.16%	13.24%	0.06%	0.14%		
90002		Yancey Soil & Water Cons	12.10%					
90011	70330	Burnsville, Town of	12.18%	13.24%	0.08%	0.14%		
90092		Martin-Tyrrell-Washington Dist Health Dept	12.14%		0.04%			
90096		Albemarle Regional Health Services	12.16%		0.06%			
90098		Toe River Health District	12.16%		0.06%			
90099		Appalachian District Health Dept	12.12%		0.02%			
90101	70020	Alamance County	12.14%	13.24%	0.04%	0.14%		
90111	70320	Burlington, City of	12.15%	13.24%	0.05%	0.14%		
90114		Mebane, City of	22.60%	23.74%		0.14%	3,610,650	6/30/2025
90117		Alamance Municipal A.B.C. Board	12.23%		0.13%			
90121	71080	Graham, City of	12.10%	13.24%		0.14%		
90131	70880	Elon, Town of	12.14%	13.24%	0.04%	0.14%		
90141	71245	Town of Haw River	12.10%	13.24%		0.14%		
90151		Alamance, Village of	12.10%					
90161		Green Level, Town of	12.10%					
90201	70032	Alexander County	12.15%	13.24%	0.05%	0.14%		
90203		Alexander County Health Dept	12.13%		0.03%			
90205		Alexander County Public Library	12.16%		0.06%			
90206		Alexander County Dept of S S	12.13%		0.03%			
90211	72775	Taylorsville, Town of	12.10%	13.24%		0.14%		
90301	70035	Alleghany County	12.16%	13.24%	0.06%	0.14%		
90305		Northwestern Regional Library	12.19%		0.09%			
90307		Sparta A.B.C. Board	12.63%				2,194	12/31/2028
90401	70040	Anson County	12.16%	13.24%	0.06%	0.14%		
90411	72930	Wadesboro, Town of	12.17%	13.24%	0.07%	0.14%		
90413		Wadesboro Housing Authority	12.17%		0.07%			
90417		Wadesboro A.B.C. Board	12.21%		0.11%			
90421	71584	Lilesville, Town of	12.14%	13.24%	0.04%	0.14%		
90431	72345	Polkton, Town of	12.22%	13.24%	0.12%	0.14%		
90441		Peachland, Town of	12.10%					
90451		Ansonville, Town of	12.10%					
90461		Morven, Town of	12.10%					
90501	70065	Ashe County	12.15%	13.24%	0.05%	0.14%		
90507		West Jefferson A.B.C. Board	15.32%				24,866	6/30/2027

Appendix H: Detailed Table of Rates of Contributions Payable by Employer



The table below provides the total contribution rates payable for the year beginning July 1, 2022 by all participating employers.

Employer Code	LEO Employer Code	Employer	Total Rate**		Death Benefit Rate		12/31/2020 Unfunded Prior Service Liability	Estimated Date of Liquidation of Prior Service Liability*
			General Employees	Law Enforcement	General Employees	Law Enforcement		
90511	71447	Jefferson, Town of	12.10%	13.24%		0.14%		
90521	73025	West Jefferson, Town of	12.10%	13.24%		0.14%		
90601	70090	Avery County	12.18%	13.24%	0.08%	0.14%		
90602		Avery County Fire Commission	18.35%				264,170	6/30/2034
90605		Avery-Mitchell-Yancey Reg Library	12.17%		0.07%			
90611	70110	Banner Elk, Town of	12.10%	13.24%		0.14%		
90617		High Country A.B. C. Board	12.15%		0.05%			
90621	72032	Newland, Town of	12.10%	13.24%		0.14%		
90631	70146	Beech Mountain, Town of	12.10%	13.24%		0.14%		
90641		Elk Park, Town of	12.10%					
90651	72724	Sugar Mountain, Town of	19.24%	20.38%		0.14%	181,597	6/30/2024
90701	70130	Beaufort County	12.14%	13.24%	0.04%	0.14%		
90704		Beaufort County A.B.C. Board	12.22%		0.12%			
90705		B.H.M. Regional Library	12.21%		0.11%			
90709		Mideast Commission	12.14%		0.04%			
90711	72990	Washington, City of	12.15%	13.24%	0.05%	0.14%		
90721	70085	Aurora, Town of	12.22%	13.24%	0.12%	0.14%		
90731	70147	Belhaven, Town of	12.10%	13.24%		0.14%		
90741		Washington Park, Town of	12.10%					
90751	70525	Chocowinity, Town of	12.10%	13.24%		0.14%		
90801	70180	Bertie County	12.10%	13.24%		0.14%		
90804		Bertie County A.B.C. Board	12.22%		0.12%			
90805		Albemarle Regional Library	12.26%		0.16%			
90808		Bertie-Martin Regional Jail Comm	12.16%		0.06%			
90811		Aulander, Town of	12.14%		0.04%			
90812	73122	Windsor, Town of	12.10%	13.24%		0.14%		
90813		Colerain, Town of	12.33%		0.23%			
90861	71556	Lewiston Woodville, Town of	13.14%	14.28%		0.14%	1,853	6/30/2024
90901	70210	Bladen County	12.15%	13.24%	0.05%	0.14%		
90911	70850	Elizabethtown, Town of	12.15%	13.24%	0.05%	0.14%		
90917		Elizabeth A.B.C. Board	12.10%					
90918		South Eastern Economic Development Comm	12.12%		0.02%			
90921	73050	White Lake, Town of	12.17%	13.24%	0.07%	0.14%		
90931	70537	Clarkton, Town pf	12.15%	13.24%	0.05%	0.14%		
90941	70215	Bladenboro, Town of	12.10%	13.24%		0.14%		
91001	70280	Brunswick County	12.14%	13.24%	0.04%	0.14%		
91002	71540	Leland, Town of	12.10%	13.24%		0.14%		
91003		Brunswick Co Health Dept	12.13%		0.03%			
91004		Brunswick County A.B.C. Board	12.10%					
91006		Brunswick Co Dept of Social Services	12.13%		0.03%			

Appendix H: Detailed Table of Rates of Contributions Payable by Employer



The table below provides the total contribution rates payable for the year beginning July 1, 2022 by all participating employers.

Employer Code	LEO Employer Code	Employer	Total Rate**		Death Benefit Rate		12/31/2020 Unfunded Prior Service Liability	Estimated Date of Liquidation of Prior Service Liability*
			General Employees	Law Enforcement	General Employees	Law Enforcement		
91007		Calabash A.B.C. Board	12.10%					
91008		Cape Fear Council of Governments	12.10%					
91009		Brunswick County Tourism Authority	13.11%				6,264	6/30/2025
91010		Calabash, Town of	12.10%					
91011	72650	Southport, City of	12.16%	13.24%	0.06%	0.14%		
91012	72076	Northwest, City of	12.10%	13.24%		0.14%		
91013		Southeast Brunswick Sanitary District	18.01%		0.10%		220,832	6/30/2038
91014	71375	Holden Beach, Town of	12.10%	13.24%		0.14%		
91015		Cape Fear Regional Jetport	12.10%					
91017		Southport A.B.C. Board	12.28%		0.18%			
91020		Belville, Town of	12.74%				2,675	6/30/2023
91021	71630	Oak Island, Town of	12.16%	13.24%	0.06%	0.14%		
91024		Carolina Shores Town of	12.10%					
91026		Navassa, Town of	19.37%	20.51%		0.14%	269,474	6/30/2035
91027		Oak Island A.B.C. Bd	12.24%		0.14%			
91032		St James, Town of	12.10%					
91041	72723	Sunset Beach, Town of	12.14%	13.24%	0.04%	0.14%		
91042		Brunswick Regional Water and Sewer H2GO	12.10%					
91047		Sunset Beach A.B.C. Board	12.41%		0.31%			
91051	70405	Caswell Beach, Town of	12.10%	13.24%		0.14%		
91057		Shallotte A.B.C. Board	12.23%		0.13%			
91061	72135	Ocean Isle Beach, Town of	12.15%	13.24%	0.05%	0.14%		
91067		Ocean Isle Beach A.B.C.	12.20%		0.10%			
91071	70225	Boiling Spring Lakes, City of	12.16%	13.24%	0.06%	0.14%		
91077		Boiling Spring Lakes A.B.C. Board	12.10%					
91081	72597	Shallotte, Town of	12.10%	13.24%		0.14%		
91091	70107	Bald Head Island, Village of	12.15%	13.24%	0.05%	0.14%		
91101	70290	Buncombe County	12.13%	13.24%	0.03%	0.14%		
91102		Land-of-Sky Regional Council	12.15%		0.05%			
91104		Woodfin A.B.C. Commission	13.61%				5,765	6/30/2023
91107		Western NC Regional Air Quality	12.14%		0.04%			
91108		Metro Sewerage Dist of Buncombe County	12.14%		0.04%			
91109		Woodfin Sanitary Water and Sewer Dist	12.14%		0.04%			
91111	70190	Biltmore Forest, Town of	12.10%	13.24%		0.14%		
91120		West Buncombe Fire Dept	12.10%					
91121	70070	Asheville, City of	12.10%	13.24%		0.14%		
91127	70072	Asheville A.B.C. Board	12.16%	13.24%	0.06%	0.14%		
91128	70074	Asheville Regional Airport Authority	12.14%	13.24%	0.04%	0.14%		
91138		Skyland Vol Fire Dept	12.10%					
91141	73016	Weaverville, Town of	12.19%	13.24%	0.09%	0.14%		

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			General Employees	Law Enforcement	General Employees	Law Enforcement		
91147		Weaverville A.B.C. Board	12.10%				1,113	6/30/2021
91151	70200	Black Mountain, Town of	12.14%	13.24%	0.04%	0.14%		
91154		Black Mountain A.B.C. Board	12.19%		0.09%			
91161	71820	Montreat, Town of	12.16%	13.24%	0.06%	0.14%		
91171	73160	Woodfin, Town of	12.10%	13.24%		0.14%		
91201	70310	Burke County	12.15%	13.24%	0.05%	0.14%		
91203		Burke Co Health Dept	12.14%		0.04%			
91206		Burke Co Dept of Social Services	12.14%		0.04%			
91208		Burke County Tourism Dev. Authority	12.10%					
91211	72883	Valdese, Town of	12.16%	13.24%	0.06%	0.14%		
91213		Valdese Housing Authority	12.10%					
91214		Rutherford College, Town of	12.10%					
91217		Morganton A.B.C. Board	12.19%		0.09%			
91221	70745	Drexel, Town of	12.14%	13.24%	0.04%	0.14%		
91231	71870	Morganton, City of	12.10%	13.24%		0.14%		
91233		Morganton Housing Authority	12.15%		0.05%			
91241	71065	Glen Alpine, Town of	12.16%	13.24%	0.06%	0.14%		
91251		Hildebran, Town of	12.10%					
91261		Connelly Springs, Town of	12.10%					
91301	70340	Cabarrus County	12.14%	13.24%	0.04%	0.14%		
91302		Water & Sewer Auth of Cabarrus County	12.13%		0.03%			
91306		Cabarrus Co Public Health Auth	12.13%		0.03%			
91308		Cabarrus County Tourism Authority	12.77%				44,001	6/30/2029
91311	70590	Concord, City of	12.14%	13.24%	0.04%	0.14%		
91317		Concord A.B.C. Board	12.19%		0.09%			
91321		Mount Pleasant, Town of	12.10%					
91327		Mount Pleasant A.B.C. Board	12.14%		0.04%			
91331	71468	Kannapolis, City of	12.14%	13.24%	0.04%	0.14%		
91341		Midland, Town of	12.10%					
91401	70350	Caldwell County	12.15%	13.24%	0.05%	0.14%		
91411	71090	Granite Falls, Town of	12.15%	13.24%	0.05%	0.14%		
91414		Rhodhiss, Town of	12.10%					
91417		Granite Falls A.B.C. Board	12.24%		0.14%			
91421		Sawmills, Town of	12.10%					
91423		Lenoir Housing Authority	12.15%		0.05%			
91431	71395	Hudson, Town of	12.10%	13.24%		0.14%		
91441		Harrisburg, Town of	12.10%					
91451	71552	Lenoir, City of	12.22%	13.24%	0.12%	0.14%		
91457		Lenoir A.B.C.Board	12.10%				10,047	6/30/2021
91501	70357	Camden County	12.17%	13.24%	0.07%	0.14%		

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			General Employees	Law Enforcement	General Employees	Law Enforcement		
91504		Camden County A.B.C. Board	12.31%		0.21%			
91601	70380	Carteret County	12.16%	13.24%	0.06%	0.14%		
91604	70385	Carteret County A.B.C. Board	12.22%	13.24%	0.12%	0.14%		
91608		Western Carteret Interlocal Cooperation Agency	12.10%					
91611	71860	Morehead City, Town of	12.14%	13.24%	0.04%	0.14%		
91621	72035	Newport, Town of	12.10%	13.24%		0.14%		
91631	70145	Beaufort, Town of	12.15%	13.24%	0.05%	0.14%		
91633		Beaufort Housing Authority	12.10%					
91641	72290	Pine Knoll Shores, Town of	12.13%	13.24%	0.03%	0.14%		
91651	70890	Emerald Isle, Town of	12.10%	13.24%		0.14%		
91661	71405	Indian Beach, Town of	12.10%	13.24%		0.14%		
91671	70365	Cape Carteret, Town of	12.14%	13.24%	0.04%	0.14%		
91681	70080	Atlantic Beach, Town of	18.43%	19.47%	0.10%	0.14%	782,314	6/30/2025
91691		Cedar Point, Town of	12.10%					
91701	70415	Caswell County	12.16%	13.24%	0.06%	0.14%		
91704		Caswell County A.B.C. Board	12.23%		0.13%			
91706		Caswell Co Dept of Social Services	12.17%		0.07%			
91719		Yanceyville, Town of	12.13%		0.03%			
91801	70430	Catawba County	12.14%	13.24%	0.04%	0.14%		
91804		Catawba County A.B.C. Board	12.25%		0.15%			
91811	71330	Hickory, City of	12.15%	13.24%	0.05%	0.14%		
91812		Hickory Conover Tourism Dev Auth	12.10%					
91813		Hickory Public Housing Authority	12.13%		0.03%			
91818		Western Piedmont Council of Gvmts	12.10%					
91819		Western Piedmont Regional Transit Authority	12.31%		0.21%			
91821	70535	Claremont, City of	12.14%	13.24%	0.04%	0.14%		
91831	71700	Maiden, Town of	12.14%	13.24%	0.04%	0.14%		
91841	71640	Longview, Town of	12.14%	13.24%	0.04%	0.14%		
91851	70610	Conover, Town of	12.16%	13.24%	0.06%	0.14%		
91861	70270	Brookford, Town of	12.10%	13.24%		0.14%		
91871	72040	Newton, City of	12.15%	13.24%	0.05%	0.14%		
91881	70441	Catawba, Town of	12.10%	13.24%		0.14%		
91901	70490	Chatham County	12.14%	13.24%	0.04%	0.14%		
91903		Chatham Co Housing Auth	12.10%					
91904		Chatham County A.B.C. Board	12.22%		0.12%			
91908		Goldston-Gulf Sanitary District	12.10%					
91911	72625	Siler City, Town of	12.14%	13.24%	0.04%	0.14%		
91917		Siler City A.B.C. Board	12.16%		0.06%			
91921	72330	Pittsboro, Town of	12.15%	13.24%	0.05%	0.14%		
92001	70500	Cherokee County	12.18%	13.24%	0.08%	0.14%		

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			General Employees	Law Enforcement	General Employees	Law Enforcement		
92005		Nantahala Regional Library	12.28%		0.18%			
92011	71975	Murphy, Town of	12.21%	13.24%	0.11%	0.14%		
92017		Murphy A.B.C. Board	12.15%		0.05%			
92021	70036	Andrews, Town of	12.10%	13.24%		0.14%		
92101	70530	Chowan County	12.16%	13.24%	0.06%	0.14%		
92104		Chowan County A.B.C. Board	12.23%		0.13%			
92109		Albemarle Regional Planning & Development Comm	12.13%		0.03%			
92111	70817	Edenton, Town of	12.15%	13.24%	0.05%	0.14%		
92113		New Edenton Housing Auth	12.21%		0.11%			
92201	70538	Clay County	12.16%	13.24%	0.06%	0.14%		
92214		Clay County A.B.C. Board	12.10%					
92301	70550	Cleveland County	12.14%	13.24%	0.04%	0.14%		
92302		Cleveland County Water	12.10%					
92311	72610	Shelby, City of	12.15%	13.24%	0.05%	0.14%		
92317		Shelby A.B.C. Board	12.19%		0.09%			
92321	71490	Kings Mountain, City of	12.10%	13.24%		0.14%		
92327		Kings Mountain A.B.C. Board	12.31%		0.21%			
92331	70230	Boiling Springs, Town of	12.20%	13.24%	0.10%	0.14%		
92341		Lawndale, Town of	12.10%					
92351	71178	Grover, Town of	12.18%	13.24%	0.08%	0.14%		
92401	70580	Columbus County	12.18%	13.24%	0.08%	0.14%		
92403		Whiteville Housing Authority	12.10%					
92411	73060	Whiteville, City of	12.16%	13.24%	0.06%	0.14%		
92417		Whiteville A.B.C. Board	12.11%		0.01%			
92421		Brunswick, Town of	12.10%					
92427		Lake Waccamaw A.B.C. Board	12.33%		0.23%			
92431	70908	Fair Bluff, Town of	12.10%	13.24%		0.14%		
92441	70450	Chadbourn, Town of	12.10%	13.24%		0.14%		
92444		West Columbus A.B.C. Board	12.10%					
92451	72760	Tabor City, Town of	12.10%	13.24%		0.14%		
92461	71519	Lake Waccamaw, Town of	12.10%	13.24%		0.14%		
92501	70650	Craven County	12.15%	13.24%	0.05%	0.14%		
92502		First Craven Sanitary Dist	12.10%					
92504		Craven Co A.B.C. Bd	12.17%		0.07%			
92505		Craven-Pamlico-Carteret Regional Library	12.21%		0.11%			
92506		Coastal Carolina Regional Airport	12.33%		0.23%			
92507		Neuse River Council of Governments	12.12%		0.02%			
92508		Coastal Regional Solid Waste Mngt Auth	12.17%		0.07%			
92511	72020	New Bern, City of	12.15%	13.24%	0.05%	0.14%		
92513		Trillium Health Resources	12.13%		0.03%			

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			General Employees	Law Enforcement	General Employees	Law Enforcement		
92521	72810	Trent Woods, Town of	12.18%	13.24%	0.08%	0.14%		
92531	71240	Havelock, City of	12.15%	13.24%	0.05%	0.14%		
92541	72435	River Bend, Town of	12.10%	13.24%		0.14%		
92551	72910	Vanceboro, Town of	12.10%	13.24%		0.14%		
92561		Bridgeton, Town of	12.10%	13.24%		0.14%		
92571		Cove City, Town of	12.10%					
92601	70680	Cumberland County	12.14%	13.24%	0.04%	0.14%		
92602		Westarea Volunteer Fire Dept	12.10%					
92604	70685	Cumberland Co A.B.C. Board	12.16%	13.24%	0.06%	0.14%		
92607		Mid-Carolina Council Of Governments	12.14%		0.04%			
92611	70940	Fayetteville, City of	12.15%	13.24%	0.05%	0.14%		
92613		Fayetteville Metropolitan Housing Auth	12.16%		0.06%			
92614		Fayetteville Public Works Commission	17.33%				3,643,742	6/30/2022
92621	72715	Stedman, Town of	12.10%	13.24%		0.14%		
92631	71390	Hope Mills, Town of	12.15%	13.24%	0.05%	0.14%		
92641		Wade, Town of	12.10%					
92651		Linden, Town of	12.10%					
92661	72676	Spring Lake, Town of	18.78%	19.86%	0.06%	0.14%	986,075	6/30/2024
92671		Falcon Town of	18.52%				13,693	6/30/2026
92681		Eastover, Town of	12.15%		0.05%			
92701	70700	Currituck County	12.15%	13.24%	0.05%	0.14%		
92704		Currituck Co A.B.C. Board	12.10%					
92801	70720	Dare County	12.15%	13.24%	0.05%	0.14%		
92802		Dare County Tourism Board	12.13%		0.03%			
92804	70721	Dare County A.B.C. Board	12.17%	13.24%	0.07%	0.14%		
92811	71980	Nags Head, Town of	12.14%	13.24%	0.04%	0.14%		
92821	71480	Kill Devil Hills, Town of	12.15%	13.24%	0.05%	0.14%		
92831	71705	Manteo, Town of	12.20%	13.24%	0.10%	0.14%		
92841	72645	Southern Shores, Town of	12.13%	13.24%	0.03%	0.14%		
92851	71507	Kitty Hawk, Town of	12.21%	13.24%	0.11%	0.14%		
92861	70755	Duck, Town of	12.10%	13.24%		0.14%		
92901	70723	Davidson County	12.16%	13.24%	0.06%	0.14%		
92911	72780	Thomasville, City of	12.16%	13.24%	0.06%	0.14%		
92913		Thomasville Housing Authority	28.53%				137,722	6/30/2024
92914		Thomasville A.B.C. Board	12.10%					
92917		Lexington A.B.C. Board	12.31%		0.21%			
92921	70730	Denton, Town of	12.10%	13.24%		0.14%		
92931	71570	Lexington, City of	12.15%	13.24%	0.05%	0.14%		
92941		Midway, Town of	14.39%				21,777	3/31/2038
93001	70725	Davie County	12.14%	13.24%	0.04%	0.14%		

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			General Employees	Law Enforcement	General Employees	Law Enforcement		
93009		Davie Soil and Water Conservation Dist	12.10%					
93011	71790	Mocksville, Town of	12.16%	13.24%	0.06%	0.14%		
93021		Bermuda Run, Town of	12.10%					
93028		Mocksville-Cooleemee A.B.C. Board	12.10%					
93031	70624	Cooleemee, Town of	18.30%	19.44%		0.14%	13,228	9/30/2027
93101	70770	Duplin County	12.17%	13.24%	0.07%	0.14%		
93108		Eastpointe Human Services	12.14%		0.04%			
93111	70160	Beulaville, Town of	12.16%	13.24%	0.06%	0.14%		
93121	71469	Kenansville, Town of	12.18%	13.24%	0.08%	0.14%		
93127		Kenansville A.B.C. Board	12.10%					
93131	72981	Warsaw, Town of	12.46%	13.24%	0.36%	0.14%		
93137		Warsaw A.B.C. Board	12.10%					
93141		Faison, Town of	12.15%		0.05%			
93151	72970	Wallace, Town of	12.10%	13.24%		0.14%		
93157		Wallace A.B.C. Bd	12.10%					
93161	72487	Rose Hill, Town of	12.20%	13.24%	0.10%	0.14%		
93171		Calypso, Town of	12.10%					
93181		Teachey, Town of	12.10%					
93191	71690	Magnolia, Town of	12.10%	13.24%		0.14%		
93201	70790	Durham County	12.14%	13.24%	0.04%	0.14%		
93204	70800	Durham County A.B.C. Board	12.16%	13.24%	0.06%	0.14%		
93209		Alliance Behavioral Healthcare	12.10%					
93211	70780	Durham, City of	12.10%	13.24%		0.14%		
93212		Durham Convention & Visitors Bureau	17.81%				407,233	6/30/2025
93219		Triangle J Council of Governments	12.13%		0.03%			
93301	70820	Edgecombe County	12.17%	13.24%	0.07%	0.14%		
93304		Edgecombe County A.B.C. Board	12.20%		0.10%			
93305		Edgecombe County Memorial Library	12.19%		0.09%			
93309		Upper Coastal Plain Council of Governements	12.14%		0.04%			
93311	72770	Tarboro, Town of	12.14%	13.24%	0.04%	0.14%		
93317		Tarboro Redevelopment Commission	12.16%		0.06%			
93321	72480	Rocky Mount, City of	12.14%	13.24%	0.04%	0.14%		
93323		Rocky Mount-Wilson Airport Authority	12.14%		0.04%			
93331	72296	Pinetops, Town of	12.18%	13.24%	0.08%	0.14%		
93333		Rocky Mt Housing Authority	12.10%					
93341		Macclesfield, Town of	12.13%		0.03%			
93351	72351	Princeville, Town of	12.10%	13.24%		0.14%		
93401	70951	Forsyth County	12.10%	13.24%		0.14%		
93406		Piedmont Triad Regional Council	12.20%		0.10%			
93411	73130	Winston-Salem, City of	12.10%	13.24%		0.14%		

Appendix H: Detailed Table of Rates of Contributions Payable by Employer



The table below provides the total contribution rates payable for the year beginning July 1, 2022 by all participating employers.

Employer Code	LEO Employer Code	Employer	Total Rate**		Death Benefit Rate		12/31/2020 Unfunded Prior Service Liability	Estimated Date of Liquidation of Prior Service Liability*
			General Employees	Law Enforcement	General Employees	Law Enforcement		
93413		Winston-Salem Housing Authority	12.15%		0.05%			
93417	73140	Triad Municipal A.B.C. Board	12.21%	13.24%	0.11%	0.14%		
93421	71470	Kernersville, Town of	12.10%	13.24%		0.14%		
93431		Rural Hall, Town of	12.14%		0.04%			
93441		Clemmons, Village of	12.10%					
93442		Clemmons Fire Department	12.10%					
93451		Lewisville, Town of	12.10%					
93461		Walkertown, Town of	12.10%					
93471		Tobaccoville, Village of	12.10%					
93501	70960	Franklin County	12.17%	13.24%	0.07%	0.14%		
93511	70970	Franklinton, Town of	12.10%	13.24%		0.14%		
93517		Franklinton A.B.C Board	12.32%		0.22%			
93521	71650	Louisburg, Town of	12.16%	13.24%	0.06%	0.14%		
93527		Louisburg A.B.C. Board	12.18%		0.08%			
93531	70295	Bunn, Town of	12.10%	13.24%		0.14%		
93537		Bunn A.B.C. Board	12.10%					
93541	73200	Youngsville, Town of	12.10%	13.24%		0.14%		
93601	71030	Gaston County	12.13%	13.24%	0.03%	0.14%		
93602	72682	Stanley, Town of	12.17%	13.24%	0.07%	0.14%		
93604		Cramerton A.B.C. Board	12.10%					
93609		Partners Behavioral Health Management	12.14%		0.04%			
93610		Mcadenville, Town of	12.13%		0.03%			
93611	71040	Gastonia, City of	12.10%	13.24%		0.14%		
93617		Gastonia A.B.C. Board	12.33%		0.23%			
93618		Gaston County Economic Dev Commission	22.17%				30,066	12/31/2022
93621	70150	Belmont, City of	12.10%	13.24%		0.14%		
93623		Belmont Housing Authority	12.10%					
93631	70640	Cramerton, Town of	12.25%	13.24%	0.15%	0.14%		
93641	70520	Cherryville, City of	12.18%	13.24%	0.08%	0.14%		
93647		Cherryville A.B.C. Board	25.31%				17,081	6/30/2023
93651	70705	Dallas, Town of	12.10%	13.24%		0.14%		
93661	71655	Lowell, City of	12.10%	13.24%		0.14%		
93671		Bessemer City, City of	12.21%	13.24%	0.11%	0.14%		
93681	72390	Ranlo, Town of	12.10%	13.24%		0.14%		
93691	71930	Mount Holly, City of	12.15%	13.24%	0.05%	0.14%		
93701	71050	Gates County	12.15%	13.24%	0.05%	0.14%		
93704		Gates County A.B.C. Board	12.29%		0.19%			
93801	71085	Graham County	12.10%	13.24%		0.14%		
93803		Graham Co Health Dept	12.14%		0.04%			
93806		Graham County Dept of S S	12.14%		0.04%			

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Employer Code	LEO Employer Code	Employer	Total Rate**		Death Benefit Rate		12/31/2020 Unfunded Prior Service Liability	Estimated Date of Liquidation of Prior Service Liability*
			General Employees	Law Enforcement	General Employees	Law Enforcement		
93821		Robbinsville, Town of	12.18%		0.08%			
93901	71110	Granville County	12.15%	13.24%	0.05%	0.14%		
93904		Granville Co A.B.C. Bd	12.25%		0.15%			
93906		Granville County Hospital	12.13%		0.03%			
93908		Granville-Vance Public Health	12.13%		0.03%			
93910		South Granville Water and Sewer Authority	12.22%		0.12%			
93911	72200	Oxford, City of	12.16%	13.24%	0.06%	0.14%		
93913		Oxford Housing Authority	12.16%		0.06%			
93914		Stovall, Town of	12.35%		0.25%			
93921	70660	Creedmoor, City of	12.10%	13.24%		0.14%		
93931		Butner, Town of	12.18%	13.24%	0.08%	0.14%		
94001	71130	Greene County	12.16%	13.24%	0.06%	0.14%		
94002		Maury Sanitary Land District	12.10%					
94004		Greene County A.B.C. Board	12.22%		0.12%			
94005		Neuse Regional Library-Greene County	12.27%		0.17%			
94011		Hookerton, Town of	12.12%		0.02%			
94021		Snow Hill, Town of	12.10%	13.24%		0.14%		
94031		Walstonburg, Town of	19.38%				41,371	9/30/2033
94101	71180	Guilford County	12.14%	13.24%	0.04%	0.14%		
94102		Guil-Rand Fire Department	12.10%					
94108		Pinecroft-Sedgefield Fire Dist Inc	12.10%					
94109		Alamance Community Fire District	12.10%					
94111	71140	Greensboro, City of	12.15%	13.24%	0.05%	0.14%		
94112		Piedmont Triad Reg Water Auth	12.14%	13.24%	0.04%	0.14%		
94117		Greensboro A.B.C. Bd	12.18%		0.08%			
94118		Guilford Fire District #13 Inc	12.10%					
94121	71340	High Point, City of	12.14%	13.24%	0.04%	0.14%		
94127		High Point A.B.C. Bd	12.19%		0.09%			
94131		Jamestown, Town of	12.15%		0.05%			
94151	71060	Gibsonville, Town of	12.16%	13.24%	0.06%	0.14%		
94157		Gibsonville A.B.C. Board	12.10%					
94161		Oak Ridge, Town of	12.10%					
94168		Colfax Volunteer Fire Department	12.10%					
94171		Summerfield, Town of	12.10%					
94172		Summerfield Fire District	12.13%		0.03%			
94201	71200	Halifax County	12.15%	13.24%	0.05%	0.14%		
94204		Halifax County A.B.C. Board	12.18%		0.08%			
94205		Halifax County Tourism Development Authority	12.20%		0.10%			
94209		Roanoke Rapids Sanitary District	12.15%		0.05%			
94211	70895	Enfield, Town of	12.24%	13.24%	0.14%	0.14%		

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			General Employees	Law Enforcement	General Employees	Law Enforcement		
94221	72440	Roanoke Rapids, City of	12.17%	13.24%	0.07%	0.14%		
94231	73017	Weldon, Town of	12.20%	13.24%	0.10%	0.14%		
94241	72590	Scotland Neck, Town of	12.22%	13.24%	0.12%	0.14%		
94251		Hobgood, Town of	12.16%		0.06%			
94261	71615	Littleton, Town of	12.10%	13.24%		0.14%		
94301	71230	Harnett County	12.15%	13.24%	0.05%	0.14%		
94311	70760	Dunn, City of	12.15%	13.24%	0.05%	0.14%		
94313		Dunn Housing Authority	12.20%		0.10%			
94317		Dunn A.B.C. Board	12.22%		0.12%			
94321	71585	Lillington, Town of	12.13%	13.24%	0.03%	0.14%		
94331	70900	Erwin, Town of	12.18%	13.24%	0.08%	0.14%		
94341	70570	Coats, Town of	12.15%	13.24%	0.05%	0.14%		
94347		Angier A.B.C. Board	12.15%		0.05%			
94351	70038	Angier, Town of	12.10%	13.24%		0.14%		
94401	71250	Haywood County	12.15%	13.24%	0.05%	0.14%		
94403		Haywood County Tourism Development Authority	12.10%					
94408		Junaluska Sanitary District	12.16%		0.06%			
94411	73010	Waynesville, Town of	12.16%	13.24%	0.06%	0.14%		
94412		Waynesville A.B.C. Board	12.22%		0.12%			
94421	71685	Maggie Valley, Town of	12.10%	13.24%		0.14%		
94427		Maggie Valley A.B.C. Board	12.10%					
94428		Maggie Valley Sanitary Dist	12.10%					
94431	70362	Canton, Town of	12.16%	13.24%	0.06%	0.14%		
94437		Canton A.B.C. Board	16.98%				36,374	6/30/2027
94501	71275	Henderson County	12.14%	13.24%	0.04%	0.14%		
94511	71280	Hendersonville, City of	12.14%	13.24%	0.04%	0.14%		
94517		Hendersonville A.B.C. Bd	12.10%					
94521	71525	Laurel Park, Town of	12.17%	13.24%	0.07%	0.14%		
94527		Laurel Park A.B.C. Board	12.17%		0.07%			
94531		Flat Rock, Village of	12.10%					
94532		Blue Ridge Fire Department	12.14%		0.04%			
94541	70943	Fletcher, Town of	12.10%	13.24%		0.14%		
94547		Fletcher A.B.C. Board	12.10%					
94551		Mills River, Town of	12.32%		0.22%			
94601	71310	Hertford County	12.16%	13.24%	0.06%	0.14%		
94604		Hertford County A.B.C. Board	12.18%		0.08%			
94611	70007	Ahoskie, Town of	12.20%	13.24%	0.10%	0.14%		
94621	71970	Murfreesboro, Town of	12.10%	13.24%		0.14%		
94631		Winton, Town of	12.25%		0.15%			
94641		Cofield, Town of	12.10%					

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			General Employees	Law Enforcement	General Employees	Law Enforcement		
94701	71370	Hoke County	12.16%	13.24%	0.06%	0.14%		
94704		Hoke County A.B.C. Board	12.20%		0.10%			
94711	72355	Raeford, Town of	12.17%	13.24%	0.07%	0.14%		
94801	71400	Hyde County	12.16%	13.24%	0.06%	0.14%		
94804		Hyde County A.B.C. Board	12.10%					
94812		Ocracoke Sanitary Dist	12.17%		0.07%			
94901	71420	Iredell County	12.14%	13.24%	0.04%	0.14%		
94908		Greater Statesville Development Corp	12.10%					
94911	72700	Statesville, City of	12.15%	13.24%	0.05%	0.14%		
94917		Statesville A.B.C. Board	12.20%		0.10%			
94921	71850	Mooreville, City of	12.14%	13.24%	0.04%	0.14%		
94923		Mooreville Housing Authority	12.16%		0.06%			
94927		Mooreville A.B.C. Board	12.16%		0.06%			
94931	72815	Troutman, Town of	12.23%	13.24%	0.13%	0.14%		
94937		Troutman A.B.C. Board	12.10%					
94941		Mi Connection Communications System	12.10%					
94947		Valdese A.B.C. Board	12.10%					
95001	71430	Jackson County	12.16%	13.24%	0.06%	0.14%		
95002		Tuckaseegee Water Authority	12.16%		0.06%			
95005		Fontana Regional Library	12.18%		0.08%			
95008		Southwestern NC Planning & Econ Dev Comm	12.14%		0.04%			
95009		Vaya Health	12.13%		0.03%			
95010		Jackson County Tourism Development Authority	12.10%					
95011	72750	Sylva, Town of	12.14%	13.24%	0.04%	0.14%		
95017		Jackson County A.B.C. Board	12.18%		0.08%			
95101	71460	Johnston County	12.14%	13.24%	0.04%	0.14%		
95103		Benson Housing Authority	16.03%				154,526	12/31/2036
95104		Johnston County A.B.C. Board	12.22%		0.12%			
95105		Public Library of Johnston Co and Smithfield	12.15%		0.05%			
95106		Archer Lodge, Town of	12.85%		0.22%		2,476	6/30/2024
95110		Johnston Health Center	12.19%		0.09%			
95111	72630	Smithfield, Town of	12.15%	13.24%	0.05%	0.14%		
95113		Smithfield Housing Authority	22.78%				106,315	6/30/2023
95121	72594	Selma, Town of	12.15%	13.24%	0.05%	0.14%		
95122		Micro, Town of	12.10%	15.71%		0.14%	13,064	6/30/2030
95123		Selma Houing Authority	12.13%		0.03%			
95131	70540	Clayton, Town of	12.14%	13.24%	0.04%	0.14%		
95141	70170	Benson, Town of	12.14%	13.24%	0.04%	0.14%		
95151	70954	Four Oaks, Town of	12.10%	13.24%		0.14%		
95161	72295	Pine Level, Town of	12.10%	13.24%		0.14%		

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			General Employees	Law Enforcement	General Employees	Law Enforcement		
95171	71472	Kenly, Town of	12.10%	13.24%		0.14%		
95181	72349	Princeton, Town of	12.10%	13.24%		0.14%		
95191		Wilson's Mills, Town of	14.92%	16.06%		0.14%	137,615	3/31/2032
95201	71465	Jones County	12.14%	13.24%	0.04%	0.14%		
95204		Jones County A.B.C. Board	12.25%		0.15%			
95205		Neuse Regional Library-Jones County	12.18%		0.08%			
95211		Pollockville, Town of	12.56%		0.46%			
95221	71745	Maysville, Town of	12.10%	13.24%		0.14%		
95301	71535	Lee County	12.16%	13.24%	0.06%	0.14%		
95311	72565	Sanford, City of	12.10%	13.24%		0.14%		
95317		Sanford A.B.C. Board	12.21%		0.11%			
95321	70265	Broadway, Town of	12.21%	13.24%	0.11%	0.14%		
95401	71550	Lenoir County	12.15%	13.24%	0.05%	0.14%		
95404		Lenoir County A.B.C. Board	12.14%	13.24%	0.04%	0.14%		
95405		Neuse Regional Library	12.14%		0.04%			
95411	71500	Kinston, City of	12.17%	13.24%	0.07%	0.14%		
95413		Kinston Housing Authority	12.15%		0.05%			
95415		Kinston-Lenoir Co Pub Library	12.20%		0.10%			
95421	72305	Pink Hill, Town of	12.16%	13.24%	0.06%	0.14%		
95431		Lagrange, Town of	12.14%		0.04%			
95501	71590	Lincoln County	12.15%	13.24%	0.05%	0.14%		
95504		Lincoln County A.B.C. Board	13.24%				5,834	6/30/2023
95511	71600	Lincolnton, City of	12.15%	13.24%	0.05%	0.14%		
95513		Lincolnton Housing Authority	12.18%		0.08%			
95517		Lincolnton A.B.C. Board	12.24%		0.14%			
95601	71680	Macon County	12.16%	13.24%	0.06%	0.14%		
95611	70955	Franklin, Town of	12.15%	13.24%	0.05%	0.14%		
95617		Highlands A.B.C. Board	12.30%		0.20%			
95621	71335	Highlands, Town of	12.10%	13.24%		0.14%		
95701	71684	Madison County	12.17%	13.24%	0.07%	0.14%		
95711	71718	Mars Hill, Town of	12.15%	13.24%	0.05%	0.14%		
95721	71711	Marshall, Town of	12.21%	13.24%	0.11%	0.14%		
95733		Hot Springs Housing Authority	12.10%					
95801	71730	Martin County	12.17%	13.24%	0.07%	0.14%		
95802		Martin Co Travel & Tourism Auth	12.37%		0.27%			
95804		Martin County A.B.C. Board	12.14%		0.04%			
95811	73080	Williamston, Town of	12.10%	13.24%		0.14%		
95813		Williamston Housing Authority	12.21%		0.11%			
95821		Oak City, Town of	12.10%					
95831		Hamilton, Town of	12.17%		0.07%			

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			General Employees	Law Enforcement	General Employees	Law Enforcement		
95841		Jamesville, Town of	12.10%					
95851	72445	Robersonville, Town of	12.10%	13.24%		0.14%		
95853		Robersonville Authority	12.10%					
95901	71762	McDowell County	12.15%	13.24%	0.05%	0.14%		
95908		Pleasant Garden Fire Dept	12.10%					
95911	71710	Marion, Town of	12.16%	13.24%	0.06%	0.14%		
95917		Marion A.B.C. Board	12.10%					
95921	72140	Old Fort, Town of	12.10%	13.24%		0.14%		
96001	71770	Mecklenburg County	12.13%	13.24%	0.03%	0.14%		
96003		Charlotte Housing Authority	12.10%					
96004	71780	Mecklenburg County A.B.C. Board	12.17%	13.24%	0.07%	0.14%		
96005		Charlotte Mecklenburg Public Library	12.13%		0.03%			
96008		Mecklenburg Emer Med Svcs Agcy	12.12%		0.02%			
96009		Centralina Council Of Governments	12.10%					
96011	70480	Charlotte, City of	12.10%	13.24%		0.14%		
96012		Charlotte Regional Visitors Authority	12.10%					
96018		Charlotte Firemen's Ret Sys	12.10%					
96021	72300	Pineville, Town of	12.14%	13.24%	0.04%	0.14%		
96031	71775	Mint Hill, Town of	12.14%	13.24%	0.04%	0.14%		
96041	71397	Huntersville, Town of	12.10%	13.24%		0.14%		
96051	70625	Cornelius, Town of	12.10%	13.24%		0.14%		
96061	72679	Stallings, Town of	12.19%	13.24%	0.09%	0.14%		
96071	71740	Matthews, Town of	12.14%	13.24%	0.04%	0.14%		
96081	70724	Davidson, Town of	12.16%	13.24%	0.06%	0.14%		
96101	71788	Mitchell County	12.21%	13.24%	0.11%	0.14%		
96102		Mitchell Soil & Water Conservation Dist	12.10%					
96111	72678	Spruce Pine, Town of	12.20%	13.24%	0.10%	0.14%		
96121	70105	Bakersville, Town of	12.10%	13.24%		0.14%		
96201	71815	Montgomery County	12.15%	13.24%	0.05%	0.14%		
96204		Montgomery-Municipal A.B.C. Board	12.19%		0.09%			
96211	72685	Star, Town of	12.10%	13.24%		0.14%		
96221	72822	Troy, Town of	12.10%	13.24%		0.14%		
96231	70192	Biscoe, Town of	12.10%	13.24%		0.14%		
96241	70360	Candor, Town of	12.10%	13.24%		0.14%		
96251	71920	Mount Gilead, Town of	12.15%	13.24%	0.05%	0.14%		
96301	71830	Moore County	12.15%	13.24%	0.05%	0.14%		
96302	72776	Taylorstown, Town of	12.10%	13.24%		0.14%		
96304		Moore County A.B.C. Board	12.20%		0.10%			
96305		Moore County Tourism Development Authority	12.25%		0.15%			
96310		Moore County Airport Authority	12.17%		0.07%			

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			General Employees	Law Enforcement	General Employees	Law Enforcement		
96311	72640	Southern Pines, Town of	12.14%	13.24%	0.04%	0.14%		
96312	70358	Cameron, Town of	12.10%	13.24%		0.14%		
96318		Sandhills Center	12.10%					
96321	72920	Vass, Town of	12.17%	13.24%	0.07%	0.14%		
96331	70005	Aberdeen, Town of	12.16%	13.24%	0.06%	0.14%		
96341	72443	Robbins, Town of	12.10%	13.24%		0.14%		
96351	72287	Pinehurst, Village of	12.14%	13.24%	0.04%	0.14%		
96361	72285	Pinebluff, Town of	12.32%	13.24%	0.22%	0.14%		
96371	73040	Whispering Pines, Village of	12.17%	13.24%	0.07%	0.14%		
96381	70953	Foxfire Village	12.18%	13.24%	0.08%	0.14%		
96391	70390	Carthage, Town of	12.10%	13.24%		0.14%		
96401	71990	Nash County	12.14%	13.24%	0.04%	0.14%		
96404	72000	Nash County A.B.C. Board	12.19%	13.24%	0.09%	0.14%		
96405		Braswell Memorial Library	12.10%				62,549	6/30/2026
96411	72675	Spring Hope, Town of	12.10%	13.24%		0.14%		
96421	71995	Nashville, Town of	12.15%	13.24%	0.05%	0.14%		
96431	71785	Middlesex, Town of	12.21%	13.24%	0.11%	0.14%		
96441	73045	Whitakers, Town of	12.10%	13.24%		0.14%		
96451	70104	Bailey, Town of	12.10%	13.24%		0.14%		
96461	72600	Sharpsburg, Town of	12.10%	13.24%		0.14%		
96501	72030	New Hanover County	12.14%	13.24%	0.04%	0.14%		
96502	72024	New Hanover Airport Auth	12.15%	13.24%	0.05%	0.14%		
96503		Wilmington Housing Authority	18.45%				576,910	6/30/2024
96504		New Hanover County A.B.C. Board	12.27%		0.17%			
96507		Cape Fear Public Utility Authority	12.10%					
96508		Lower Cape Fear Water & Sewer Auth	12.20%		0.10%			
96511	73165	Wrightsville Beach, Town of	12.15%	13.24%	0.05%	0.14%		
96512		Cape Fear Public Transportation Authority	12.10%					
96521	70375	Carolina Beach, Town of	12.10%	13.24%		0.14%		
96531	73090	Wilmington, City of	12.10%	13.24%		0.14%		
96541	71515	Kure Beach, Town of	12.22%	13.24%	0.12%	0.14%		
96601	72060	Northampton County	12.16%	13.24%	0.06%	0.14%		
96604		Northampton County A.B.C. Board	12.32%		0.22%			
96611	72432	Rich Square, Town of	12.10%	13.24%		0.14%		
96612		Choanoke Public Transportation Auth	12.10%					
96621	73162	Woodland, Town of	12.10%	13.24%		0.14%		
96631	71020	Garysburg, Town of	12.10%	13.24%		0.14%		
96641	70620	Conway, Town of	12.10%	13.24%		0.14%		
96651	71032	Gaston, Town of	12.10%	13.24%		0.14%		
96661	71435	Jackson, Town of	12.10%	13.24%		0.14%		

Appendix H: Detailed Table of Rates of Contributions Payable by Employer



The table below provides the total contribution rates payable for the year beginning July 1, 2022 by all participating employers.

Employer Code	LEO Employer Code	Employer	Total Rate**		Death Benefit Rate		12/31/2020 Unfunded Prior Service Liability	Estimated Date of Liquidation of Prior Service Liability*
			General Employees	Law Enforcement	General Employees	Law Enforcement		
96671		Severn, Town of	12.10%					
96681	72591	Seaboard, Town	16.81%	17.95%		0.14%	32,960	12/31/2025
96701	72150	Onslow County	12.14%	13.24%	0.04%	0.14%		
96704		Onslow County A.B.C. Board	12.18%		0.08%			
96708		Onslow Water & Sewer Authority	13.42%		0.10%		432,618	6/30/2027
96711	71440	Jacksonville, City of	12.15%	13.24%	0.05%	0.14%		
96721	72745	Swansboro, Town of	12.16%	13.24%	0.06%	0.14%		
96722		Swepsonville, Town of	12.10%					
96731	71380	Holly Ridge, Town of	12.14%	13.24%	0.04%	0.14%		
96741	72420	Richlands, Town of	12.10%	13.24%		0.14%		
96751	72789	North Topsail Beach, Town of	12.23%	13.24%	0.13%	0.14%		
96801	72170	Orange County	12.14%	13.24%	0.04%	0.14%		
96804		Orange County A.B.C. Board	12.14%		0.04%			
96808		Orange Water and Sewer Authority	12.14%		0.04%			
96811	70470	Chapel Hill, Town of	12.15%	13.24%	0.05%	0.14%		
96821	70372	Carrboro, Town of	12.14%	13.24%	0.04%	0.14%		
96831	71360	Hillsborough, Town of	12.14%	13.24%	0.04%	0.14%		
96901	72210	Pamlico County	12.16%	13.24%	0.06%	0.14%		
96911		Bayboro, Town of	12.10%					
96912	72195	Oriental, Town of	12.10%	13.24%		0.14%		
96918		Bay River Metro Sewerage District	12.25%		0.15%			
97001	72220	Pasquotank County	12.16%	13.24%	0.06%	0.14%		
97002		Pasquotank-Camden Ambulance Service	12.14%		0.04%			
97004		Pasquotank Co A.B.C. Board	12.15%		0.05%			
97005		East Albemarle Regional Library	12.15%		0.05%			
97008		Albemarle District Jail Commission	12.10%					
97011	70840	Elizabeth City	12.15%	13.24%	0.05%	0.14%		
97012		Elizabeth City-Pasquotank Co Airport Auth	12.10%				2,575	6/30/2021
97013		Elizabeth City Pasquotank County TDA	14.37%				28,899	6/30/2032
97015		Pasquotank-Camden Library	12.18%		0.08%			
97018		Elizabeth City-Pasquotank Co Industrial Development	12.15%		0.05%			
97101	72235	Pender County	12.14%	13.24%	0.04%	0.14%		
97104		Pender County A.B.C. Board	12.22%		0.12%			
97111	70300	Burgaw, Town of	12.10%	13.24%		0.14%		
97121	72790	Topsail Beach, Town of	12.19%	13.24%	0.09%	0.14%		
97131	72725	Surf City, Town of	12.13%	13.24%	0.03%	0.14%		
97201	72245	Perquimans County	12.15%	13.24%	0.05%	0.14%		
97211	71300	Hertford, Town of	12.16%	13.24%	0.06%	0.14%		
97213		Hertford Housing Auth	12.10%					
97217		Hertford A.B.C. Board	12.22%		0.12%			

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Employer Code	LEO Employer Code	Employer	Total Rate**		Death Benefit Rate		12/31/2020 Unfunded Prior Service Liability	Estimated Date of Liquidation of Prior Service Liability*
			General Employees	Law Enforcement	General Employees	Law Enforcement		
97221	73124	Winfall, Town of	12.10%	13.24%		0.14%		
97301	72250	Person County	12.15%	13.24%	0.05%	0.14%		
97302		Roxboro Housing Authority	12.10%					
97304		Person Co A.B.C. Bd	12.26%		0.16%			
97311	72520	Roxboro, City of	12.16%	13.24%	0.06%	0.14%		
97401	72310	Pitt County	12.14%	13.24%	0.04%	0.14%		
97402		Pitt-Greenville Conv & Vistors	12.10%					
97404	72320	Pitt County A.B.C. Board	12.15%	13.24%	0.05%	0.14%		
97405		Sheppard Memorial Library	12.18%		0.08%			
97408		Contennea Metropolitan Sewerage Dist	12.16%		0.06%			
97411	71160	Greenville, City of	12.14%	13.24%	0.04%	0.14%		
97412		Greenville Utilities Commission	12.14%		0.04%			
97413		Greenville Housing Authority	12.16%		0.06%			
97421	70930	Farmville, Town of	12.14%	13.24%	0.04%	0.14%		
97423		Farmville Housing Authority	19.04%				69,404	6/30/2025
97431	71170	Grifton, Town of	12.18%	13.24%	0.08%	0.14%		
97441	70157	Bethel, Town of	12.19%	13.24%	0.09%	0.14%		
97451	73150	Winterville, Town of	12.14%	13.24%	0.04%	0.14%		
97461	70100	Ayden, Town of	12.10%	13.24%		0.14%		
97471		Grimesland, Town of	12.19%		0.09%			
97481	72626	Simpson, Village of	12.10%	13.24%		0.14%		
97501	72340	Polk County	12.16%	13.24%	0.06%	0.14%		
97511	72823	Tryon, Town of	12.18%	13.24%	0.08%	0.14%		
97521	70581	Columbus, Town of	12.10%	13.24%		0.14%		
97527		Columbus A.B.C. Board	12.10%					
97531	72560	Saluda, City of	12.15%	13.24%	0.05%	0.14%		
97601	72380	Randolph County	12.14%	13.24%	0.04%	0.14%		
97607		Asheboro A.B.C. Board	12.10%					
97611	70064	Asheboro, City of	12.15%	13.24%	0.05%	0.14%		
97613		Asheboro Housing Authority	12.19%		0.09%			
97621	72377	Randleman, City of	12.15%	13.24%	0.05%	0.14%		
97623		Randleman Housing Authority	12.16%		0.06%			
97627		Randleman A.B.C. Board	12.14%		0.04%			
97631	71582	Liberty, Town of	12.14%	13.24%	0.04%	0.14%		
97641	72375	Ramseur, Town of	12.10%	13.24%		0.14%		
97651	70063	Archdale, City of	12.18%	13.24%	0.08%	0.14%		
97661		Trinity, City of	12.10%					
97701	72430	Richmond County	12.15%	13.24%	0.05%	0.14%		
97705		Sandhill Regional Library	12.18%		0.08%			
97711	72460	Rockingham, City of	12.16%	13.24%	0.06%	0.14%		

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			General Employees	Law Enforcement	General Employees	Law Enforcement		
97713		Rockingham Authority	12.13%		0.03%			
97717		Hamlet A.B.C. Board	12.15%		0.05%			
97721	71220	Hamlet, City of	12.17%	13.24%	0.07%	0.14%		
97727		Rockingham A.B.C. Board	12.19%		0.09%			
97731		Ellerbe, Town of	12.10%					
97801	72450	Robeson County	12.14%	13.24%	0.04%	0.14%		
97802		Lumber River Council of Governments	12.13%		0.03%			
97803		Robeson County Housing Authority	12.24%		0.14%			
97805		Robeson County Public Library	12.17%		0.07%			
97811	71670	Lumberton, City of	12.16%	13.24%	0.06%	0.14%		
97817		Lumberton A.B.C. Board	12.10%					
97818		Lumberton Airport Comm	12.10%					
97821	70910	Fairmont, Town of	12.23%	13.24%	0.13%	0.14%		
97823		Fairmont Housing Authority	12.15%		0.05%			
97831	72540	St Pauls, Town of	12.16%	13.24%	0.06%	0.14%		
97837		St Paul's Brd of Alcoholic CTL	12.10%					
97840	71750	Maxton, Town of	17.16%	18.21%	0.09%	0.14%	124,040	6/30/2023
97841		Parkton, Town of	14.15%				24,012	6/30/2034
97847		Maxton A.B.C. Board	12.26%		0.16%			
97851	72228	Pembroke, Town of	12.17%	13.24%	0.07%	0.14%		
97853		Pembroke Housing Authority	12.10%					
97861	72510	Rowland, Town of	12.24%	13.24%	0.14%	0.14%		
97871	72395	Red Springs, Town of	18.77%	19.83%	0.08%	0.14%	224,186	6/30/2022
97877		Red Springs A.B.C. Board	12.10%					
97901	72470	Rockingham County	12.14%	13.24%	0.04%	0.14%		
97911	72400	Reidsville, City of	12.17%	13.24%	0.07%	0.14%		
97913		New Reidsville Housing Auth	12.20%		0.10%			
97917		Reidsville A.B.C. Board	12.16%		0.06%			
97921	71755	Mayodan, Town of	12.22%	13.24%	0.12%	0.14%		
97931	72721	Stoneville, Town of	12.10%	13.24%		0.14%		
97941	71683	Madison, Town of	12.15%	13.24%	0.05%	0.14%		
97947		Madison A.B.C. Board	15.66%				9,697	12/31/2022
97948		Madison-Mayodan Recreation Comm	12.10%					
97951	70815	Eden, City of	12.10%	13.24%		0.14%		
97957		Eden A.B.C. Board	12.10%					
98001	72490	Rowan County	12.15%	13.24%	0.05%	0.14%		
98002		rowen Convention & Visitors Bureau	12.19%				161	6/30/2026
98003		Rowan Co Housing Authority	12.10%				13,324	6/30/2021
98004		Rowan County A.B.C. Board	12.22%		0.12%			
98008		Rowan Co Soil & Water Conv Dist	13.14%				1,222	6/30/2023

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			General Employees	Law Enforcement	General Employees	Law Enforcement		
98011	72550	Salisbury, City of	12.14%	13.24%	0.04%	0.14%		
98013		Salisbury Housing Authority	12.10%					
98021	70812	East Spencer, Town of	12.25%	13.24%	0.15%	0.14%		
98023		East Spencer Housing Authority	12.13%		0.03%			
98031	72665	Spencer, Town of	12.18%	13.24%	0.08%	0.14%		
98041	70522	China Grove, Town of	12.15%	13.24%	0.05%	0.14%		
98051	71522	Landis, Town of	12.10%	13.24%		0.14%		
98061	71105	Granite Quarry, Town of	12.13%	13.24%	0.03%	0.14%		
98071	72475	Rockwell, Town of	12.10%	13.24%		0.14%		
98081		Faith, Town of	12.10%					
98091	70552	Cleveland, Town of	12.16%	13.24%	0.06%	0.14%		
98101	72530	Rutherford County	12.15%	13.24%	0.05%	0.14%		
98102		Broad River Water Authority	12.14%		0.04%			
98103		Rutherford Polk McDowell Dist Brd of Health	12.14%		0.04%			
98107		Forest City A.B.C. Board 168	12.10%					
98109		Isothermal Planning and Dev Comm	12.15%		0.05%			
98111	70950	Forest City, Town of	12.15%	13.24%	0.05%	0.14%		
98113		Forest City Housing Authority	12.10%					
98121	72670	Spindale, Town of	12.16%	13.24%	0.06%	0.14%		
98131	71518	Lake Lure, Town of	12.10%	13.24%		0.14%		
98141	72535	Rutherfordton, Town of	12.15%	13.24%	0.05%	0.14%		
98147		Rutherfordton A.B.C. Board	12.10%					
98161		Ellenboro, Town of	12.10%					
98201	72563	Sampson County	12.14%	13.24%	0.04%	0.14%		
98205		J C Holiday Mem Library	12.14%		0.04%			
98211	70555	Clinton, City of	12.15%	13.24%	0.05%	0.14%		
98218		Clinton A.B.C. Board	12.15%		0.05%			
98221		Salemburg, Town of	12.14%		0.04%			
98231	72050	Newton Grove, Town of	12.14%	13.24%	0.04%	0.14%		
98237		Roseboro A.B.C. Board	12.10%					
98241	71000	Garland, Town of	12.16%	13.24%	0.06%	0.14%		
98251		Turkey, Town of	12.23%		0.13%			
98261		Roseboro, Town of	12.17%		0.07%			
98271		Autryville, Town of	12.14%		0.04%			
98301	72580	Scotland County	12.15%	13.24%	0.05%	0.14%		
98304		Scotland County A.B.C. Board	12.20%		0.10%			
98308		Laurinburg-Maxton Airport Commission	12.10%					
98311	71530	Laurinburg, City of	12.15%	13.24%	0.05%	0.14%		
98313		Laurinburg Housing Authority	18.84%		0.09%		683,131	12/31/2026
98321	72935	Wagram, Town of	12.16%	13.24%	0.06%	0.14%		

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			General Employees	Law Enforcement	General Employees	Law Enforcement		
98331		Gibson, Town of	13.69%					
98401	72683	Stanly County	12.16%	13.24%	0.06%	0.14%	2,970	3/31/2025
98404		Locust A.B.C. Board	12.10%					
98411	70030	Albemarle, City of	12.15%	13.24%	0.05%	0.14%		
98414	71786	Misenheimer, Village of	12.28%	13.24%	0.18%	0.14%		
98417		Albemarle A.B.C. Board	12.10%				7,930	12/31/2023
98421	72110	Norwood, Town of	12.18%	13.24%	0.08%	0.14%		
98427		Norwood A.B.C. Bd	12.10%					
98431	71620	Locust, City of	12.10%	13.24%		0.14%		
98441	72120	Oakboro, Town of	12.10%	13.24%		0.14%		
98451	70103	Badin, Town of	12.16%	13.24%	0.06%	0.14%		
98471		New London, Town of	12.10%					
98481	72680	Stanfield, Town of	12.10%	13.24%		0.14%		
98501	72720	Stokes County	12.14%	13.24%	0.04%	0.14%		
98511		Walnut Cove, Town of	12.16%		0.06%			
98517		Walnut Cove A.B.C. Board	12.10%					
98521	71487	King, City of	12.15%	13.24%	0.05%	0.14%		
98601	72730	Surry County	12.18%	13.24%	0.08%	0.14%		
98604		Yadkin Valley A.B.C. Board	12.10%					
98607		Pilot Mountain A.B.C. Board	12.10%					
98608		Yadkin Valley Sewer Authority	12.10%					
98611	72280	Pilot Mountain, Town of	12.17%	13.24%	0.07%	0.14%		
98621	70735	Dobson, Town of	12.16%	13.24%	0.06%	0.14%		
98627		Dobson A.B.C. Bd	12.10%					
98631	71910	Mount Airy, City of	12.24%	13.24%	0.14%	0.14%		
98637		Mount Airy Alcoholic Board of Control	12.17%		0.07%			
98641	70855	Elkin, Town of	12.16%	13.24%	0.06%	0.14%		
98701	72740	Swain County	12.16%	13.24%	0.06%	0.14%		
98711	70285	Bryson City, Town of	12.17%	13.24%	0.07%	0.14%		
98717		Bryson City A.B.C. Board	12.18%		0.08%			
98801	72800	Transylvania County	12.15%	13.24%	0.05%	0.14%		
98811	70260	Brevard, City of	12.16%	13.24%	0.06%	0.14%		
98817		Brevard A.B.C. Board	12.10%					
98901	72825	Tyrrell County	12.18%	13.24%	0.08%	0.14%		
98904		Tyrrell Co A.B.C. Board	12.18%		0.08%			
98911		Columbia, Town of	12.10%					
99001	72830	Union County	12.14%	13.24%	0.04%	0.14%		
99011	71800	Monroe, City of	12.14%	13.24%	0.04%	0.14%		
99013		Monroe Housing Authority	12.17%		0.07%			
99014		Indian Trail A.B.C. Board	13.96%		0.14%		35,568	6/30/2039

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			General Employees	Law Enforcement	General Employees	Law Enforcement		
99017		Monroe A.B.C. Board	12.17%		0.07%			
99021	71720	Marshville, Town of	12.17%	13.24%	0.07%	0.14%		
99022		Mineral Springs, Town of	16.80%				54,616	6/30/2034
99031	73125	Wingate, Town of	12.19%	13.24%	0.09%	0.14%		
99041	72995	Waxhaw, Town of	12.14%	13.24%	0.04%	0.14%		
99047		Waxhaw A.B.C. Board	12.10%					
99051		Indian Trail, Town of	12.14%		0.04%			
99061		Unionville, Town of	12.10%					
99071		Weddington, Town of	15.20%		0.09%		30,702	6/30/2027
99081		Marvin, Village of	12.10%					
99091		Wesley Chapel, Village of	12.10%					
99101	72890	Vance County	12.16%	13.24%	0.06%	0.14%		
99104		Vance County A.B.C. Bd	12.10%					
99109		Kerr-Tar Regional Council of Govts	12.14%		0.04%			
99110		Kerr Area Transportation Authority	12.10%					
99111	71270	Henderson, City of	12.17%	13.24%	0.07%	0.14%		
99201	72940	Wake County	12.13%	13.24%	0.03%	0.14%		
99202	71385	Holly Springs, Town of	12.13%	13.24%	0.03%	0.14%		
99203	72485	Rolesville, Town of	12.19%	13.24%	0.09%	0.14%		
99204	72950	Wake County A.B.C. Board	12.15%	13.24%	0.05%	0.14%		
99206	71882	Morrisville, Town of	12.13%	13.24%	0.03%	0.14%		
99207		Wake County Housing Authority	22.51%				1,095,553	6/30/2031
99208		Bayleaf Fire Department	12.10%					
99210		Electricities of NC	12.10%					
99211	72360	Raleigh, City of	12.10%	13.24%		0.14%		
99212		Durham Hwy Fire Protection Assoc	12.10%					
99213		Raleigh Housing Authority	12.15%		0.05%			
99218	72370	Raleigh-Durham Airport Authority	12.14%	13.24%	0.04%	0.14%		
99219		Lincolnton-Lincoln County Airport Authority	12.10%					
99221	70400	Cary, Town of	12.14%	13.24%	0.04%	0.14%		
99222		Centennial Authority	12.13%		0.03%			
99231	73020	Wendell, Town of	12.14%	13.24%	0.04%	0.14%		
99241	73210	Zebulon, Town of	12.13%	13.24%	0.03%	0.14%		
99251	71010	Garner, Town of	12.14%	13.24%	0.04%	0.14%		
99252		Garner Fire Dept	12.12%		0.02%			
99261	70990	Fuquay-Varina, Town of	12.14%	13.24%	0.04%	0.14%		
99271	70050	Apex, Town of	12.13%	13.24%	0.03%	0.14%		
99281	72960	Wake Forest, Town of	12.18%	13.24%	0.08%	0.14%		
99291	71510	Knightdale, Town of	12.13%	13.24%	0.03%	0.14%		
99301	72980	Warren County	12.17%	13.24%	0.07%	0.14%		

Appendix H: Detailed Table of Rates of Contributions Payable by Employer



The table below provides the total contribution rates payable for the year beginning July 1, 2022 by all participating employers.

Employer Code	LEO Employer Code	Employer	Total Rate**		Death Benefit Rate		12/31/2020 Unfunded Prior Service Liability	Estimated Date of Liquidation of Prior Service Liability*
			General Employees	Law Enforcement	General Employees	Law Enforcement		
99304		Warren County A.B.C. Board	12.10%					
99311	72055	Norlina, Town of	12.10%	13.24%		0.14%		
99321	72991	Warrenton, Town of	18.95%	20.09%		0.14%	545,393	6/30/2033
99401	72985	Washington County	12.16%	13.24%	0.06%	0.14%		
99404		Washington County A.B.C. Board	12.20%		0.10%			
99405		Pettigrew Regional Library	12.18%		0.08%			
99411	72335	Plymouth, Town of	12.18%	13.24%	0.08%	0.14%		
99413		Plymouth Housing Authority	12.17%		0.07%			
99421		Roper, Town of	12.10%					
99431		Creswell, Town of	12.15%		0.05%			
99501	72983	Watauga County	12.17%	13.24%	0.07%	0.14%		
99502		Region D Council of Governments	12.10%					
99508		Blowing Rock Tourism Development Authority	12.10%				950	6/30/2021
99509		Watauga County District Tourism Dev Auth	12.10%					
99511	70240	Boone, Town of	12.15%	13.24%	0.05%	0.14%		
99521	70220	Blowing Rock, Town of	12.14%	13.24%	0.04%	0.14%		
99527		Blowing Rock A.B.C. Board	12.10%					
99531	72596	Seven Devils, Town of	17.08%	18.22%		0.14%	165,629	6/30/2026
99601	72997	Wayne County	12.16%	13.24%	0.06%	0.14%		
99602		Fork Township Sanitary Dist	12.13%		0.03%			
99603		Eastern Carolina Reg'l Housing Auth	12.10%					
99604		Wayne County A.B.C. Board	12.21%	13.24%	0.11%	0.14%		
99609		Southern Wayne Sanitary District	12.15%		0.05%			
99610		Eastern Wayne Sanitary Dist	12.23%		0.13%			
99611	71070	Goldsboro, City of	12.15%	13.24%	0.05%	0.14%		
99613		Goldsboro Housing Authority	12.15%		0.05%			
99621	71940	Mount Olive, Town of	12.10%	13.24%		0.14%		
99623		Mt Olive Housing Authority	12.10%					
99624		Washington Housing Authority	12.10%					
99631	70980	Fremont, Town of	12.10%	13.24%		0.14%		
99651	72270	Pikeville, Town of	12.10%	13.24%		0.14%		
99661	72977	Walnut Creek, Village of	12.10%	13.24%		0.14%		
99701	73075	Wilkes County	12.14%	13.24%	0.04%	0.14%		
99705		Appalachian Regional Library	12.10%					
99711	72105	North Wilkesboro, Town of	12.18%	13.24%	0.08%	0.14%		
99717		North Wilkesboro A.B.C. Board	12.18%		0.08%			
99721	73072	Wilkesboro, Town of	12.15%	13.24%	0.05%	0.14%		
99727		Wilkesboro A.B.C. Board	12.10%					
99801	73110	Wilson County	12.14%	13.24%	0.04%	0.14%		
99802		Wilson County Tourism Development Auth	12.10%					

Appendix H: Detailed Table of Rates of Contributions Payable by Employer



The table below provides the total contribution rates payable for the year beginning July 1, 2022 by all participating employers.

Employer Code	LEO Employer Code	Employer	Total Rate**		Death Benefit Rate		12/31/2020 Unfunded Prior Service Liability	Estimated Date of Liquidation of Prior Service Liability*
			General Employees	Law Enforcement	General Employees	Law Enforcement		
99804		Wilson County A.B.C. Board	12.16%		0.06%			
99811	73100	Wilson, City of	12.13%	13.24%	0.03%	0.14%		
99812		Wilson Economic Dev Council	12.10%					
99818		Wilson Cemetary Commission	12.10%					
99821	72684	Stantonsburg, Town of	12.10%	13.24%		0.14%		
99831	70195	Black Creek, Town of	12.10%	13.24%		0.14%		
99841		Lucama, Town of	12.15%		0.05%			
99851	70870	Elm City, Town of	12.10%	13.24%		0.14%		
99901	73170	Yadkin County	12.15%	13.24%	0.05%	0.14%		
99911	73180	Yadkinville, Town of	12.16%	13.24%	0.06%	0.14%		
99921	71467	Jonesville, Town of	12.28%	13.24%	0.18%	0.14%		
99931	70805	East Bend, Town of	12.19%	13.24%	0.09%	0.14%		
99941	70250	Boonville, Town of	12.10%	13.24%		0.14%		
99991		N C Assoc of Co Commissioners	12.13%		0.03%			
99999		N C League of Municipalities	12.13%		0.03%			

* Must be recalculated annually and adjusted according to each employer's actual experience. The estimated date for liquidation as of the valuation date does not constitute a guarantee that an employer will complete the liquidation as of the estimated date.

** Based on the preliminary contribution rate approved by the Board based on the Employer Contribution Rate Stabilization Policy. Total rate for Law Enforcement employees is subject to reduction for the court cost offset pursuant to G.S. 143-166.50(d).

Appendix I: Prior Service Contribution Rates Estimated Dates of Liquidation by Employer



The table below provides the contribution rates payable for the year beginning July 1, 2022 by the participating employers paying prior service liability rate at the valuation date.

Employer Code	LEO Employer Code	Employer	12/31/2020 Prior Service Liability	7/1/2022 Prior Service Rate	Original Date of Liquidation of Prior Service Liability	Estimated Date of Liquidation of Prior Service Liability*
90114		Mebane, Town Of	3,610,650	10.50%	6/30/2033	6/30/2025
90307		Sparta A.B.C. Board	2,194	0.53%	12/31/2028	12/31/2028
90507		West Jefferson ABC Board	24,866	3.22%	6/30/2035	6/30/2027
90602		Avery County Fire Commission	264,170	6.25%	12/31/2038	6/30/2034
90651	72724	Sugar Mountain, Town Of	181,597	7.14%	3/31/2027	6/30/2024
90861	71556	Lewiston-Woodville, Town Of	1,853	1.04%	6/30/2024	6/30/2024
91009		Brunswick County Tourism Develop. Authority	6,264	1.01%	9/30/2031	6/30/2025
91013		Southeast Brunswick Sanitary District	220,832	5.81%	9/30/2039	6/30/2038
91020		Belville, Town Of	2,675	0.64%	6/30/2031	6/30/2023
91026		Town Of Navassa	269,474	7.27%	6/30/2035	6/30/2035
91104		Woodfin Abc Commission	5,765	1.51%	9/30/2033	6/30/2023
91147		Weaverville A.B.C. Board	1,113		9/30/2034	6/30/2021
91308		Cabarrus Co. Tourism Authority	44,001	0.67%	9/30/2032	6/30/2029
91457		Lenoir A.B.C. Board	10,047		3/31/2023	6/30/2021
91681	70080	Atlantic Beach, Town Of	782,314	6.23%	3/31/2028	6/30/2025
92614		Fayetteville Public Works Commission	3,643,742	5.23%	3/31/2027	6/30/2022
92661	72676	Spring Lake, Town Of	986,075	6.62%	9/30/2024	6/30/2024
92671		Falcon, Town Of	13,693	6.42%	6/30/2026	6/30/2026
92913		Thomasville Housing Authority	137,722	16.43%	6/30/2027	6/30/2024
92941		Midway, Town Of	21,777	2.29%	3/31/2038	3/31/2038
93031	70624	Cooleemee, Town Of	13,228	6.20%	9/30/2027	9/30/2027
93212		Durham Convention and Visitors Bureau	407,233	5.71%	9/30/2028	6/30/2025
93618		Gaston Co. Economic Dev. Commission	30,066	10.07%	12/31/2022	12/31/2022

Appendix I: Prior Service Contribution Rates Estimated Dates of Liquidation by Employer



The table below provides the contribution rates payable for the year beginning July 1, 2022 by the participating employers paying prior service liability rate at the valuation date.

Employer Code	LEO Employer Code	Employer	12/31/2020 Prior Service Liability	7/1/2022 Prior Service Rate	Original Date of Liquidation of Prior Service Liability	Estimated Date of Liquidation of Prior Service Liability*
93647		Cherryville A.B.C. Board	17,081	13.21%	12/31/2023	6/30/2023
94031		Walstonburg, Town Of	41,371	7.28%	9/30/2033	9/30/2033
94437		Canton A.B.C. Board	36,374	4.88%	12/31/2027	6/30/2027
95103		Benson Housing Authority	154,526	3.93%	12/31/2036	12/31/2036
95106		Archer Lodge, Town Of	2,476	0.53%	9/30/2037	6/30/2024
95113		Smithfield Housing Authority	106,315	10.68%	6/30/2023	6/30/2023
95122		Micro, Town Of	13,064	2.47%	3/31/2036	6/30/2030
95191		Wilson's Mills, Town Of	137,615	2.82%	3/31/2032	3/31/2032
95504		Lincoln County A.B.C. Board	5,834	1.14%	12/31/2028	6/30/2023
96405		Braswell Memorial Library	62,549		6/30/2026	6/30/2026
96503		Wilmington Housing Authority	576,910	6.35%	6/30/2024	6/30/2024
96681	72591	Seaboard, Town Of	32,960	4.71%	12/31/2025	12/31/2025
96708		Onslow Water & Sewage Authority	432,618	1.22%	12/31/2028	6/30/2027
97012		Elizabeth-Pasquotank Co Airport Authority	2,575		9/30/2024	6/30/2021
97013		Elizabeth City-Pasquotank Co. Tourism Dev. Auth.	28,899	2.27%	6/30/2033	6/30/2032
97423		Farmville Housing Authority	69,404	6.94%	3/31/2028	6/30/2025
97840	71750	Maxton, Town Of	124,040	4.97%	6/30/2027	6/30/2023
97841		Town of Parkton	24,012	2.05%	9/30/2035	6/30/2034
97871	72395	Red Springs, Town Of	224,186	6.59%	6/30/2023	6/30/2022
97947		Madison A.B.C. Board	9,697	3.56%	12/31/2022	12/31/2022
98002		Rowan County Tourism Development Board	161	0.09%	6/30/2026	6/30/2026
98003		Rowan County Housing Authority	13,324		12/31/2021	6/30/2021
98008		Rowan Soil and Water Conservation District	1,222	1.04%	6/30/2023	6/30/2023
98313		Laurinburg Housing Authority	683,131	6.65%	12/31/2026	12/31/2026
98331	71051	Gibson, Town Of	2,970	1.59%	3/31/2025	3/31/2025
98417		Albemarle A.B.C. Board	7,930		12/31/2023	12/31/2023
99014		Indian Trail Abc Board	35,568	1.72%	6/30/2039	6/30/2039
99022		Town Of Mineral Springs	54,616	4.70%	9/30/2034	6/30/2034

Appendix I: Prior Service Contribution Rates Estimated Dates of Liquidation by Employer



The table below provides the contribution rates payable for the year beginning July 1, 2022 by the participating employers paying prior service liability rate at the valuation date.

Employer Code	LEO Employer Code	Employer	12/31/2020 Prior Service Liability	7/1/2022 Prior Service Rate	Original Date of Liquidation of Prior Service Liability	Estimated Date of Liquidation of Prior Service Liability*
99071		Weddington, Town Of	30,702	3.01%	3/31/2029	6/30/2027
99207		Wake County Housing Authority	1,095,553	10.41%	12/31/2032	6/30/2031
99321	72991	Warrenton, Town Of	545,393	6.85%	9/30/2037	6/30/2033
99508		Blowing Rock Tourism Development Authority	950		3/31/2029	6/30/2021
99531	72596	Seven Devils, Town Of	165,629	4.98%	6/30/2026	6/30/2026

Appendix J: Participating Employers



Employer	Employer Code	LEO Employer Code
Aberdeen, Town of	96331	70005
Ahoskie, Town of	94611	70007
Alamance Commuuty Fire District	94109	
Alamance County	90101	70020
Alamance Municipal A.B.C. Board	90117	
Alamance, Village of	90151	
Albemarle A.B.C. Board	98417	
Albemarle District Jail Commission	97008	
Albemarle Regional Health Services	90096	
Albemarle Regional Library	90805	
Albemarle Regional Planning & Development Comm	92109	
Alexander County	90201	70032
Alexander County Dept of S S	90206	
Alexander County Health Dept	90203	
Alexander County Public Library	90205	
Alleghany County	90301	70035
Alliance Behavioral Healthcare	93209	
Andrews, Town of	92021	70036
Angier A.B.C. Board	94347	
Angier, Town of	94351	70038
Anson County	90401	70040
Ansonville, Town of	90451	
Apex, Town of	99271	70050
Appalachian District Health Dept	90099	
Appalachian Regional Library	99705	
Archdale, City of	97651	70063
Archer Lodge, Town of	95106	
Ashe County	90501	70065
Asheboro A.B.C. Board	97607	
Asheboro Housing Authority	97613	
Asheboro, City of	97611	70064
Asheville A.B.C. Board	91127	70072
Asheville Regional Airport Authority	91128	70074
Asheville, City of	91121	70070
Atlantic Beach, Town of	91681	70080
Aulander, Town of	90811	70082
Aurora, Town of	90721	70085
Autryville, Town of	98271	
Avery County	90601	70090
Avery County Fire Commission	90602	70090

Employer	Employer Code	LEO Employer Code
Avery-Mitchell-Yancey Reg Library	90605	
Ayden, Town of	97461	70100
B.H.M. Regional Library	90705	
Badin, Town of	98451	70103
Bailey, Town of	96451	70104
Bakersville, Town of	96121	70105
Bald Head Island, Village of	91091	70107
Banner Elk, Town of	90611	70110
Bay River Metro Sewerage District	96918	
Bayboro, Town of	96911	
Bayleaf Fire Department	99208	
Beaufort County	90701	70130
Beaufort County A.B.C. Board	90704	
Beaufort Housing Authority	91633	
Beaufort, Town of	91631	70145
Beech Mountain, Town of	90631	70146
Belhaven, Town of	90731	70147
Belmont Housing Authority	93623	
Belmont, City of	93621	70150
Belville, Town of	91020	
Benson Housing Authority	95103	
Benson, Town of	95141	70170
Bermuda Run, Town of	93021	
Bertie County	90801	70180
Bertie County A.B.C. Board	90804	
Bertie-Martin Regional Jail Comm	90808	
Bessemer City, City of	93671	
Bethel, Town of	97441	70157
Beulaville, Town of	93111	70160
Biltmore Forest, Town of	91111	70190
Biscoe, Town of	96231	70192
Black Creek, Town of	99831	70195
Black Mountain A.B.C. Board	91154	
Black Mountain, Town of	91151	70200
Bladen County	90901	70210
Bladenboro, Town of	90941	70215
Blowing Rock A.B.C. Board	99527	
Blowing Rock Tourism Development Authority	99508	
Blowing Rock, Town of	99521	70220
Blue Ridge Fire Department	94532	70220

Appendix J: Participating Employers



Employer	Employer Code	LEO Employer Code
Boiling Spring Lakes A.B.C. Board	91077	
Boiling Spring Lakes, City of	91071	70225
Boiling Springs, Town of	92331	70230
Boone, Town of	99511	70240
Boonville, Town of	99941	70250
Braswell Memorial Library	96405	
Brevard A.B.C. Board	98817	
Brevard, City of	98811	70260
Bridgeton, Town of	92561	
Broad River Water Authority	98102	
Broadway, Town of	95321	70265
Brookford, Town of	91861	70270
Brunswick Co Dept of Social Services	91006	
Brunswick Co Health Dept	91003	
Brunswick County	91001	70280
Brunswick County A.B.C. Board	91004	
Brunswick County Tourism Authority	91009	
Brunswick Regional Water and Sewer H2GO	91042	
Brunswick, Town of	92421	
Bryson City A.B.C. Board	98717	
Bryson City, Town of	98711	70285
Buncombe County	91101	70290
Bunn A.B.C. Board	93537	
Bunn, Town of	93531	70295
Burgaw, Town of	97111	70300
Burke Co Dept of Social Services	91206	
Burke Co Health Dept	91203	
Burke County	91201	70310
Burke County Tourism Dev. Authority	91208	
Burlington, City of	90111	70320
Burnsville, Town of	90011	70330
Butner, Town of	93931	
Cabarrus Co Public Health Auth	91306	
Cabarrus County	91301	70340
Cabarrus County Tourism Authority	91308	
Calabash A.B.C. Board	91007	
Calabash, Town of	91010	
Albemarle, City of	98411	70030
Caldwell County	91401	70350
Calypso, Town of	93171	

Employer	Employer Code	LEO Employer Code
Camden County	91501	70357
Camden County A.B.C. Board	91504	
Cameron, Town of	96312	70358
Candor, Town of	96241	70360
Canton A.B.C. Board	94437	
Canton, Town of	94431	70362
Cape Carteret, Town of	91671	70365
Cape Fear Council of Governments	91008	
Cape Fear Public Transportation Authority	96512	
Cape Fear Public Utility Authority	96507	
Cape Fear Regional Jetport	91015	
Carolina Beach, Town of	96521	70375
Carolina Shores Town of	91024	
Carrboro, Town of	96821	70372
Carteret County	91601	70380
Carteret County A.B.C. Board	91604	70385
Carthage, Town of	96391	70390
Cary, Town of	99221	70400
Caswell Beach, Town of	91051	70405
Caswell Co Dept of Social Services	91706	
Caswell County	91701	70415
Caswell County A.B.C. Board	91704	
Catawba County	91801	70430
Catawba County A.B.C. Board	91804	70440
Catawba, Town of	91881	70441
Cedar Point, Town of	91691	
Centennial Authority	99222	
Centralina Council Of Governments	96009	
Chadbourn, Town of	92441	70450
Chapel Hill, Town of	96811	70470
Charlotte Firemen's Ret Sys	96018	
Charlotte Housing Authority	96003	
Charlotte Mecklenburg Public Library	96005	
Charlotte Regional Visitors Authority	96012	
Charlotte, City of	96011	70480
Chatham Co Housing Auth	91903	
Chatham County	91901	70490
Chatham County A.B.C. Board	91904	
Cherokee County	92001	70500
Cherryville A.B.C. Board	93647	

Appendix J: Participating Employers



Employer	Employer Code	LEO Employer Code
Cherryville, City of	93641	70520
China Grove, Town of	98041	70522
Choanoke Public Transportation Auth	96612	
Chocowinity, Town of	90751	70525
Chowan County	92101	70530
Chowan County A.B.C. Board	92104	
Claremont, City of	91821	70535
Clarkton, Town pf	90931	70537
Clay County	92201	70538
Clay County A.B.C. Board	92214	
Clayton, Town of	95131	70540
Clemmons Fire Department	93442	
Clemmons, Village of	93441	
Cleveland County	92301	70550
Cleveland County Water	92302	
Cleveland, Town of	98091	70552
Clinton A.B.C. Board	98218	
Clinton, City of	98211	70555
Coastal Carolina Regional Airport	92506	
Coastal Regional Solid Waste Mngt Auth	92508	
Coats, Town of	94341	70570
Cofield, Town of	94641	
Colerain, Town of	90813	70575
Colfax Volunteer Fire Department	94168	
Columbia, Town of	98911	
Columbus A.B.C. Board	97527	
Columbus County	92401	70580
Columbus, Town of	97521	70581
Concord A.B.C. Board	91317	
Concord, City of	91311	70590
Connelly Springs, Town of	91261	
Conover, Town of	91851	70610
Contennea Metropolitan Sewerage Dist	97408	
Conway, Town of	96641	70620
Cooleemee, Town of	93031	70624
Cornelius, Town of	96051	70625
Cove City, Town of	92571	
Cramerton A.B.C. Board	93604	
Cramerton, Town of	93631	70640
Craven-Pamlico-Carteret Regional Library	92505	

Employer	Employer Code	LEO Employer Code
Craven Co A.B.C. Bd	92504	
Craven County	92501	70650
Creedmoor, City of	93921	70660
Creswell, Town of	99431	
Cumberland Co A.B.C. Board	92604	70685
Cumberland County	92601	70680
Currituck Co A.B.C. Board	92704	
Currituck County	92701	70700
Dallas, Town of	93651	70705
Dare County	92801	70720
Dare County A.B.C. Board	92804	70721
Dare County Tourism Board	92802	
Davidson County	92901	70723
Davidson, Town of	96081	70724
Davie County	93001	70725
Davie Soil and Water Conservation Dist	93009	
Denton, Town of	92921	70730
Dobson A.B.C. Bd	98627	
Dobson, Town of	98621	70735
Drexel, Town of	91221	70745
Duck, Town of	92861	70755
Dunn A.B.C. Board	94317	
Dunn Housing Authority	94313	
Dunn, City of	94311	70760
Duplin County	93101	70770
Durham Convention & Visitors Bureau	93212	
Durham County	93201	70790
Durham County A.B.C. Board	93204	70800
Durham Hwy Fire Protection Assoc	99212	
Durham, City of	93211	70780
East Albemarle Regional Library	97005	
East Bend, Town of	99931	70805
East Spencer Housing Authority	98023	
East Spencer, Town of	98021	70812
Eastern Band of Cherokee Indians	70505	70505
Eastern Carolina Reg'l Housing Auth	99603	
Eastern Wayne Sanitary Dist	99610	70505
Eastover, Town of	92681	
Eastpointe Human Services	93108	
Eden A.B.C. Board	97957	

Appendix J: Participating Employers



Employer	Employer Code	LEO Employer Code
Eden, City of	97951	70815
Edenton, Town of	92111	70817
Edgecombe County	93301	70820
Edgecombe County A.B.C. Board	93304	
Edgecombe County Memorial Library	93305	
Electricities of NC	99210	
Elizabeth A.B.C. Board	90917	
Elizabeth City	97011	70840
Elizabeth City Pasquotank County TDA	97013	
Elizabeth City-Pasquotank Co Airport Auth	97012	
Elizabeth City-Pasquotank Co Industrial Development	97018	
Elizabethtown, Town of	90911	70850
Elk Park, Town of	90641	70860
Elkin, Town of	98641	70855
Ellenboro, Town of	98161	
Ellerbe, Town of	97731	
Elm City, Town of	99851	70870
Elon, Town of	90131	70880
Emerald Isle, Town of	91651	70890
Enfield, Town of	94211	70895
Erwin, Town of	94331	70900
Fair Bluff, Town of	92431	70908
Fairmont Housing Authority	97823	
Fairmont, Town of	97821	70910
Faison, Town of	93141	70920
Faith, Town of	98081	
Falcon Town of	92671	
Farmville Housing Authority	97423	
Farmville, Town of	97421	70930
Fayetteville Metropolitan Housing Auth	92613	
Fayetteville Public Works Commission	92614	
Fayetteville, City of	92611	70940
First Craven Sanitary Dist	92502	
Flat Rock, Village of	94531	
Fletcher A.B.C. Board	94547	
Fletcher, Town of	94541	70943
Fontana Regional Library	95005	
Forest City A.B.C. Board 168	98107	
Forest City Housing Authority	98113	
Forest City, Town of	98111	70950

Employer	Employer Code	LEO Employer Code
Fork Township Sanitary Dist	99602	
Forsyth County	93401	70951
Four Oaks, Town of	95151	70954
Foxfire Village	96381	70953
Franklin County	93501	70960
Franklin, Town of	95611	70955
Franklinton A.B.C Board	93517	
Franklinton, Town of	93511	70970
Fremont, Town of	99631	70980
Fuquay-Varina, Town of	99261	70990
Garland, Town of	98241	71000
Garner Fire Dept	99252	
Garner, Town of	99251	71010
Garysburg, Town of	96631	71020
Gaston County	93601	71030
Gaston County Economic Dev Commission	93618	
Gaston, Town of	96651	71032
Gastonia A.B.C. Board	93617	
Gastonia, City of	93611	71040
Gates County	93701	71050
Gates County A.B.C. Board	93704	71052
Gibson, Town of	98331	71051
Gibsonville A.B.C. Board	94157	
Gibsonville, Town of	94151	71060
Glen Alpine, Town of	91241	71065
Goldsboro Housing Authority	99613	
Goldsboro, City of	99611	71070
Goldston-Gulf Sanitary District	91908	
Graham Co Health Dept	93803	
Graham County	93801	71085
Graham County Dept of S S	93806	
Graham, City of	90121	71080
Granite Falls A.B.C. Board	91417	
Granite Falls, Town of	91411	71090
Granite Quarry, Town of	98061	71105
Granville Co A.B.C. Bd	93904	
Granville County	93901	71110
Granville County Hospital	93906	
Granville-Vance Public Health	93908	
Greater Statesville Development Corp	94908	

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Green Level, Town of	90161	
Greene County	94001	71130
Greene County A.B.C. Board	94004	
Greensboro A.B.C. Bd	94117	71150
Greensboro, City of	94111	71140
Greenville Housing Authority	97413	
Greenville Utilities Commission	97412	
Greenville, City of	97411	71160
Grifton, Town of	97431	71170
Grimesland, Town of	97471	
Grover, Town of	92351	71178
Guilford County	94101	71180
Guilford Fire District #13 Inc	94118	
Guil-Rand Fire Department	94102	
Halifax County	94201	71200
Halifax County A.B.C. Board	94204	
Halifax County Tourism Development Authority	94205	
Hamilton, Town of	95831	
Hamlet A.B.C. Board	97717	
Hamlet, City of	97721	71220
Harnett County	94301	71230
Harrisburg, Town of	91441	
Havelock, City of	92531	71240
Haywood County	94401	71250
Haywood County Tourism Development Authority	94403	
Henderson County	94501	71275
Henderson, City of	99111	71270
Hendersonville A.B.C. Bd	94517	
Hendersonville, City of	94511	71280
Hertford A.B.C. Board	97217	71305
Hertford County	94601	71310
Hertford County A.B.C. Board	94604	71320
Hertford Housing Auth	97213	
Hertford, Town of	97211	71300
Hickory Conover Tourism Dev Auth	91812	
Hickory Public Housing Authority	91813	
Hickory, City of	91811	71330
High Country A.B. C. Board	90617	
High Point A.B.C. Bd	94127	
High Point, City of	94121	71340

Employer	Employer Code	LEO Employer Code
Highlands A.B.C. Board	95617	
Highlands, Town of	95621	71335
Hildebran, Town of	91251	
Hillsborough, Town of	96831	71360
Hobgood, Town of	94251	
Hoke County	94701	71370
Hoke County A.B.C. Board	94704	
Holden Beach, Town of	91014	71375
Holly Ridge, Town of	96731	71380
Holly Springs, Town of	99202	71385
Hookerton, Town of	94011	
Hope Mills, Town of	92631	71390
Hot Springs Housing Authority	95733	
Hudson, Town of	91431	71395
Huntersville, Town of	96041	71397
Hyde County	94801	71400
Hyde County A.B.C. Board	94804	
Indian Beach, Town of	91661	71405
Indian Trail A.B.C. Board	99014	
Indian Trail, Town of	99051	
Iredell County	94901	71420
Isothermal Planning and Dev Comm	98109	
J C Holiday Mem Library	98205	
Jackson County	95001	71430
Jackson County A.B.C. Board	95017	
Jackson County Tourism Development Authority	95010	
Jackson, Town of	96661	71435
Jacksonville, City of	96711	71440
Jamestown, Town of	94131	71442
Jamesville, Town of	95841	
Jefferson, Town of	90511	71447
Johnston County	95101	71460
Johnston County A.B.C. Board	95104	
Johnston Health Center	95110	
Jones County	95201	71465
Jones County A.B.C. Board	95204	
Jonesville, Town of	99921	71467
Junaluska Sanitary District	94408	
Kannapolis, City of	91331	71468
Kenansville A.B.C. Board	93127	

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Kenansville, Town of	93121	71469
Kenly, Town of	95171	71472
Kernersville, Town of	93421	71470
Kerr Area Transportation Authority	99110	
Kerr-Tar Regional Council of Govts	99109	
Kill Devil Hills, Town of	92821	71480
King, City of	98521	71487
Kings Mountain A.B.C. Board	92327	
Kings Mountain, City of	92321	71490
Kinston Housing Authority	95413	
Kinston, City of	95411	71500
Kinston-Lenoir Co Pub Library	95415	
Kitty Hawk, Town of	92851	71507
Knightdale, Town of	99291	71510
Kure Beach, Town of	96541	71515
Lagrange, Town of	95431	71517
Lake Lure, Town of	98131	71518
Lake Waccamaw A.B.C. Board	92427	
Lake Waccamaw, Town of	92461	71519
Landis, Town of	98051	71522
Land-of-Sky Regional Council	91102	
Laurel Park A.B.C. Board	94527	
Laurel Park, Town of	94521	71525
Laurinburg Housing Authority	98313	
Laurinburg, City of	98311	71530
Laurinburg-Maxton Airport Commission	98308	
Lawndale, Town of	92341	71532
Lee County	95301	71535
Leland, Town of	91002	71540
Lenoir A.B.C. Board	91457	
Lenoir County	95401	71550
Lenoir County A.B.C. Board	95404	
Lenoir Housing Authority	91423	
Lenoir, City of	91451	71552
Lewiston Woodville, Town of	90861	71556
Lewisville, Town of	93451	
Lexington A.B.C. Board	92917	
Lexington, City of	92931	71570
Liberty, Town of	97631	71582
Lilesville, Town of	90421	71584

Employer	Employer Code	LEO Employer Code
Lillington, Town of	94321	71585
Lincoln County	95501	71590
Lincoln County A.B.C. Board	95504	
Lincolnton A.B.C. Board	95517	
Lincolnton Housing Authority	95513	
Lincolnton, City of	95511	71600
Lincolnton-Lincoln County Airport Authority	99219	
Linden, Town of	92651	
Littleton, Town of	94261	71615
Locust A.B.C. Board	98404	
Locust, City of	98431	71620
Longview, Town of	91841	71640
Louisburg A.B.C. Board	93527	
Louisburg, Town of	93521	71650
Lowell, City of	93661	71655
Lower Cape Fear Water & Sewer Auth	96508	
Lucama, Town of	99841	71660
Lumber River Council of Governments	97802	
Lumberton A.B.C. Board	97817	
Lumberton Airport Comm	97818	
Lumberton, City of	97811	71670
Macclesfield, Town of	93341	
Macon County	95601	71680
Madison A.B.C. Board	97947	
Madison County	95701	71684
Madison, Town of	97941	71683
Madison-Mayodan Recreation Comm	97948	
Maggie Valley A.B.C. Board	94427	
Maggie Valley Sanitary Dist	94428	
Maggie Valley, Town of	94421	71685
Magnolia, Town of	93191	71690
Maiden, Town of	91831	71700
Manteo, Town of	92831	71705
Marion A.B.C. Board	95917	
Marion, Town of	95911	71710
Mars Hill, Town of	95711	71718
Marshall, Town of	95721	71711
Marshville, Town of	99021	71720
Martin Co Travel & Tourism Auth	95802	
Martin County	95801	71730

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Employer	Employer Code	LEO Employer Code
Martin County A.B.C. Board	95804	
Martin-Tyrrell-Washington Dist Health Dept	90092	
Marvin, Village of	99081	
Matthews, Town of	96071	71740
Maury Sanitary Land District	94002	
Maxton A.B.C. Board	97847	
Maxton, Town of	97840	71750
Mayodan, Town of	97921	71755
Maysville, Town of	95221	71745
Mcadenville, Town of	93610	71760
McDowell County	95901	71762
Mebane, City of	90114	
Mecklenburg County	96001	71770
Mecklenburg County A.B.C. Board	96004	71780
Mecklenburg Emer Med Svcs Agcy	96008	
Metro Sewerage Dist of Buncombe County	91108	
Mi Connection Communications System	94941	
Micro, Town of	95122	
Mid-Carolina Council Of Governments	92607	
Middlesex, Town of	96431	71785
Mideast Commission	90709	
Midland, Town of	91341	
Midway, Town of	92941	
Mills River, Town of	94551	
Mineral Springs, Town of	99022	
Mint Hill, Town of	96031	71775
Misenheimer, Village of	98414	71786
Mitchell County	96101	71788
Mitchell Soil & Water Conservation Dist	96102	
Mocksville-Coolesmeemee A.B.C. Board	93028	
Mocksville, Town of	93011	71790
Monroe A.B.C. Board	99017	
Monroe Housing Authority	99013	
Montgomery County	96201	71815
Montgomery-Municipal A.B.C. Board	96204	
Montreat, Town of	91161	71820
Monroe, City of	99011	71800
Moore County	96301	71830
Moore County A.B.C. Board	96304	71840
Moore County Airport Authority	96310	

Employer	Employer Code	LEO Employer Code
Moore County Tourism Development Authority	96305	
Mooreville A.B.C. Board	94927	
Mooreville Housing Authority	94923	
Mooreville, City of	94921	71850
Morehead City, Town of	91611	71860
Morganton A.B.C. Board	91217	71880
Morganton Housing Authority	91233	
Morganton, City of	91231	71870
Morrisville, Town of	99206	71882
Morven, Town of	90461	
Mount Airy Alcoholic Board of Control	98637	
Mount Airy, City of	98631	71910
Mount Gilead, Town of	96251	71920
Mount Holly, City of	93691	71930
Mount Olive, Town of	99621	71940
Mount Pleasant, Town of	91321	
Mount Pleasant A.B.C. Board	91327	
Mt Olive Housing Authority	99623	
Murfreesboro, Town of	94621	71970
Murphy A.B.C. Board	92017	
Murphy, Town of	92011	71975
N C Assoc of Co Commissioners	99991	
N C League of Municipalities	99999	
Nags Head, Town of	92811	71980
Nantahala Regional Library	92005	
Nash County	96401	71990
Nash County A.B.C. Board	96404	72000
Nashville, Town of	96421	71995
Navassa, Town of	91026	
Neuse Regional Library	95405	
Neuse Regional Library-Greene County	94005	
Neuse Regional Library-Jones County	95205	
Neuse River Council of Governments	92507	
New Bern, City of	92511	72020
New Edenton Housing Auth	92113	
New Hanover Airport Auth	96502	72024
New Hanover County	96501	72030
New Hanover County A.B.C. Board	96504	
New London, Town of	98471	
New Reidsville Housing Auth	97913	

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Employer	Employer Code	LEO Employer Code
Newland, Town of	90621	72032
Newport, Town of	91621	72035
Newton Grove, Town of	98231	72050
Newton, City of	91871	72040
Norlina, Town of	99311	72055
North Topsail Beach, Town of	96751	72789
North Wilkesboro A.B.C. Board	99717	
North Wilkesboro, Town of	99711	72105
Northampton County	96601	72060
Northampton County A.B.C. Board	96604	
Northwest, City of	91012	72076
Northwestern Regional Library	90305	
Norwood A.B.C. Bd	98427	
Norwood, Town of	98421	72110
Oak City, Town of	95821	
Oak Island A.B.C. Bd	91027	
Oak Island, Town of	91021	71630
Oak Ridge, Town of	94161	
Oakboro, Town of	98441	72120
Ocean Isle Beach A.B.C.	91067	
Ocean Isle Beach, Town of	91061	72135
Ocracoke Sanitary Dist	94812	
Old Fort, Town of	95921	72140
Onslow County	96701	72150
Onslow County A.B.C. Board	96704	72160
Onslow Water & Sewer Authority	96708	
Orange County	96801	72170
Orange County A.B.C. Board	96804	
Orange Water and Sewer Authority	96808	
Oriental, Town of	96912	72195
Oxford Housing Authority	93913	
Oxford, City of	93911	72200
Pamlico County	96901	72210
Parkton, Town of	97841	
Partners Behavioral Health Management	93609	
Pasquotank Co A.B.C. Board	97004	
Pasquotank County	97001	72220
Pasquotank-Camden Ambulance Service	97002	
Pasquotank-Camden Library	97015	
Peachland, Town of	90441	

Employer	Employer Code	LEO Employer Code
Pembroke Housing Authority	97853	
Pembroke, Town of	97851	72228
Pender County	97101	72235
Pender County A.B.C. Board	97104	
Perquimans County	97201	72245
Person Co A.B.C. Bd	97304	
Person County	97301	72250
Pettigrew Regional Library	99405	
Piedmont Triad Airport Authority	72265	72265
Piedmont Triad Reg Water Auth	94112	
Piedmont Triad Regional Council	93406	
Pikeville, Town of	99651	72270
Pilot Mountain A.B.C. Board	98607	
Pilot Mountain, Town of	98611	72280
Pine Knoll Shores, Town of	91641	72290
Pine Level, Town of	95161	72295
Pinebluff, Town of	96361	72285
Pinecroft-Sedgefield Fire Dist Inc	94108	
Pinehurst, Village of	96351	72287
Pinetops, Town of	93331	72296
Pineville, Town of	96021	72300
Pink Hill, Town of	95421	72305
Pitt County	97401	72310
Pitt County A.B.C. Board	97404	72320
Pitt-Greenville Conv & Vistors	97402	
Pittsboro, Town of	91921	72330
Pleasant Garden Fire Dept	95908	
Plymouth Housing Authority	99413	
Plymouth, Town of	99411	72335
Polk County	97501	72340
Polkton, Town of	90431	72345
Pollocksville, Town of	95211	
Princeton, Town of	95181	72349
Princeville, Town of	93351	72351
Public Library of Johnston Co and Smithfield	95105	
Raeford, Town of	94711	72355
Raleigh Housing Authority	99213	
Raleigh, City of	99211	72360
Raleigh-Durham Airport Authority	99218	72370
Ramseur, Town of	97641	72375

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Employer	Employer Code	LEO Employer Code
Randleman A.B.C. Board	97627	
Randleman Housing Authority	97623	
Randleman, City of	97621	72377
Randolph County	97601	72380
Ranlo, Town of	93681	72390
Red Springs A.B.C. Board	97877	
Red Springs, Town of	97871	72395
Region D Council of Governments	99502	
Reidsville A.B.C. Board	97917	
Reidsville, City of	97911	72400
Rhodhiss, Town of	91414	
Rich Square, Town of	96611	72432
Richlands, Town of	96741	72420
Richmond County	97701	72430
River Bend, Town of	92541	72435
Roanoke Rapids Sanitary District	94209	
Roanoke Rapids, City of	94221	72440
Robbins, Town of	96341	72443
Robbinsville, Town of	93821	
Robersonville Authority	95853	
Robersonville, Town of	95851	72445
Robeson County	97801	72450
Robeson County Housing Authority	97803	
Robeson County Public Library	97805	
Rockingham A.B.C. Board	97727	
Rockingham Authority	97713	
Rockingham County	97901	72470
Rockingham, City of	97711	72460
Rockwell, Town of	98071	72475
Rocky Mount, City of	93321	72480
Rocky Mount-Wilson Airport Authority	93323	
Rocky Mt Housing Authority	93333	
Rolesville, Town of	99203	72485
Roper, Town of	99421	
Rose Hill, Town of	93161	72487
Roseboro A.B.C. Board	98237	
Roseboro, Town of	98261	72486
Rowan Co Housing Authority	98003	
Rowan Co Soil & Water Conv Dist	98008	
Rowan County	98001	72490

Employer	Employer Code	LEO Employer Code
Rowan County A.B.C. Board	98004	72500
Rowen Convention & Visitors Bureau	98002	
Rowland, Town of	97861	72510
Roxboro, City of	97311	72520
Roxboro Housing Authority	97302	
Rural Hall, Town of	93431	
Rutherford College, Town of	91214	
Rutherford County	98101	72530
Rutherford Polk McDowell Dist Brd of Health	98103	
Rutherfordton A.B.C. Board	98147	
Rutherfordton, Town of	98141	72535
Salemburg, Town of	98221	72547
Salisbury Housing Authority	98013	
Salisbury, City of	98011	72550
Saluda, City of	97531	72560
Sampson County	98201	72563
Sandhill Regional Library	97705	
Sandhills Center	96318	
Sanford A.B.C. Board	95317	
Sanford, City of	95311	72565
Sawmills, Town of	91421	
Scotland County	98301	72580
Scotland County A.B.C. Board	98304	
Scotland Neck, Town of	94241	72590
Seaboard, Town	96681	72591
Seagrove, Town	72593	72593
Selma Housing Authority	95123	
Selma, Town of	95121	72594
Seven Devils, Town of	99531	72596
Severn, Town of	96671	72595
Shalotte A.B.C. Board	91057	
Shalotte, Town of	91081	72597
Sharpsburg, Town of	96461	72600
Shelby A.B.C. Board	92317	
Shelby, City of	92311	72610
Sheppard Memorial Library	97405	
Siler City A.B.C. Board	91917	
Siler City, Town of	91911	72625
Simpson, Village of	97481	72626
Skyland Vol Fire Dept	91138	

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Smithfield Housing Authority	95113	
Smithfield, Town of	95111	72630
Snow Hill, Town of	94021	
South Eastern Economic Development Comm	90918	
South Granville Water and Sewer Authority	93910	
Southeast Brunswick Sanitary District	91013	
Southern Pines, Town of	96311	72640
Southern Shores, Town of	92841	72645
Southern Wayne Sanitary District	99609	
Southport A.B.C. Board	91017	
Southport, City of	91011	72650
Southwestern NC Planning & Econ Dev Comm	95008	
Sparta A.B.C. Board	90307	
Sparta, Town of	72657	72657
Spencer, Town of	98031	72665
Spindale, Town of	98121	72670
Spring Hope, Town of	96411	72675
Spring Lake, Town of	92661	72676
Spruce Pine, Town of	96111	72678
St James, Town of	91032	
St Paul's Brd of Alcoholic CTL	97837	
St Pauls, Town of	97831	72540
Stallings, Town of	96061	72679
Stanfield, Town of	98481	72680
Stanley, Town of	93602	72682
Stanly County	98401	72683
Stantonsburg, Town of	99821	72684
Star, Town of	96211	72685
Statesville A.B.C. Board	94917	72710
Statesville, City of	94911	72700
Stedman, Town of	92621	72715
Stokes County	98501	72720
Stoneville, Town of	97931	72721
Stovall, Town of	93914	
Sugar Mountain, Town of	90651	72724
Summerfield Fire District	94172	
Summerfield, Town of	94171	
Sunset Beach A.B.C. Board	91047	
Sunset Beach, Town of	91041	72723
Surf City, Town of	97131	72725

Employer	Employer Code	LEO Employer Code
Surry County	98601	72730
Swain County	98701	72740
Swansboro, Town of	96721	72745
Sweepsonville, Town of	96722	
Sylva, Town of	95011	72750
Tabor City, Town of	92451	72760
Tarboro Redevelopment Commission	93317	
Tarboro, Town of	93311	72770
Taylorsville, Town of	90211	72775
Taylortown, Town of	96302	72776
Teachey, Town of	93181	
Thomasville A.B.C. Board	92914	
Thomasville Housing Authority	92913	
Thomasville, City of	92911	72780
Tobaccoville, Village of	93471	
Toe River Health District	90098	
Topsail Beach, Town of	97121	72790
Town of Haw River	90141	71245
Transylvania County	98801	72800
Trent Woods, Town of	92521	72810
Triad Municipal A.B.C. Board	93417	73140
Triangle J Council of Governments	93219	
Trillium Health Resources	92513	
Trinity, City of	97661	
Troutman A.B.C. Board	94937	
Troutman, Town of	94931	72815
Troy, Town of	96221	72822
Tryon, Town of	97511	72823
Tuckaseegee Water Authority	95002	
Turkey, Town of	98251	
Tyrrell Co A.B.C. Board	98904	
Tyrrell County	98901	72825
Union County	99001	72830
Unionville, Town of	99061	
Upper Coastal Plain Council of Governements	93309	
Valdese A.B.C. Board	94947	
Valdese Housing Authority	91213	
Valdese, Town of	91211	72883
Vance County	99101	72890
Vance County A.B.C. Bd	99104	

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Vanceboro, Town of	92551	72910
Vass, Town of	96321	72920
Vaya Health	95009	
Wade, Town of	92641	
Wadesboro A.B.C. Board	90417	
Wadesboro Housing Authority	90413	
Wadesboro, Town of	90411	72930
Wagram, Town of	98321	72935
Wake County	99201	72940
Wake County A.B.C. Board	99204	72950
Wake County Housing Authority	99207	
Wake Forest, Town of	99281	72960
Walkertown, Town of	93461	
Wallace A.B.C. Bd	93157	
Wallace, Town of	93151	72970
Walnut Cove A.B.C. Board	98517	
Walnut Cove, Town of	98511	72975
Walnut Creek, Village of	99661	72977
Walstonburg, Town of	94031	
Warren County	99301	72980
Warren County A.B.C. Board	99304	72979
Warrenton, Town of	99321	72991
Warsaw A.B.C. Board	93137	
Warsaw, Town of	93131	72981
Washington County	99401	72985
Washington County A.B.C. Board	99404	
Washington Housing Authority	99624	
Washington Park, Town of	90741	
Washington, City of	90711	72990
Watauga County	99501	72983
Watauga County District Tourism Dev Auth	99509	
Water & Sewer Auth of Cabarrus County	91302	
Waxhaw A.B.C. Board	99047	
Waxhaw, Town of	99041	72995
Wayne County	99601	72997
Wayne County A.B.C. Board	99604	
Waynesville A.B.C. Board	94412	73015
Waynesville, Town of	94411	73010
Weaverville A.B.C. Board	91147	
Weaverville, Town of	91141	73016

Employer	Employer Code	LEO Employer Code
Weddington, Town of	99071	
Weldon, Town of	94231	73017
Wendell, Town of	99231	73020
Wesley Chapel, Village of	99091	
West Buncombe Fire Dept	91120	
West Columbus A.B.C. Board	92444	
West Jefferson A.B.C. Board	90507	
West Jefferson, Town of	90521	73025
Westarea Volunteer Fire Dept	92602	
Western Carteret Interlocal Cooperation Agency	91608	
Western NC Regional Air Quality	91107	
Western Piedmont Council of Gvrmts	91818	
Western Piedmont Regional Transit Authority	91819	
Whispering Pines, Village of	96371	73040
Whitakers, Town of	96441	73045
White Lake, Town of	90921	73050
Whiteville A.B.C. Board	92417	
Whiteville Housing Authority	92403	
Whiteville, City of	92411	73060
Wilkes County	99701	73075
Wilkesboro A.B.C. Board	99727	
Wilkesboro, Town of	99721	73072
Williamston Housing Authority	95813	
Williamston, Town of	95811	73080
Wilmington Housing Authority	96503	
Wilmington, City of	96531	73090
Wilson Cemetary Commission	99818	
Wilson County	99801	73110
Wilson County A.B.C. Board	99804	
Wilson County Tourism Development Auth	99802	
Wilson Economic Dev Council	99812	
Wilson, City of	99811	73100
Wilson's Mills, Town of	95191	
Windsor, Town of	90812	73122
Winfall, Town of	97221	73124
Wingate, Town of	99031	73125
Winston-Salem Housing Authority	93413	
Winston-Salem, City of	93411	73130
Winterville, Town of	97451	73150
Winton, Town of	94631	73155

Appendix J: Participating Employers



Employer	Employer Code	LEO Employer Code
Woodfin A.B.C. Commission	91104	
Woodfin Sanitary Water and Sewer Dist	91109	
Woodfin, Town of	91171	73160
Woodland, Town of	96621	73162
Wrightsville Beach, Town of	96511	73165
Yadkin County	99901	73170
Yadkin Valley A.B.C. Board	98604	
Yadkin Valley Sewer Authority	98608	
Yadkinville, Town of	99911	73180

Employer	Employer Code	LEO Employer Code
Yancey County	90001	73190
Yancey Soil & Water Cons	90002	
Yanceyville, Town of	91719	73192
Youngsville, Town of	93541	73200
Zebulon, Town of	99241	73210