

# North Carolina National Guard Pension Fund

Report on the Actuarial Valuation  
Prepared as of December 31, 2014

October 2015



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October 7, 2015

Board of Trustees  
Teachers' and State Employees'  
Retirement System of North Carolina  
3200 Atlantic Avenue  
Raleigh, NC 27604

Members of the Board:

We submit herewith our report on the actuarial valuation of the National Guard Pension Fund of North Carolina (referred to as "the Fund") prepared as of December 31, 2014. The report has been prepared in accordance with Chapter 127A of the North Carolina General Statutes.

The primary purpose of the valuation report is to determine the required employer contribution rates, to describe the current financial condition of the Fund, 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 (CAFR) and it summarizes census data. Use of this report for any other purposes or by anyone other than OSC and its auditors 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. No one may make any representations or warranties based on any statements or conclusions contained in this report without Buck Consultants' written consent.

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 Buck and we cannot certify as to the accuracy and completeness of the data supplied. The valuation is also based on benefit and contribution provisions as presented in this report. If you have reason to believe that the plan provisions are incorrectly described, that important plan provisions relevant to this valuation are not described, or that conditions have changed since the calculations were made, you should contact the authors of this actuarial report prior to relying on this information.

The valuation is further based on the actuarial valuation assumptions, approved by the Board of Trustees, as presented in this report. We believe that these assumptions are appropriate and reasonable 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 ASOPs.

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. The latest assumptions were adopted for use with the December 31, 2009 actuarial valuation, based on the experience study prepared as of December 31, 2009 and adopted by the Board of Trustees on October 21, 2010. The next experience study will be prepared as of December 31, 2014 and will be presented to the Board in October 2015. Assumptions and methods based on this experience study, as adopted by the Board, will be used with the December 31, 2015 valuation.

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, Buck performed no analysis of the potential range of such future differences.

The undersigned 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,



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



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# Section 1: Summary of Principal Results

1. This report, prepared as of December 31, 2014, presents the results of the actuarial valuation of the Fund. For convenience of reference, 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	12/31/2014	12/31/2013
Active Members		
Number	5,661	5,535
Retired Members and Survivors of Deceased Members Currently Receiving Benefits		
Number	4,421	4,354
Annual Pensions	\$ 8,299,998	\$ 7,741,246
Terminated Members and Survivors of Deceased Members Entitled to but Not Yet Receiving Benefits		
Number	5,317	5,117
Deferred Pensions	\$ 9,081,954	\$ 8,148,730
Assets		
Actuarial Value (AVA)	\$ 109,291,873	\$ 103,299,516
Market Value	\$ 108,937,947	\$ 104,026,294
Actuarial Accrued Liability (AAL)	\$ 151,066,064	\$ 140,021,617
Unfunded Accrued Liability (AAL-AVA)	\$ 41,774,191	\$ 36,722,101
Funded Ratio (AVA/AAL)*	72.3%	73.8%
Contributions for Fiscal Year Ending	6/30/2017	6/30/2016
Recommended Employer Contributions		
Normal Cost	\$ 572,610	\$ 530,751
Accrued Liability	6,349,473	5,342,184
Total	\$ 6,922,083	\$ 5,872,935
Anticipated Accrued Liability Payment Period	12 years	12 years
Actuarially Determined Employer Contribution (ADEC)		
Normal Cost	\$ 572,610	\$ 530,751
Accrued Liability	6,349,473	5,342,184
Total	\$ 6,922,083	\$ 5,872,935
Impact of Legislative Changes	NA	1,193,364
Final ADEC	NA	\$ 7,066,299
Liquidation Period	12 years	12 years

\* The System's Funded Ratio is not intended to measure the adequacy of funding in any analysis of a possible settlement of plan liabilities, nor is it intended to assess the need for or the amount of future contributions. Additionally, the measurement of a Funded Ratio using the Market Value of Assets would not be materially different.

## Section 1: Summary of Principal Results

- The following table shows a reconciliation of the change in the annual required contribution computed to be \$5,872,935 based on the December 31, 2013 valuation and \$6,922,083 based on the December 31, 2014 valuation.

**Table 2: Reconciliation of Change in Annual Required Contribution (ARC)**

Fiscal year ending June 30, 2016 Preliminary ARC (based on December 31, 2013 valuation)	\$ 5,872,935
Impact of Legislative Changes	<u>1,193,364</u>
Fiscal year ending June 30, 2016 Final ARC	\$ 7,066,299
Change Due to Demographic (Gain)/Loss	(57,239)
Change Due to Investment (Gain)/Loss	12,107
Change Due to Contributions Greater than ARC	<u>(99,084)</u>
Fiscal year ending June 30, 2017 Preliminary ARC (based on December 31, 2014 valuation)	\$ 6,922,083

- Tables summarizing the membership of the Fund as of the valuation date are shown in Section 2.
- The valuation balance sheet showing the assets and liabilities of the Fund as of the current and previous valuation dates is provided in Section 3.
- An allocation of investments by category is shown in Section 4.
- Comments on the experience and actuarial gains during the valuation year are provided in Section 5.
- Comments on the contributions payable by the State are provided in Section 6.
- Accounting information to be disclosed in the financial statements of the System and the employer is provided in Section 7.
- Appendix A of this report presents the development of the actuarial value of assets.
- Appendix B of this report presents the development of the amortization of the unfunded accrued liability.
- Appendix C of this report outlines the full set of actuarial assumptions and methods employed.
- Appendix D gives a summary of the benefit and contribution provisions of the system.
- Appendix E provides the projection of cash flows used to determine the discount rate under GASB Statement No. 67.
- Appendix F provides detailed tabulations of the membership of the system as of the valuation date.

## Section 2: Membership Data

Data regarding the membership of the Fund for use as a basis for the valuation were furnished by the Retirement Systems Division. The following table summarizes the membership of the Fund as of December 31, 2014 upon which the valuation was based. Detailed tabulations of the data are given in Appendix F.

**Table 3: Membership of the Fund as of December 31, 2014**

	Member Count	Average Age	Average Service	Annual Pensions
Active Members	5,661	38.02	15.46	N/A
Retired Members and Survivors of Deceased Members Currently Receiving Benefits	4,421	70.05	N/A	\$ 8,299,998
Terminated Members and Survivors of Deceased Members Entitled to Benefits but Not Yet Receiving Benefits	5,317	56.18	N/A	\$ 9,081,954



## Section 3: Valuation Balance Sheet

The following valuation balance sheet shows the assets and liabilities of the Retirement Fund as of the current valuation date of December 31, 2014. Appendix A summarizes the development of the actuarial value of assets.

**Table 4: Valuation Balance Sheet Showing the Present and Prospective Assets and Liabilities of the North Carolina National Guard Pension Fund Prepared as of December 31, 2014**

<b>Assets</b>		
Present Assets		\$ 109,291,873
Present Value of Prospective Contributions Payable by State		
Normal Contribution	\$ 2,924,460	
Accrued Liability Contribution	<u>\$ 41,774,191</u>	
Total Prospective Contributions by State		<u>\$ 44,698,651</u>
Total Assets		<u>\$ 153,990,524</u>
<b>Liabilities</b>		
Present Value of Pensions Payable to Retired Members and Survivors of Deceased Members Currently Receiving Benefits		\$ 66,129,919
Present Value of Deferred Pensions Payable to Terminated Members and Survivors of Deceased Members Entitled to Benefits but Not Yet Receiving Benefits		\$ 62,057,661
Present Value of Prospective Pensions to Active Members Included in the Valuation		\$ 25,802,944
Reserve for Increases in Retirement Allowances		<u>\$ 0</u>
Total Liabilities		<u>\$ 153,990,524</u>

The valuation balance sheet shows that the total present value of the prospective benefit payments as of December 31, 2014 amounts to \$153,990,524. Of this amount, \$66,129,919 represents the present value of future pension payments to retired members and survivors of deceased members currently receiving benefits, \$25,802,944 represents the present value of prospective pensions which will become payable to present active members and \$62,057,661 represents the present value of future pension payments to terminated members and survivors of deceased members entitled to benefits but not yet receiving benefits. Against these liabilities, the Fund has assets of \$109,291,873 leaving a balance of \$44,698,651 to be provided by future contributions of the State. Of this amount, \$2,924,460 represents the present value of prospective normal contributions, and the balance of \$41,774,191 represents the present value of accrued liability contributions.

## Section 4: Asset Allocation

The following table shows an allocation of investments by category as of December 31, 2014.

**Table 5: Allocation of Investments by Category for the National Guard Pension Fund as of December 31, 2014**

Cash and Receivables	2.0%
Fixed Income (LTIF)	29.7%
Public Equity	43.8%
Other*	<u>24.5%</u>
Total	100.0%

\* Real Estate, Alternatives, Inflation and Credit.

## Section 5: Comments on Experience and Gains

The following table shows a detailed reconciliation of the change in unfunded accrued liability since the prior valuation.

**Table 6: Reconciliation of Change in Unfunded Accrued Liability Since the Prior Valuation**  
(in millions)

Unfunded Actuarial Accrued Liability (UAAL) as of 12/31/2013	\$	36.7
Normal Cost during 2014		0.5
Reduction due to Actual Contributions during 2014		(6.4)
Interest on UAAL, Normal Cost, and Contributions		2.5
Asset (Gain)/Loss		0.1
Actuarial Accrued Liability (Gain)/Loss		(0.4)
Impact of Legislative Changes		<u>8.8</u>
Unfunded Actuarial Accrued Liability (UAAL) as of 12/31/2014	\$	41.8

## Section 6: Contributions Payable by the State

The normal contribution covers the cost of benefits based on current service. The valuation indicates that the annual normal contribution payable by the State is equal to \$101.15 multiplied by the number of active members. Based on 5,661 active members included in the valuation, the normal contribution is \$572,610.

The unfunded actuarial accrued liability is amortized within a 12-year period through an annual unfunded accrued liability contribution. Assuming that the unfunded accrued liability is amortized based on the amortization schedule shown in Appendix B, with the payments covering both the principal amount and the accruing interest thereon at the rate of 7.25% per annum, the annual unfunded actuarial accrued liability contribution would be \$6,349,473.

Based on the present membership and the amortization schedule described above, the following table shows the total annual contributions payable by the State for the fiscal year ending June 30, 2017.

**Table 7: Annual Contributions Payable by the State**

Contribution	Annual Amount
Normal Cost	\$ 572,610
Accrued Liability	<u>6,349,473</u>
Total	\$ 6,922,083

## Section 7: Accounting Information

The section contains the accounting information for Governmental Accounting Standards Board (GASB) Statement No. 67 for fiscal year ending June 30, 2015 based on a valuation date of December 31, 2014.

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

The June 30, 2015 total pension liability presented in this section was determined by an actuarial valuation as of December 31, 2014, 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 8: Number of Active and Retired Participants as of December 31, 2014**

Group	Number
Retired members and survivors of deceased members currently receiving benefits	4,421
Terminated members and survivors of deceased members entitled to benefits but not yet receiving benefits	5,317
Active participants	<u>5,661</u>
Total	15,399

## Section 7: Accounting Information

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 9: Schedule of Changes in Net Pension Liability (Asset)**

Calculation as of	June 30, 2015
<b>Total Pension Liability</b>	
Service Cost	\$ 550,000
Interest	9,916,000
Changes of Benefit Terms	8,734,000
Difference between Expected and Actual Experience	(198,000)
Change of Assumptions	0
Benefit Payments, including Refund of Member Contributions	(7,958,000)
Net Change in Total Pension Liability	\$ 11,044,000
Total Pension Liability - Beginning of Year	\$ 140,206,000
Total Pension Liability - End of Year	\$ 151,250,000
<b>Plan Fiduciary Net Position</b>	
Employer Contributions	\$ 6,039,000
Member Contributions	0
Net Investment Income	2,493,000
Benefit Payments, including Refund of Member Contributions	(7,958,000)
Administrative Expenses	(75,000)
Other	0
Net Change in Fiduciary Net Position	\$ 499,000
Plan Fiduciary Net Position - Beginning of Year	\$ 110,030,000
Plan Fiduciary Net Position - End of Year	\$ 110,529,000

**Table 10: Net Pension Liability (Asset)**

Calculation as of	June 30, 2015	June 30, 2014
Total Pension Liability	\$ 151,250,000	\$ 140,206,000
Plan Fiduciary Net Position	110,529,000	110,030,000
Net Pension Liability (Asset)	\$ 40,721,000	\$ 30,176,000
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	73.08%	78.48%

## Section 7: Accounting Information

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

**Table 11: Sensitivity of the Net Pension Liability (Asset) at June 30, 2015 to Changes in the Discount Rate**

	1% Decrease	Current	1% Increase
Discount Rate	6.25%	7.25%	8.25%
Net Pension Liability (Asset)	58,365,000	40,721,000	26,090,000

The discount rate used to measure the total pension liability was 7.25%. The projection of cash flows used to determine the discount rate assumed that System contributions will continue to follow the current funding policy. Based on those assumptions, 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 12: Additional Information for GASB Statement No. 67**

Valuation Date	12/31/2014
Actuarial Cost Method	Entry Age
Amortization Method	Level dollar closed
Amortization Period	12 years
Asset Valuation Method	20% of market value plus 80% of expected actuarial value (not greater than 120% of market value and not less than 80% of market value)
Actuarial Assumptions	
Investment Rate of Return*	7.25%
Projected Salary Increases	N/A
* Includes Inflation of	3.00%
Cost-of-living Adjustments	N/A

## Appendix A: Development of Actuarial Value of Assets

Asset Data the Year Ending	12/31/2014
(a) Actuarial Value of Assets at 12/31/2013	\$ 103,299,516
(b) Contributions	6,393,403
(c) Benefit Payments	<u>(7,752,511)</u>
(d) Net Cash Flow: (b) + (c)	(1,359,108)
(e) Expected Investment Return: [(a) x 7.25%] + [(d) x 3.625%]	7,439,947
(f) Expected End of Year Actuarial Value of Assets: (a) + (d) + (e)	109,380,355
(g) End of Year Market Value of Assets	108,937,947
(h) Excess of Market Value over Expected Actuarial Value of Assets: (g) - (f)	(442,408)
(i) 20% Adjustment toward Market Value: (h) x 20%	(88,482)
(j) Preliminary Actuarial Value of Assets at 12/31/2014: (f) + (i)	109,291,873
(k) Final Actuarial Value of Assets at 12/31/2014: (j) not less than 80% of (g) and not greater than 120% of (g)	109,291,873
(l) Estimated Net Investment Return on Actuarial Value	7.16%
(m) Estimated Net Investment Return on Market Value	6.07%



## Appendix B: Amortization Schedule for Unfunded Actuarial Accrued Liability

Date Established	Original Balance	12/31/2014 Outstanding Balance	Annual Payment
December 31, 2009	\$ 40,483,684	\$ 35,481,410	\$ 5,539,494
December 31, 2010	(2,911,753)	(2,764,180)	(398,423)
December 31, 2011	(2,233,723)	(2,272,304)	(305,646)
December 31, 2012	(515,855)	(557,449)	(70,586)
December 31, 2013	4,219,347	4,525,250	577,345
December 31, 2014	7,361,464	<u>7,361,464</u>	<u>1,007,289</u>
Total		\$ 41,774,191	\$ 6,349,473

## Appendix C: Actuarial Assumptions and Methods

**Interest Rate:** 7.25% per annum, compounded annually.

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

<b>Annual Rates of</b>					
<u>Retirement</u>					
<u>Age</u>	<u>Under age 60 with 20 years of service</u>	<u>Age 60 with 20 years of service or 30 years of service</u>	<u>Base Mortality*</u>		<u>Disability**</u>
			<u>Male</u>	<u>Female</u>	
25	.500		.0004	.0002	.0001
30	.500		.0006	.0003	.0004
35	.500		.0009	.0005	.0010
40	.500		.0012	.0007	.0029
45	.500		.0017	.0011	.0049
50	.500		.0024	.0017	.0084
55	.500	1.000	.0036	.0025	.0144
60		1.000	.0059	.0039	.0240

\* Base mortality rates as of December 31, 2003.

\*\* Applied only to members with less than 20 years of service.

No rates of withdrawal are assumed since the valuation excludes all active members with less than 7 years of service.

**Deaths After Retirement:** Representative values of the assumed post-retirement mortality rates as of December 31, 2003 prior to any mortality improvements are as follows:

<b>Annual Rates of death after retirement</b>						
<u>Age</u>	<u>Male Retirees (Healthy at Retirement)</u>	<u>Female Retirees (Healthy at Retirement)</u>	<u>Male Survivors of Deceased Members</u>	<u>Female Survivors of Deceased Members</u>	<u>Male Retirees (Disabled at Retirement)</u>	<u>Female Retirees (Disabled at Retirement)</u>
55	.0064	.0035	.0061	.0044	.0277	.0176
60	.0099	.0062	.0090	.0077	.0342	.0229
65	.0165	.0104	.0149	.0125	.0407	.0296
70	.0273	.0167	.0246	.0207	.0483	.0401
75	.0469	.0281	.0422	.0341	.0596	.0558
80	.0805	.0459	.0720	.0563	.0775	.0771

## Appendix C: Actuarial Assumptions and Methods

**Mortality Improvements:** Representative values of the assumed mortality improvement rates (applied to pre-retirement mortality rates for active members and post-retirement mortality rates for retirees healthy at retirement and survivors of deceased members after such tables have been set back or set forward) are as follows:

<u>Age</u>	<u>Male Projection Scale</u>	<u>Female Projection Scale</u>
25	0.010	0.014
30	0.005	0.010
35	0.005	0.011
40	0.008	0.015
45	0.013	0.016
50	0.018	0.017
55	0.019	0.008
60	0.016	0.005
65	0.014	0.005
70	0.015	0.005
75	0.014	0.008
80	0.010	0.007

**Deaths After Retirement (Non-Disabled):** According to the RP-2000 Mortality tables for retirees. These tables are set forward two years for males and unadjusted for females. These tables are also set forward one year for male survivors of deceased members and set forward two years for female survivors of deceased members. The base retiree RP-2000 tables have no rates prior to age 50. The active employee rates of RP-2000 are used for ages less than 50 prior to any adjustments for set back or set forward

**Death After Disability:** According to the RP-2000 Mortality tables for disabled annuitants set back six years for males and set forward one year for females.

**Deaths Prior to Retirement:** According to the RP-2000 Mortality tables for active employees. These tables are set forward two years for males and unadjusted for females. The base RP-2000 tables for active employees have no rates after age 70. The rates from ages 71 to 79 are smoothed based on the active rates at age 70 and the retiree rate at age 80. Retiree rates are used for ages 80 and beyond.

**Mortality Projection (Non-Disabled):** All mortality rates are projected from December 31, 2003 using generational improvement with Scale AA.

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

**Administrative Expenses:** No provision made.

**Actuarial Cost Method:** Entry age normal cost method. Entry age is established on an individual basis. Gains and losses are reflected in the unfunded actuarial accrued liability.

## Appendix C: Actuarial Assumptions and Methods

**Asset Valuation Method:** Actuarial value, as developed in Appendix A. The actuarial value of assets recognizes a portion of the difference between the market value of assets and the expected actuarial value of assets, based on the assumed valuation rate of return. The amount recognized each year is 20% of the difference between market value and expected actuarial value. The actuarial value of assets is not allowed to be greater than 120% of the market value of assets or less than 80% of the market value of assets.

**Changes Since Prior Valuation:** None.

## Appendix D: Summary of Main Plan Provisions

### Membership

All members of the North Carolina National Guard with seven years of service are eligible to be members of the Fund.

### Benefits

#### Service Retirement Pension

Condition for Pension	A member who retires after he has attained age 60 and has credit for 20 years of military service, including at least 15 years of North Carolina national guard duty, both reserve and active, and who has received an honorable discharge, is entitled to a monthly pension.
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Amount of Pension	The amount of the pension is equal to \$105 per month for 20 years of creditable service with an additional \$10.50 per month for each additional year of such service, provided that the total pension shall not exceed \$210 per month.
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#### Deferred Early Retirement Pension

Condition for Pension	A member whose service is terminated after he has credit for 20 years of military service, including at least 15 years of North Carolina national guard duty, both reserve and active, and who has received an honorable discharge, is eligible to receive a deferred retirement pension commencing at age 60.
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Amount of Pension	The amount is the same as that for a service retirement.
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Normal Form	Life Annuity.
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Optional Form	None.
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### Contributions

The State makes annual contributions sufficient to meet the cost of the benefits under the Fund.

Changes Since Prior Valuation	The monthly pension was increased from \$99 per month for 20 years of creditable service with an additional \$9.90 per month for each additional year of such service to \$105 per month for 20 years of creditable service with an additional \$10.50 per month for each additional year of such service.
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# 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
2015	\$ 108,938	\$ 0	\$ 5,664	\$ 10,795	\$ 69	\$ 7,708	\$ 111,446
2016	111,446	0	6,350	10,856	62	7,908	114,786
2017	114,786	0	6,799	10,948	58	8,171	118,750
2018	118,750	0	6,773	11,021	54	8,456	122,904
2019	122,904	0	6,750	11,092	50	8,754	127,266
2020	127,266	0	6,728	11,270	46	9,064	131,742
2021	131,742	0	6,705	11,452	42	9,381	136,334
2022	136,334	0	6,679	11,657	38	9,706	141,024
2023	141,024	0	3,880	11,881	33	9,987	142,977
2024	142,977	0	1,279	12,068	29	9,977	142,136
2025	142,136	0	1,600	12,253	25	9,922	141,380
2026	141,380	0	1,757	12,327	20	9,872	140,662
2027	140,662	0	1,468	12,398	14	9,814	139,532
2028	139,532	0	644	12,422	7	9,705	137,452
2029	137,452	0	102	12,424	3	9,527	134,654
2030	134,654	0	71	12,419	2	9,323	131,627
2031	131,627	0	53	12,369	1	9,104	128,414
2032	128,414	0	42	12,229	0	8,876	125,103
2033	125,103	0	34	12,008	0	8,643	121,772
2034	121,772	0	28	11,790	0	8,410	118,420
2035	118,420	0	24	11,540	0	8,174	115,078
2036	115,078	0	20	11,245	0	7,944	111,797
2037	111,797	0	17	10,954	0	7,716	108,576
2038	108,576	0	14	10,705	0	7,491	105,376
2039	105,376	0	12	10,452	0	7,268	102,204
2040	102,204	0	11	10,223	0	7,046	99,038
2041	99,038	0	9	10,048	0	6,823	95,822
2042	95,822	0	8	9,891	0	6,596	92,535
2043	92,535	0	7	9,776	0	6,360	89,126
2044	89,126	0	6	9,621	0	6,119	85,630
2045	85,630	0	5	9,508	0	5,870	81,997
2046	81,997	0	4	9,345	0	5,612	78,268
2047	78,268	0	4	9,211	0	5,346	74,407
2048	74,407	0	3	9,132	0	5,069	70,347
2049	70,347	0	3	8,956	0	4,782	66,176
2050	66,176	0	2	8,672	0	4,489	61,995
2051	61,995	0	2	8,256	0	4,201	57,942
2052	57,942	0	2	7,821	0	3,922	54,045
2053	54,045	0	1	7,394	0	3,655	50,307
2054	50,307	0	1	6,977	0	3,399	46,730
2055	46,730	0	1	6,573	0	3,154	43,312
2056	43,312	0	1	6,181	0	2,920	40,052
2057	40,052	0	1	5,804	0	2,697	36,946
2058	36,946	0	1	5,441	0	2,484	33,990
2059	33,990	0	1	5,093	0	2,283	31,181
2060	31,181	0	0	4,759	0	2,092	28,514
2061	28,514	0	0	4,439	0	1,909	25,984
2062	25,984	0	0	4,133	0	1,737	23,588
2063	23,588	0	0	3,840	0	1,573	21,321
2064	21,321	0	0	3,559	0	1,419	19,181

# Appendix E: GASB 67 Fiduciary Net Position Projection

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

Calendar Year	Beginning Fiduciary Position	Member Contributions	Employer Contributions	Benefit Payments	Administrative Expenses	Investment Earnings	Ending Fiduciary Position
2065	\$ 19,181	\$ 0	\$ 0	\$ 3,290	\$ 0	\$ 1,274	\$ 17,165
2066	17,165	0	0	3,030	0	1,137	15,272
2067	15,272	0	0	2,779	0	1,008	13,501
2068	13,501	0	0	2,538	0	889	11,852
2069	11,852	0	0	2,304	0	777	10,325
2070	10,325	0	0	2,079	0	674	8,920
2071	8,920	0	0	1,863	0	580	7,637
2072	7,637	0	0	1,656	0	494	6,475
2073	6,475	0	0	1,460	0	418	5,433
2074	5,433	0	0	1,274	0	349	4,508
2075	4,508	0	0	1,100	0	287	3,695
2076	3,695	0	0	939	0	235	2,991
2077	2,991	0	0	790	0	189	2,390
2078	2,390	0	0	656	0	150	1,884
2079	1,884	0	0	537	0	117	1,464
2080	1,464	0	0	433	0	91	1,122
2081	1,122	0	0	343	0	69	848
2082	848	0	0	268	0	52	632
2083	632	0	0	206	0	38	464
2084	464	0	0	156	0	28	336
2085	336	0	0	116	0	20	240
2086	240	0	0	85	0	14	169
2087	169	0	0	61	0	10	118
2088	118	0	0	44	0	7	81
2089	81	0	0	31	0	5	55
2090	55	0	0	21	0	3	37
2091	37	0	0	15	0	3	25
2092	25	0	0	10	0	2	17
2093	17	0	0	7	0	1	11
2094	11	0	0	4	0	0	7
2095	7	0	0	3	0	1	5
2096	5	0	0	2	0	0	3
2097	3	0	0	1	0	0	2
2098	2	0	0	1	0	0	1
2099	1	0	0	1	0	1	1
2100	1	0	0	0	0	0	0
2101	0	0	0	0	0	0	0
2102	0	0	0	0	0	0	0
2103	0	0	0	0	0	0	0
2104	0	0	0	0	0	0	0
2105	0	0	0	0	0	0	0
2106	0	0	0	0	0	0	0
2107	0	0	0	0	0	0	0
2108	0	0	0	0	0	0	0
2109	0	0	0	0	0	0	0
2110	0	0	0	0	0	0	0
2111	0	0	0	0	0	0	0
2112	0	0	0	0	0	0	0
2113	0	0	0	0	0	0	0
2114	0	0	0	0	0	0	0

# 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 7.25%	Unfunded Payments at 3.73%	Using Single Discount Rate of 7.25%
2015	\$ 108,938	\$ 10,795	\$ 10,795	\$ 0	\$ 10,424	\$ 0	\$ 10,424
2016	111,446	10,856	10,856	0	9,774	0	9,774
2017	114,786	10,948	10,948	0	9,191	0	9,191
2018	118,750	11,021	11,021	0	8,626	0	8,626
2019	122,904	11,092	11,092	0	8,095	0	8,095
2020	127,266	11,270	11,270	0	7,669	0	7,669
2021	131,742	11,452	11,452	0	7,266	0	7,266
2022	136,334	11,657	11,657	0	6,896	0	6,896
2023	141,024	11,881	11,881	0	6,554	0	6,554
2024	142,977	12,068	12,068	0	6,207	0	6,207
2025	142,136	12,253	12,253	0	5,876	0	5,876
2026	141,380	12,327	12,327	0	5,512	0	5,512
2027	140,662	12,398	12,398	0	5,169	0	5,169
2028	139,532	12,422	12,422	0	4,829	0	4,829
2029	137,452	12,424	12,424	0	4,503	0	4,503
2030	134,654	12,419	12,419	0	4,197	0	4,197
2031	131,627	12,369	12,369	0	3,897	0	3,897
2032	128,414	12,229	12,229	0	3,593	0	3,593
2033	125,103	12,008	12,008	0	3,289	0	3,289
2034	121,772	11,790	11,790	0	3,011	0	3,011
2035	118,420	11,540	11,540	0	2,748	0	2,748
2036	115,078	11,245	11,245	0	2,497	0	2,497
2037	111,797	10,954	10,954	0	2,268	0	2,268
2038	108,576	10,705	10,705	0	2,067	0	2,067
2039	105,376	10,452	10,452	0	1,881	0	1,881
2040	102,204	10,223	10,223	0	1,716	0	1,716
2041	99,038	10,048	10,048	0	1,572	0	1,572
2042	95,822	9,891	9,891	0	1,443	0	1,443
2043	92,535	9,776	9,776	0	1,330	0	1,330
2044	89,126	9,621	9,621	0	1,220	0	1,220
2045	85,630	9,508	9,508	0	1,125	0	1,125
2046	81,997	9,345	9,345	0	1,031	0	1,031
2047	78,268	9,211	9,211	0	947	0	947
2048	74,407	9,132	9,132	0	876	0	876
2049	70,347	8,956	8,956	0	801	0	801
2050	66,176	8,672	8,672	0	723	0	723
2051	61,995	8,256	8,256	0	642	0	642
2052	57,942	7,821	7,821	0	567	0	567
2053	54,045	7,394	7,394	0	500	0	500
2054	50,307	6,977	6,977	0	440	0	440
2055	46,730	6,573	6,573	0	386	0	386
2056	43,312	6,181	6,181	0	339	0	339
2057	40,052	5,804	5,804	0	296	0	296
2058	36,946	5,441	5,441	0	259	0	259
2059	33,990	5,093	5,093	0	226	0	226
2060	31,181	4,759	4,759	0	197	0	197
2061	28,514	4,439	4,439	0	171	0	171
2062	25,984	4,133	4,133	0	149	0	149
2063	23,588	3,840	3,840	0	129	0	129
2064	21,321	3,559	3,559	0	111	0	111



# Appendix E: GASB 67 Fiduciary Net Position Projection

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

Calendar Year	Beginning Fiduciary Position	Benefit Payments	Funded Benefit Payments	Unfunded Benefit Payments	Present Value of Benefit Payments		
					Funded Payments at 7.25%	Unfunded Payments at 3.73%	Using Single Discount Rate of 7.25%
2065	\$ 19,181	\$ 3,290	\$ 3,290	\$ 0	\$ 96	\$ 0	\$ 96
2066	17,165	3,030	3,030	0	82	0	82
2067	15,272	2,779	2,779	0	70	0	70
2068	13,501	2,538	2,538	0	60	0	60
2069	11,852	2,304	2,304	0	51	0	51
2070	10,325	2,079	2,079	0	43	0	43
2071	8,920	1,863	1,863	0	36	0	36
2072	7,637	1,656	1,656	0	30	0	30
2073	6,475	1,460	1,460	0	24	0	24
2074	5,433	1,274	1,274	0	20	0	20
2075	4,508	1,100	1,100	0	16	0	16
2076	3,695	939	939	0	13	0	13
2077	2,991	790	790	0	10	0	10
2078	2,390	656	656	0	8	0	8
2079	1,884	537	537	0	6	0	6
2080	1,464	433	433	0	4	0	4
2081	1,122	343	343	0	3	0	3
2082	848	268	268	0	2	0	2
2083	632	206	206	0	2	0	2
2084	464	156	156	0	1	0	1
2085	336	116	116	0	1	0	1
2086	240	85	85	0	1	0	1
2087	169	61	61	0	0	0	0
2088	118	44	44	0	0	0	0
2089	81	31	31	0	0	0	0
2090	55	21	21	0	0	0	0
2091	37	15	15	0	0	0	0
2092	25	10	10	0	0	0	0
2093	17	7	7	0	0	0	0
2094	11	4	4	0	0	0	0
2095	7	3	3	0	0	0	0
2096	5	2	2	0	0	0	0
2097	3	1	1	0	0	0	0
2098	2	1	1	0	0	0	0
2099	1	1	1	0	0	0	0
2100	1	0	0	0	0	0	0
2101	0	0	0	0	0	0	0
2102	0	0	0	0	0	0	0
2103	0	0	0	0	0	0	0
2104	0	0	0	0	0	0	0
2105	0	0	0	0	0	0	0
2106	0	0	0	0	0	0	0
2107	0	0	0	0	0	0	0
2108	0	0	0	0	0	0	0
2109	0	0	0	0	0	0	0
2110	0	0	0	0	0	0	0
2111	0	0	0	0	0	0	0
2112	0	0	0	0	0	0	0
2113	0	0	0	0	0	0	0
2114	0	0	0	0	0	0	0

# Appendix F: Detailed Tabulations of Member Data

**Table F-1: The Number of Active Members Distributed by Age and Service as of December 31, 2014**

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	0	0	14	0	0	0	0	0	0	0	0	14
25 to 29	0	0	887	167	0	0	0	0	0	0	0	1,054
30 to 34	0	0	340	806	122	0	0	0	0	0	0	1,268
35 to 39	0	0	110	314	466	61	0	0	0	0	0	951
40 to 44	0	0	62	148	293	358	66	0	0	0	0	927
45 to 49	0	0	31	103	160	222	258	41	0	0	0	815
50 to 54	0	0	4	30	69	80	122	139	11	0	0	455
55 to 59	0	0	0	1	20	33	29	47	31	1	0	162
60 to 64	0	0	0	0	4	4	2	1	4	0	0	15
65 to 69	0	0	0	0	0	0	0	0	0	0	0	0
70 & Up	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	0	0	1,448	1,569	1,134	758	477	228	46	1	0	5,661

## Appendix F: Detailed Tabulations of Member Data

**Table F-2: The Number of Active Members Distributed by Age as of December 31, 2014**

Age	Number
24	14
25	118
26	202
27	273
28	240
29	221
30	259
31	241
32	277
33	252
34	239
35	209
36	197
37	204
38	177
39	164
40	183
41	190
42	162
43	177
44	215
45	212
46	177
47	151
48	141
49	134
50	128
51	98
52	79
53	87
54	63
55	48
56	39
57	31
58	27
59	17
60	10
62	3
63	2
Total	5,661

## Appendix F: Detailed Tabulations of Member Data

**Table F-3: The Number of Active Members Distributed by Service as of December 31, 2014**

Service	Number
7	563
8	527
9	358
10	307
11	307
12	329
13	337
14	289
15	256
16	226
17	239
18	199
19	214
20	181
21	165
22	144
23	138
24	130
25	118
26	106
27	105
28	86
29	62
30	66
31	63
32	36
33	31
34	32
35	21
36	12
37	6
38	5
39	2
41	1
Total	5,661

## Appendix F: Detailed Tabulations of Member Data

**Table F-4: The Number and Deferred Annual Retirement Allowances of Terminated Vested Members Distributed by Age as of December 31, 2014**

Age	Number	Allowances
23	1	\$ 2,520
24	4	10,080
25	3	7,560
26	3	7,560
27	6	15,120
28	4	10,080
29	5	12,600
30	7	17,640
31	2	5,040
32	2	3,780
33	1	2,520
34	4	10,080
35	1	2,520
36	1	2,520
37	1	2,520
38	1	1,260
39	11	15,498
40	25	33,012
41	36	49,644
42	52	75,726
43	85	123,858
44	100	148,428
45	123	183,708
46	142	219,492
47	167	272,286
48	190	314,496
49	203	334,278
50	257	437,598
51	278	466,830
52	304	533,232
53	280	486,864
54	278	482,580
55	292	505,512
56	235	403,200
57	235	406,728
58	242	420,588
59	218	400,932
60	181	320,796
61	90	151,326
62	66	104,832

## Appendix F: Detailed Tabulations of Member Data

**Table F-4: The Number and Deferred Annual Retirement Allowances of Terminated Vested Members Distributed by Age as of December 31, 2014 (continued)**

Age	Number	Allowances
63	79	\$ 128,142
64	73	131,292
65	112	192,780
66	113	191,394
67	110	181,692
68	106	181,062
69	78	134,064
70	86	149,184
71	53	92,736
72	63	112,518
73	45	77,112
74	40	72,576
75	30	55,440
76	25	44,730
77	17	28,098
78	26	48,510
79	20	41,958
80	18	34,146
81	9	19,152
82	17	35,028
83	19	40,698
84	18	36,666
85	17	31,878
86	4	10,080
87	2	3,654
88	1	2,520
Total	5,317	\$ 9,081,954

## Appendix F: Detailed Tabulations of Member Data

**Table F-5: The Number and Annual Retirement Allowances of Retired Members Distributed by Age as of December 31, 2014**

Age	Number	Allowances
60	60	\$ 113,778
61	160	290,682
62	214	384,048
63	273	490,140
64	288	519,624
65	300	542,556
66	339	612,486
67	337	607,950
68	334	596,484
69	227	424,116
70	222	405,720
71	203	380,772
72	179	343,602
73	130	233,604
74	93	177,534
75	102	206,010
76	125	248,976
77	106	211,932
78	98	198,828
79	84	172,620
80	87	185,346
81	75	160,650
82	68	133,938
83	57	114,534
84	63	134,316
85	52	100,548
86	51	102,312
87	28	60,858
88	17	40,824
89	12	28,602
90	6	10,962
91	7	16,506
92	5	9,576
93	7	13,482
94	6	13,356
95	2	2,898
96	1	2,520
97	3	7,308
Total	4,421	\$ 8,299,998