



## REQUIRED SUPPLEMENTARY INFORMATION PENSION PLANS

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*Required supplementary information for pension plans provides information on the sources of changes in net pension liabilities, information about the components of net pension liabilities, employer contributions, and investment returns.*

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The Required Supplementary Information for Pension Plans includes the following schedules:

Schedule of Changes in the Net Pension Liability and Related Ratios: Cost-Sharing, Multiple-Employer, Defined Benefit Pension Plans

Schedule of Changes in the Net Pension Liability and Related Ratios: Single-Employer, Defined Benefit Pension Plans

Schedule of Employer and Nonemployer Contributions: Cost-Sharing, Multiple-Employer, Defined Benefit Pension Plans

Schedule of Employer and Nonemployer Contributions: Single-Employer, Defined Benefit Pension Plans

Schedule of Investment Returns: All Defined Benefit Pension Plans

Notes to Required Supplementary Information: Schedule of Employer Contributions

**REQUIRED SUPPLEMENTARY INFORMATION**  
**SCHEDULE OF CHANGES IN THE NET PENSION LIABILITY AND RELATED RATIOS**  
**COST-SHARING, MULTIPLE-EMPLOYER, DEFINED BENEFIT PENSION PLANS**

Last Six Fiscal Years

*(Dollars in Thousands)*

	2019	2018	2017	2016	2015
<b>Teachers' and State Employees'</b>					
<b>Total pension liability</b>					
Service Cost	\$ 1,782,475	\$ 1,630,323	\$ 1,469,395	\$ 1,580,544	\$ 1,562,846
Interest	5,460,427	5,281,004	5,195,104	4,937,464	4,803,766
Changes of benefit terms	-	44,339	449,563	35,605	-
Differences between expected and actual experience	535,860	815,911	229,339	(190,178)	(278,170)
Changes of assumptions	-	1,637,700	381,934	1,743,836	-
Benefit payments, including refunds of member contributions	(4,835,144)	(4,666,391)	(4,545,296)	(4,339,637)	(4,184,410)
<b>Net change in total pension liability</b>	<u>2,943,618</u>	<u>4,742,886</u>	<u>3,180,039</u>	<u>3,767,634</u>	<u>1,904,032</u>
<b>Total pension liability - beginning</b>	<u>80,382,787</u>	<u>75,639,901</u>	<u>72,459,862</u>	<u>68,692,228</u>	<u>66,788,196</u>
<b>Total pension liability - ending (a)</b>	<u>\$ 83,326,405</u>	<u>\$ 80,382,787</u>	<u>\$ 75,639,901</u>	<u>\$ 72,459,862</u>	<u>\$ 68,692,228</u>
<b>Plan fiduciary net position</b>					
Contributions-employer	\$ 1,915,146	\$ 1,602,901	\$ 1,441,194	\$ 1,275,003	\$ 1,262,988
Contributions-member	951,566	910,797	894,538	864,151	854,306
Net investment income	4,514,117	4,885,354	6,656,652	472,174	1,468,624
Benefit payments, including refunds of member contributions	(4,835,144)	(4,666,391)	(4,545,296)	(4,339,637)	(4,184,410)
Administrative expense	(11,815)	(11,604)	(11,265)	(10,217)	(10,646)
Other	(1,120)	181	808	325	393
<b>Net change in plan fiduciary net position</b>	<u>2,532,750</u>	<u>2,721,238</u>	<u>4,436,631</u>	<u>(1,738,201)</u>	<u>(608,745)</u>
<b>Plan fiduciary net position - beginning</b>	<u>70,426,698</u>	<u>67,705,460</u>	<u>63,268,829</u>	<u>65,007,030</u>	<u>65,615,775</u>
<b>Plan fiduciary net position - ending (b)</b>	<u>\$ 72,959,448</u>	<u>\$ 70,426,698</u>	<u>\$ 67,705,460</u>	<u>\$ 63,268,829</u>	<u>\$ 65,007,030</u>
<b>TSERS's net pension liability - ending (a) - (b)</b>	<u>\$ 10,366,957</u>	<u>\$ 9,956,089</u>	<u>\$ 7,934,441</u>	<u>\$ 9,191,033</u>	<u>\$ 3,685,198</u>
<b>Plan fiduciary net position as a percentage of the total pension liability</b>	87.56%	87.61%	89.51%	87.32%	94.64%
<b>Covered payroll</b>	\$ 15,582,963	\$ 14,869,212	\$ 14,440,822	\$ 13,934,459	\$ 13,803,148
<b>Net pension liability as a percentage of covered payroll</b>	66.53%	66.96%	54.94%	65.96%	26.70%
<b>Local Governmental Employees'</b>					
<b>Total pension liability</b>					
Service Cost	\$ 798,120	\$ 713,227	\$ 656,231	\$ 684,288	\$ 670,936
Interest	1,934,144	1,838,989	1,803,590	1,707,699	1,628,373
Changes of benefit terms	-	-	-	12,581	65,914
Differences between expected and actual experience	252,859	378,665	73,083	50,205	(72,177)
Changes of assumptions	-	595,781	138,096	183,019	-
Benefit payments, including refunds of member contributions	(1,472,856)	(1,402,793)	(1,322,277)	(1,251,918)	(1,172,578)
<b>Net change in total pension liability</b>	<u>1,512,267</u>	<u>2,123,869</u>	<u>1,348,723</u>	<u>1,385,874</u>	<u>1,120,468</u>
<b>Total pension liability - beginning</b>	<u>28,354,602</u>	<u>26,230,733</u>	<u>24,882,010</u>	<u>23,496,136</u>	<u>22,375,668</u>
<b>Total pension liability - ending (a)</b>	<u>\$ 29,866,869</u>	<u>\$ 28,354,602</u>	<u>\$ 26,230,733</u>	<u>\$ 24,882,010</u>	<u>\$ 23,496,136</u>
<b>Plan fiduciary net position</b>					
Contributions-employer	\$ 534,107	\$ 492,317	\$ 461,329	\$ 414,168	\$ 408,694
Contributions-member	420,437	401,632	391,459	375,572	363,863
Net investment income	1,675,331	1,789,337	2,413,758	175,189	520,578
Benefit payments, including refunds of member contributions	(1,472,856)	(1,402,793)	(1,322,277)	(1,251,918)	(1,172,578)
Administrative expense	(4,634)	(4,324)	(4,264)	(3,926)	(4,086)
Other	1,302	3,081	3,330	3,248	3,285
<b>Net change in plan fiduciary net position</b>	<u>1,153,687</u>	<u>1,279,250</u>	<u>1,943,335</u>	<u>(287,667)</u>	<u>119,756</u>
<b>Plan fiduciary net position - beginning</b>	<u>25,982,260</u>	<u>24,703,010</u>	<u>22,759,675</u>	<u>23,047,342</u>	<u>22,927,586</u>
<b>Plan fiduciary net position - ending (b)</b>	<u>\$ 27,135,947</u>	<u>\$ 25,982,260</u>	<u>\$ 24,703,010</u>	<u>\$ 22,759,675</u>	<u>\$ 23,047,342</u>
<b>LGERS's net pension liability (asset) - ending (a) - (b)</b>	<u>\$ 2,730,922</u>	<u>\$ 2,372,342</u>	<u>\$ 1,527,723</u>	<u>\$ 2,122,335</u>	<u>\$ 448,794</u>
<b>Plan fiduciary net position as a percentage of the total pension liability</b>	90.86%	91.63%	94.18%	91.47%	98.09%
<b>Covered payroll</b>	\$ 6,665,378	\$ 6,368,275	\$ 6,192,808	\$ 5,860,574	\$ 5,650,694
<b>Net pension liability (asset) as a percentage of covered payroll</b>	40.97%	37.25%	24.67%	36.21%	7.94%

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**2014**

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\$ 1,556,027  
4,648,995  
355,224  
(345,392)  
-  
(3,989,397)  
2,225,457  
64,562,739  
\$ 66,788,196

\$ 1,177,341  
825,548  
9,121,005  
(3,989,397)  
(10,762)  
320  
7,124,055  
58,491,720  
\$ 65,615,775  
\$ 1,172,421

98.24%

\$ 13,548,227

8.65%

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\$ 654,735  
1,555,958  
(7,790)  
(80,590)  
-  
(1,106,799)  
1,015,514  
21,360,154  
\$ 22,375,668

\$ 413,175  
346,961  
3,161,964  
(1,106,799)  
(3,974)  
3,297  
2,814,624  
20,112,962  
\$ 22,927,586  
\$ (551,918)

102.47%

\$ 5,553,383

(9.94%)

**REQUIRED SUPPLEMENTARY INFORMATION**  
**SCHEDULE OF CHANGES IN THE NET PENSION LIABILITY AND RELATED RATIOS**  
**COST-SHARING, MULTIPLE-EMPLOYER, DEFINED BENEFIT PENSION PLANS**

Last Six Fiscal Years

(Dollars in Thousands)

	2019	2018	2017	2016	2015
<b>Firefighters' and Rescue Squad Workers'</b>					
<b>Total pension liability</b>					
Service Cost	\$ 7,640	\$ 7,542	\$ 4,841	\$ 5,610	\$ 5,884
Interest	32,140	31,686	31,475	30,035	29,671
Changes of benefit terms	-	-	-	118	-
Differences between expected and actual experience	(4,922)	(121)	2,048	(2,177)	(2,799)
Changes of assumptions	-	10,593	2,549	15,577	-
Benefit payments, including refunds of member contributions	(29,502)	(31,727)	(29,070)	(27,998)	(26,912)
<b>Net change in total pension liability</b>	<u>5,356</u>	<u>17,973</u>	<u>11,843</u>	<u>21,165</u>	<u>5,844</u>
<b>Total pension liability - beginning</b>	<u>473,648</u>	<u>455,675</u>	<u>443,832</u>	<u>422,667</u>	<u>416,823</u>
<b>Total pension liability - ending (a)</b>	<u>\$ 479,004</u>	<u>\$ 473,648</u>	<u>\$ 455,675</u>	<u>\$ 443,832</u>	<u>\$ 422,667</u>
<b>Plan fiduciary net position</b>					
Contributions-member	\$ 2,770	\$ 17,952	\$ 2,594	\$ 2,778	\$ 2,822
Contributions-nonemployer	18,302	2,790	17,602	13,900	13,900
Net investment income	27,363	29,505	39,928	2,867	8,711
Benefit payments, including refunds of member contributions	(29,502)	(31,727)	(29,070)	(27,998)	(26,912)
Administrative expense	(1,002)	(885)	(919)	(860)	(1,622)
Other	(18)	10	15	18	4
<b>Net change in plan fiduciary net position</b>	<u>17,913</u>	<u>17,645</u>	<u>30,150</u>	<u>(9,295)</u>	<u>(3,097)</u>
<b>Plan fiduciary net position - beginning</b>	<u>424,808</u>	<u>407,163</u>	<u>377,013</u>	<u>386,308</u>	<u>389,405</u>
<b>Plan fiduciary net position - ending (b)</b>	<u>\$ 442,721</u>	<u>\$ 424,808</u>	<u>\$ 407,163</u>	<u>\$ 377,013</u>	<u>\$ 386,308</u>
<b>FRSWPF's net pension liability - ending (a) - (b)</b>	<u>\$ 36,283</u>	<u>\$ 48,840</u>	<u>\$ 48,512</u>	<u>\$ 66,819</u>	<u>\$ 36,359</u>
<b>Plan fiduciary net position as a percentage of the total pension liability</b>	92.43%	89.69%	89.35%	84.94%	91.40%
<b>Covered payroll</b>	N/A	N/A	N/A	N/A	N/A
<b>Net pension liability as a percentage of covered payroll</b>	N/A	N/A	N/A	N/A	N/A
<b>Registers of Deeds'</b>					
<b>Total pension liability</b>					
Service Cost	\$ 1,117	\$ 1,086	\$ 860	\$ 579	\$ 578
Interest	1,133	1,157	1,164	1,354	1,372
Differences between expected and actual experience	(770)	(1,125)	440	(45)	(558)
Changes of assumptions	-	-	-	7,082	-
Benefit payments, including refunds of member contributions	(1,754)	(1,793)	(1,793)	(1,718)	(1,715)
<b>Net change in total pension liability</b>	<u>(274)</u>	<u>(675)</u>	<u>671</u>	<u>7,252</u>	<u>(323)</u>
<b>Total pension liability - beginning</b>	<u>31,068</u>	<u>31,743</u>	<u>31,072</u>	<u>23,820</u>	<u>24,143</u>
<b>Total pension liability - ending (a)</b>	<u>\$ 30,794</u>	<u>\$ 31,068</u>	<u>\$ 31,743</u>	<u>\$ 31,072</u>	<u>\$ 23,820</u>
<b>Plan fiduciary net position</b>					
Contributions-employer	\$ 950	\$ 856	\$ 869	\$ 817	\$ 802
Net investment income	3,721	(230)	(13)	3,722	1,114
Benefit payments, including refunds of member contributions	(1,754)	(1,793)	(1,793)	(1,718)	(1,715)
Administrative expense	(12)	(14)	(19)	(47)	(16)
<b>Net change in plan fiduciary net position</b>	<u>2,905</u>	<u>(1,181)</u>	<u>(956)</u>	<u>2,774</u>	<u>185</u>
<b>Plan fiduciary net position - beginning</b>	<u>47,631</u>	<u>48,812</u>	<u>49,768</u>	<u>46,994</u>	<u>46,809</u>
<b>Plan fiduciary net position - ending (b)</b>	<u>\$ 50,536</u>	<u>\$ 47,631</u>	<u>\$ 48,812</u>	<u>\$ 49,768</u>	<u>\$ 46,994</u>
<b>RODSPF's net pension asset - ending (a) - (b)</b>	<u>\$ (19,742)</u>	<u>\$ (16,563)</u>	<u>\$ (17,069)</u>	<u>\$ (18,696)</u>	<u>\$ (23,174)</u>
<b>Plan fiduciary net position as a percentage of the total pension liability</b>	164.11%	153.31%	153.77%	160.17%	197.29%
<b>Covered payroll</b>	N/A	N/A	N/A	N/A	N/A
<b>Net pension asset as a percentage of covered payroll</b>	N/A	N/A	N/A	N/A	N/A

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**2014**

\$ 5,710  
29,394  
8,770  
2,714  
(16,688)  
(25,614)  

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4,286  

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412,537  
\$ 416,823

\$ 2,781  
14,627  
53,842  
(25,614)  
(1,045)  

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2  

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44,593  

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344,812  
\$ 389,405  
\$ 27,418

93.42%

N/A

N/A

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\$ 563  
1,342  
302  
-  
(1,666)  

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541  

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23,602  
\$ 24,143

\$ 817  
2,714  
(1,666)  
(18)  

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1,847  

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44,962  
\$ 46,809  
\$ (22,666)

193.88%

N/A

N/A

**REQUIRED SUPPLEMENTARY INFORMATION**  
**SCHEDULE OF CHANGES IN THE NET PENSION LIABILITY AND RELATED RATIOS**  
**SINGLE-EMPLOYER, DEFINED BENEFIT PENSION PLANS**

Last Six Fiscal Years

*(Dollars in Thousands)*

	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>
<b>Consolidated</b>					
<b>Judicial</b>					
<b>Total pension liability</b>					
Service Cost	\$ 18,710	\$ 17,192	\$ 15,630	\$ 16,904	\$ 16,812
Interest	46,838	45,397	44,837	42,009	40,846
Changes of benefit terms	-	430	4,349	332	-
Differences between expected and actual experience	845	7,660	2,193	(4,295)	(2,289)
Changes of assumptions	-	12,836	3,032	26,588	-
Benefit payments, including refunds of member contributions	(46,451)	(43,392)	(42,053)	(40,462)	(38,364)
<b>Net change in total pension liability</b>	<u>19,942</u>	<u>40,123</u>	<u>27,988</u>	<u>41,076</u>	<u>17,005</u>
<b>Total pension liability - beginning</b>	691,953	651,830	623,842	582,766	565,761
<b>Total pension liability - ending (a)</b>	<u>\$ 711,895</u>	<u>\$ 691,953</u>	<u>\$ 651,830</u>	<u>\$ 623,842</u>	<u>\$ 582,766</u>
<b>Plan fiduciary net position</b>					
Contributions-employer	\$ 25,636	\$ 23,988	\$ 19,592	\$ 18,908	\$ 18,949
Contributions-member	5,151	5,706	7,399	7,561	6,238
Net investment income	38,211	41,123	55,762	3,972	12,176
Benefit payments, including refunds of member contributions	(46,451)	(43,392)	(42,053)	(40,462)	(38,364)
Administrative expense	(30)	(24)	(37)	(73)	(30)
Other	(119)	-	-	-	1
<b>Net change in plan fiduciary net position</b>	<u>22,398</u>	<u>27,401</u>	<u>40,663</u>	<u>(10,094)</u>	<u>(1,030)</u>
<b>Plan fiduciary net position - beginning</b>	596,504	569,103	528,440	538,534	539,564
<b>Plan fiduciary net position - ending (b)</b>	<u>\$ 618,902</u>	<u>\$ 596,504</u>	<u>\$ 569,103</u>	<u>\$ 528,440</u>	<u>\$ 538,534</u>
<b>CJRS's net pension liability - ending (a) - (b)</b>	<u>\$ 92,993</u>	<u>\$ 95,449</u>	<u>\$ 82,727</u>	<u>\$ 95,402</u>	<u>\$ 44,232</u>
<b>Plan fiduciary net position as a percentage of the total pension liability</b>	86.94%	86.21%	87.31%	84.71%	92.41%
<b>Covered payroll</b>	\$ 75,712	\$ 77,255	\$ 66,504	\$ 69,489	\$ 69,638
<b>Net pension liability as a percentage of covered payroll</b>	122.82%	123.55%	124.39%	137.29%	63.52%
<b>Legislative</b>					
<b>Total pension liability</b>					
Service Cost	\$ 1,088	\$ 1,006	\$ 872	\$ 822	\$ 844
Interest	2,052	2,028	2,056	1,708	1,742
Changes of benefit terms	-	24	215	22	-
Differences between expected and actual experience	(596)	207	(122)	(520)	(579)
Changes of assumptions	-	511	121	5,151	-
Benefit payments, including refunds of member contributions	(2,732)	(2,531)	(2,437)	(2,430)	(2,473)
<b>Net change in total pension liability</b>	<u>(188)</u>	<u>1,245</u>	<u>705</u>	<u>4,753</u>	<u>(466)</u>
<b>Total pension liability - beginning</b>	30,655	29,410	28,705	23,952	24,418
<b>Total pension liability - ending (a)</b>	<u>\$ 30,467</u>	<u>\$ 30,655</u>	<u>\$ 29,410</u>	<u>\$ 28,705</u>	<u>\$ 23,952</u>
<b>Plan fiduciary net position</b>					
Contributions-employer	\$ 809	\$ 689	\$ 675	\$ 65	\$ -
Contributions-member	257	253	253	253	253
Net investment income	1,726	1,975	2,744	181	642
Benefit payments, including refunds of member contributions	(2,732)	(2,531)	(2,437)	(2,430)	(2,473)
Administrative expense	(14)	(14)	(18)	(53)	(17)
Other	(50)	-	-	-	-
<b>Net change in plan fiduciary net position</b>	<u>(4)</u>	<u>372</u>	<u>1,217</u>	<u>(1,984)</u>	<u>(1,595)</u>
<b>Plan fiduciary net position - beginning</b>	28,061	27,689	26,472	28,456	30,051
<b>Plan fiduciary net position - ending (b)</b>	<u>\$ 28,057</u>	<u>\$ 28,061</u>	<u>\$ 27,689</u>	<u>\$ 26,472</u>	<u>\$ 28,456</u>
<b>LRS's net pension liability (asset) - ending (a) - (b)</b>	<u>\$ 2,410</u>	<u>\$ 2,594</u>	<u>\$ 1,721</u>	<u>\$ 2,233</u>	<u>\$ (4,504)</u>
<b>Plan fiduciary net position as a percentage of the total pension liability</b>	92.09%	91.54%	94.15%	92.22%	118.80%
<b>Covered payroll</b>	\$ 3,611	\$ 3,618	\$ 3,705	\$ 3,616	\$ 3,611
<b>Net pension liability (asset) as a percentage of covered payroll</b>	66.74%	71.70%	46.45%	61.75%	(124.73%)

2014

\$ 16,637  
 39,405  
 3,031  
 (2,484)  
 -  
(35,428)  
 21,161  
 544,600  
\$ 565,761

\$ 21,390  
 5,598  
 74,294  
 (35,428)  
 (48)  
 3  
65,809  
 473,755  
\$ 539,564  
\$ 26,197

95.37%  
 \$ 76,367  
 34.30%

\$ 747  
 1,678  
 146  
 762  
 -  
(2,614)  
 719  
 23,699  
\$ 24,418

\$ -  
 253  
 4,293  
 (2,614)  
 (37)  
 -  
1,895  
 28,156  
\$ 30,051  
\$ (5,633)

123.07%  
 \$ 3,608  
 (156.13%)

**REQUIRED SUPPLEMENTARY INFORMATION**  
**SCHEDULE OF CHANGES IN THE NET PENSION LIABILITY AND RELATED RATIOS**  
**SINGLE-EMPLOYER, DEFINED BENEFIT PENSION PLANS**

Last Six Fiscal Years

*(Dollars in Thousands)*

	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>
<b>North Carolina</b>					
<b>National Guard</b>					
<b>Total pension liability</b>					
Service Cost	\$ 327	\$ 304	\$ 305	\$ 593	\$ 550
Interest	12,368	12,288	11,975	10,700	9,916
Changes of benefit terms	-	-	-	-	8,734
Differences between expected and actual experience	(12,701)	(1,748)	1,204	30	(198)
Changes of assumptions	-	3,926	955	15,149	-
Benefit payments, including refunds of member contributions	(8,736)	(8,766)	(8,677)	(8,512)	(7,958)
<b>Net change in total pension liability</b>	<u>(8,742)</u>	<u>6,004</u>	<u>5,762</u>	<u>17,960</u>	<u>11,044</u>
<b>Total pension liability - beginning</b>	<u>180,976</u>	<u>174,972</u>	<u>169,210</u>	<u>151,250</u>	<u>140,206</u>
<b>Total pension liability - ending (a)</b>	<u>\$ 172,234</u>	<u>\$ 180,976</u>	<u>\$ 174,972</u>	<u>\$ 169,210</u>	<u>\$ 151,250</u>
<b>Plan fiduciary net position</b>					
Contributions-nonemployer	\$ 9,072	\$ 8,923	\$ 8,517	\$ 7,066	\$ 6,039
Net investment income	8,463	8,766	11,626	842	2,493
Benefit payments, including refunds of member contributions	(8,736)	(8,766)	(8,677)	(8,512)	(7,958)
Administrative expense	(13)	(249)	(168)	(97)	(75)
Other	(16)	2	-	1	-
<b>Net change in plan fiduciary net position</b>	<u>8,770</u>	<u>8,676</u>	<u>11,298</u>	<u>(700)</u>	<u>499</u>
<b>Plan fiduciary net position - beginning</b>	<u>129,803</u>	<u>121,127</u>	<u>109,829</u>	<u>110,529</u>	<u>110,030</u>
<b>Plan fiduciary net position - ending (b)</b>	<u>\$ 138,573</u>	<u>\$ 129,803</u>	<u>\$ 121,127</u>	<u>\$ 109,829</u>	<u>\$ 110,529</u>
<b>NGPF's net pension liability - ending (a) - (b)</b>	<u>\$ 33,661</u>	<u>\$ 51,173</u>	<u>\$ 53,845</u>	<u>\$ 59,381</u>	<u>\$ 40,721</u>
<b>Plan fiduciary net position as a percentage of the total pension liability</b>	80.46%	71.72%	69.23%	64.91%	73.08%
<b>Covered payroll</b>	N/A	N/A	N/A	N/A	N/A
<b>Net pension liability as a percentage of covered payroll</b>	N/A	N/A	N/A	N/A	N/A



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**2014**

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\$	512
	9,330
	5,752
	192
	-
	<u>(7,502)</u>
	8,284
	<u>131,922</u>
\$	<u><u>140,206</u></u>

\$	7,007
	14,942
	(7,502)
	(73)
	1
	<u>14,375</u>
	95,655
\$	<u><u>110,030</u></u>
\$	<u><u>30,176</u></u>

78.48%

N/A

N/A

**REQUIRED SUPPLEMENTARY INFORMATION**  
**SCHEDULE OF EMPLOYER AND NONEMPLOYER CONTRIBUTIONS**  
**COST-SHARING, MULTIPLE-EMPLOYER, DEFINED BENEFIT PENSION PLANS**

Last Ten Fiscal Years

*(Dollars in Thousands)*

	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>
<b>Teachers' and State Employees'</b>					
Actuarially determined contribution	\$ 1,915,146	\$ 1,565,728	\$ 1,438,306	\$ 1,210,904	\$ 1,262,988
Contractually required contribution	1,915,146	1,602,901	1,441,194	1,275,003	1,262,988
Contributions in relation to the actuarially determined contribution	1,915,146	1,602,901	1,441,194	1,275,003	1,262,988
Contribution deficiency (excess)	<u>\$ -</u>	<u>\$ (37,173)</u>	<u>\$ (2,888)</u>	<u>\$ (64,099)</u>	<u>\$ -</u>
Covered payroll	\$ 15,582,963	\$ 14,869,212	\$ 14,440,822	\$ 13,934,459	\$ 13,803,148
Contributions as a percentage of covered payroll	12.29%	10.78%	9.98%	9.15%	9.15%
<b>Local Governmental Employees'</b>					
Actuarially determined contribution	\$ 512,287	\$ 483,559	\$ 453,193	\$ 393,920	\$ 402,429
Contractually required contribution	534,107	492,317	461,329	414,168	408,694
Contributions in relation to the actuarially determined contribution	534,107	492,317	461,329	414,168	408,694
Contribution excess	<u>\$ (21,820)</u>	<u>\$ (8,758)</u>	<u>\$ (8,136)</u>	<u>\$ (20,248)</u>	<u>\$ (6,265)</u>
Covered payroll	\$ 6,665,378	\$ 6,368,275	\$ 6,192,808	\$ 5,860,574	\$ 5,650,694
Contributions as a percentage of covered payroll	8.01%	7.73%	7.45%	7.07%	7.23%
<b>Firefighters' and Rescue Squad Workers' *</b>					
Actuarially determined contribution	\$ 14,544	\$ 14,287	\$ 17,705	\$ 13,241	\$ 13,900
Contractually required contribution	18,302	17,952	17,602	13,900	13,900
Contributions in relation to the actuarially determined contribution	18,302	17,952	17,602	13,900	13,900
Contribution deficiency (excess)	<u>\$ (3,758)</u>	<u>\$ (3,665)</u>	<u>\$ 103</u>	<u>\$ (659)</u>	<u>\$ -</u>
Covered payroll	N/A	N/A	N/A	N/A	N/A
Contributions as a percentage of covered payroll	N/A	N/A	N/A	N/A	N/A
<b>Registers of Deeds'</b>					
Actuarially determined contribution	\$ -	\$ -	\$ -	\$ -	\$ -
Contractually required contribution	950	856	869	817	802
Contributions in relation to the actuarially determined contribution	950	856	869	817	802
Contribution excess	<u>\$ (950)</u>	<u>\$ (856)</u>	<u>\$ (869)</u>	<u>\$ (817)</u>	<u>\$ (802)</u>
Covered payroll	N/A	N/A	N/A	N/A	N/A
Contributions as a percentage of covered payroll	N/A	N/A	N/A	N/A	N/A

\* Nonemployer contributing entity

Note: Changes in benefit terms, methods and assumptions are presented in Notes to the Required Supplementary Information (RSI) schedules following the pension RSI tables.

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<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>2011</u>	<u>2010</u>
\$ 1,177,341	\$ 1,078,783	\$ 1,015,762	\$ 926,429	\$ 492,779
1,177,341	1,120,482	1,015,762	680,670	492,779
1,177,341	1,120,482	1,015,762	680,670	492,779
<u>\$ -</u>	<u>\$ (41,699)</u>	<u>\$ -</u>	<u>\$ 245,759</u>	<u>\$ -</u>
\$ 13,548,227	\$ 13,451,164	\$ 13,652,715	\$ 13,806,691	\$ 13,803,324
8.69%	8.33%	7.44%	4.93%	3.57%

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\$ 397,462	\$ 370,152	\$ 376,340	\$ 342,910	\$ 230,121
413,175	383,889	389,399	361,998	273,337
413,175	383,889	389,399	361,998	273,337
<u>\$ (15,713)</u>	<u>\$ (13,737)</u>	<u>\$ (13,059)</u>	<u>\$ (19,088)</u>	<u>\$ (43,216)</u>
\$ 5,553,383	\$ 5,421,364	\$ 5,402,147	\$ 5,329,651	\$ 5,320,927
7.44%	7.08%	7.21%	6.79%	5.14%

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\$ 14,620	\$ 14,074	\$ 14,389	\$ 12,243	\$ 10,074
14,627	15,447	14,398	10,110	10,080
14,627	15,447	14,398	10,110	10,080
<u>\$ (7)</u>	<u>\$ (1,373)</u>	<u>\$ (9)</u>	<u>\$ 2,133</u>	<u>\$ (6)</u>
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A

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\$ -	\$ -	\$ -	\$ -	\$ -
817	937	843	772	736
817	937	843	772	736
<u>\$ (817)</u>	<u>\$ (937)</u>	<u>\$ (843)</u>	<u>\$ (772)</u>	<u>\$ (736)</u>
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A

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**REQUIRED SUPPLEMENTARY INFORMATION**  
**SCHEDULE OF EMPLOYER AND NONEMPLOYER CONTRIBUTIONS**  
**SINGLE-EMPLOYER, DEFINED BENEFIT PENSION PLANS**

Last Ten Fiscal Years

*(Dollars in Thousands)*

<b>Consolidated</b>	<b>2019</b>	<b>2018</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>
<b>Judicial</b>					
Actuarially determined contribution	\$ 24,947	\$ 23,988	\$ 19,592	\$ 18,324	\$ 18,949
Contractually required contribution	25,636	23,988	19,592	18,908	18,949
Contributions in relation to the actuarially determined contribution	25,636	23,988	19,592	18,908	18,949
Contribution deficiency (excess)	<u>\$ (689)</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ (584)</u>	<u>\$ -</u>
Covered payroll	\$ 75,712	\$ 77,255	\$ 66,504	\$ 69,489	\$ 69,638
Contributions as a percentage of covered payroll	33.86%	31.05%	29.46%	27.21%	27.21%
<b>Legislative</b>					
Actuarially determined contribution	\$ 809	\$ 689	\$ 675	\$ 65	\$ -
Contractually required contribution	809	689	675	65	-
Contributions in relation to the actuarially determined contribution	809	689	675	65	-
Contribution deficiency (excess)	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
Covered payroll	\$ 3,611	\$ 3,618	\$ 3,705	\$ 3,616	\$ 3,611
Contributions as a percentage of covered payroll	22.40%	19.04%	18.22%	1.80%	0.00%
<b>North Carolina</b>					
<b>National Guard *</b>					
Actuarially determined contribution	\$ 9,072	\$ 8,923	\$ 8,517	\$ 7,066	\$ 6,039
Contractually required contribution	9,072	8,923	8,517	7,066	6,039
Contributions in relation to the actuarially determined contribution	9,072	8,923	8,517	7,066	6,039
Contribution excess	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
Covered payroll	N/A	N/A	N/A	N/A	N/A
Contributions as a percentage of covered payroll	N/A	N/A	N/A	N/A	N/A

\* Nonemployer contributing entity

Note: Changes in benefit terms, methods and assumptions are presented in Notes to the Required Supplementary Information (RSI) schedules following the pension RSI tables.

<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>2011</u>	<u>2010</u>
\$ 21,390	\$ 18,992	\$ 18,956	\$ 13,322	\$ 10,740
21,390	18,992	18,956	10,457	10,740
21,390	18,992	18,956	10,457	10,740
<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 2,865</u>	<u>\$ -</u>
\$ 76,367	\$ 71,533	\$ 75,673	\$ 69,206	\$ 71,079
28.01%	26.55%	25.05%	15.11%	15.11%

\$ -	\$ -	\$ -	\$ -	\$ -
-	-	-	-	-
-	-	-	-	-
<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
\$ 3,608	\$ 3,600	\$ 3,314	\$ 4,029	\$ 3,657
0.00%	0.00%	0.00%	0.00%	0.00%

\$ 5,349	\$ 5,667	\$ 6,075	\$ 5,719	\$ 5,682
7,007	7,007	7,007	7,007	7,008
7,007	7,007	7,007	7,007	7,008
<u>\$ (1,658)</u>	<u>\$ (1,340)</u>	<u>\$ (932)</u>	<u>\$ (1,288)</u>	<u>\$ (1,326)</u>
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A

**REQUIRED SUPPLEMENTARY INFORMATION**  
**SCHEDULE OF INVESTMENT RETURNS**  
**ALL DEFINED BENEFIT PENSION PLANS**

Last Six Fiscal Years

<b>Annual money-weighted rate of return, net of investment expense</b>	<b>2019</b>	<b>2018</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>
<b><i>Cost-Sharing, Multiple Employer</i></b>						
Teachers' and State Employees'	6.57%	7.61%	10.75%	0.74%	2.27%	15.88%
Local Governmental Employees'	6.58%	7.59%	10.74%	0.77%	2.27%	15.86%
Firefighters' and Rescue Squad Workers'	6.55%	7.59%	10.76%	0.75%	2.26%	15.62%
Registers of Deeds'	7.91%	(0.47%)	(0.03%)	8.04%	2.26%	6.04%
<b><i>Single-Employer</i></b>						
Consolidated Judicial	6.57%	7.60%	10.75%	0.75%	2.27%	15.87%
Legislative	6.43%	7.64%	10.72%	0.66%	2.25%	15.91%
North Carolina National Guard	6.52%	7.44%	10.63%	0.77%	2.25%	15.63%

## NOTES TO REQUIRED SUPPLEMENTARY INFORMATION SCHEDULE OF EMPLOYER CONTRIBUTIONS

For the Fiscal Year Ended June 30, 2019

### *Changes of benefit terms.*

	<u>Cost of Living Increase</u>									
	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>2011</u>	<u>2010</u>	<u>2009</u>
<u>Cost-Sharing, Multiple-Employer</u>										
Teachers' and State Employees'	N/A	1.00%	N/A	N/A	N/A	1.00%	N/A	N/A	N/A	2.20%
Local Governmental Employees'	N/A	N/A	0.11%	0.63%	N/A	N/A	N/A	N/A	0.10%	2.15%
Firefighters' and Rescue Squad Workers' (1)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Registers of Deeds'	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<u>Single-Employer</u>										
Consolidated Judicial	N/A	1.00%	N/A	N/A	N/A	1.00%	N/A	N/A	N/A	2.20%
Legislative	N/A	1.00%	N/A	N/A	N/A	1.00%	N/A	N/A	N/A	2.20%
North Carolina National Guard (2)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Beginning in FY 2015, with the implementation of GASB 68, the above table reflects COLA's in the period of the legislative session or Board of Trustees meeting when it was passed. The COLA is effective as of July 1 of that period and the fiscal year end plan liability is affected at June 30 of that year because the COLA is included in the actuarial assumptions used to calculate the plan NPL.

(1) In 2009, retirement benefits increased from \$167 to \$170.

(2) In 2015, basic benefits were increased from \$95 to \$99 and total potential benefits were increased from \$190 to \$198. In 2016, basic benefits were increased from \$99 to \$105 and total benefits were increased from \$198 to \$210.

N/A - not applicable

Effective July 1, 2017, the definition of law enforcement officer related to TSERS members was changed by the General Assembly to include Probation/Parole officers for retirement benefit purposes. The change includes officers with respect to service rendered on or after July 1, 2017 and provides for unreduced retirement at age 55 with five years of service as a law enforcement officer or reduced retirement at age 50 with 15 years of service as a law enforcement officer.

Effective July 1, 2017, retirees and beneficiaries of deceased retirees receiving benefits from the TSERS, CJRS and LRS as of July 1, 2016 received a 1% cost-of-living adjustment. Retirees and beneficiaries of retirees with retirement effective dates between July 1, 2016 and before June 30, 2017 received a prorated amount. These benefit enhancements reflect legislation enacted by the North Carolina General Assembly.

### *Method and assumptions used in calculations of actuarially determined contributions.*

An actuarial valuation is performed for each plan each year. The actuarially determined contribution rates in the Schedule of Employer Contributions are calculated by the actuary as a projection of the required employer contribution for the fiscal year beginning 18 months following the date of the valuation results. See Note 12 for more information on the specific assumptions for each plan. The actuarially determined contributions for those items with covered payroll were determined using the actuarially determined contribution rate from the actuary and covered payroll as adjusted for timing differences and other factors such as differences in employee class. Other actuarially determined contributions are disclosed in the schedule as expressed by the actuary in reports to the plans.

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**NOTES TO REQUIRED SUPPLEMENTARY INFORMATION**  
**SCHEDULE OF EMPLOYER CONTRIBUTIONS**

For the Fiscal Year Ended June 30, 2019

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*Changes of assumptions.* In 2015, the actuarial assumptions were updated to more closely reflect actual experience. These assumptions pertain to the Teachers' and State Employees' Retirement System, the Local Governmental Employees' Retirement System, the Firefighters' and Rescue Squad Workers' Pension Fund, the Registers of Deeds' Pension Fund, the Consolidated Judicial Retirement System, the Legislative Retirement System and the North Carolina National Guard Pension Fund.

In 2015, the North Carolina Retirement Systems' consulting actuaries performed the quinquennial investigation of each retirement system's actual demographic and economic experience (known as the "Experience Review"). The Experience Review provides the basis for selecting the actuarial assumptions and methods used to determine plan liabilities and funding requirements. The most recent experience review examined each plan's experience during the period between January 1, 2010, and December 31, 2014. Based on the findings, the Boards of Trustees of the Teachers' and State Employees' Retirement System and the Local Governmental Employees' Retirement System adopted a number of new actuarial assumptions and methods. The most notable changes to the assumptions include updates to the mortality tables and the mortality improvement projection scales to reflect reduced rates of mortality and significant increases in mortality improvements. These assumptions were adjusted to reflect the mortality projection scale MP-2015, released by the Society of Actuaries in 2015. In addition, the assumed rates of retirement, salary increases, and rates of termination from active employment were reduced to more closely reflect actual experience. Also, as a result of market conditions and the allocation of assets in the Register of Deeds' Supplemental Pension Fund, the discount rate used in calculating the plan's liabilities was lowered from 5.75% to 3.75%.

The Boards of Trustees also adopted new actuarial cost methods for the Local Governmental Employees' Retirement System, the Consolidated Judicial Retirement System, the Legislative Retirement System, and the Registers of Deeds' Supplemental Pension Fund. These plans now use the Entry Age Normal cost method to determine plan liabilities and funding requirements. The Boards of Trustees adopted a new asset valuation method for the Teachers' and State Employees' Retirement System, the Local Governmental Employees' Retirement System, the Firefighters' and Rescue Squad Workers' Pension Fund, the Registers of Deeds' Pension Fund, the Consolidated Judicial Retirement System, the Legislative Retirement System and the North Carolina National Guard Pension Fund. For determining plan funding requirements, these plans now use a five-year smoothing method with a reset of the actuarial value of assets to market value as of December 31, 2014.

The discount rate for Teachers' and State Employees' Retirement System, the Local Governmental Employees' Retirement System, the Firefighters' and Rescue Squad Workers' Pension Fund, the Consolidated Judicial Retirement System, the Legislative Retirement System and the North Carolina National Guard Pension Fund was lowered from 7.25% to 7.20% for the December 31, 2016 valuation. For the December 31, 2017 valuation, the discount rate was lowered to 7.00%.