



Disability Income Plan Principal Results of Actuarial Valuation as of December 31, 2014

Board of Trustees Meeting
Larry Langer and Mike Ribble
October 22, 2015

Disability Income Plan Principal Results of Actuarial Valuation as of December 31, 2014

Valuation Date	12/31/2014	12/31/2013
Number of active members		
Teachers' and State Employees' Retirement System	307,313	310,370
Optional Retirement Program	<u>16,266</u>	<u>15,272</u>
Total	323,579	325,642
Reported compensation		
Teachers' and State Employees' Retirement System	\$ 12,932,045,817	\$ 12,834,121,020
Optional Retirement Program	<u>1,527,620,790</u>	<u>1,459,896,474</u>
Total	\$ 14,459,666,607	\$ 14,294,017,494
Valuation compensation*		
Teachers' and State Employees' Retirement System	\$ 13,737,065,885	\$ 13,607,743,917
Optional Retirement Program	<u>1,650,076,732</u>	<u>1,590,205,013</u>
Total	\$ 15,387,142,617	\$ 15,197,948,930
Number of disabled members receiving long term disability benefits	6,900	7,012
Annual reported benefits	\$ 77,682,745	\$ 75,004,516

Disability Income Plan Principal Results of Actuarial Valuation as of December 31, 2014

Assets and Liabilities as of	12/31/2014	12/31/2013
Assets		
Actuarial Value	\$ 450,598,573	\$ 442,422,332
Market Value	\$ 439,705,629	\$ 420,925,066
Liability for currently disabled members	\$ 351,124,308	\$ 372,335,533
Deficit/(Surplus)	\$ (99,474,265)	\$ (70,086,799)
GASB 43/45 Results for Fiscal Year Ending	6/30/2017	6/30/2016
Annual required contribution (ARC)		
Normal Cost	0.38%	0.41%
Accrued Liability	<u>0.00%</u>	<u>0.00%</u>
Total	0.38%	0.41%

Disability Income Plan

Employer Contribution Rate History

Valuation Date	Fiscal Year Ending	Preliminary ARC	Change due to Legislation	Final ARC	Appropriated Rate
12/31/2014	6/30/2017	0.38%	N/A	N/A	N/A
12/31/2013	6/30/2016	0.41%	0.00%	0.41%	0.41%
12/31/2012	6/30/2015	0.41%	0.00%	0.41%	0.41%
12/31/2011	6/30/2014	0.43%	0.01%	0.44%	0.44%
12/31/2010	6/30/2013	0.44%	0.00%	0.44%	0.44%

Certification

The assumptions, methods, and plan provisions used in the results presented in this presentation were provided in October 2015 in the “Report on the Annual Valuation of the Disability Income Plan of North Carolina prepared as of December 31, 2014.”

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

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

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

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

Questions?

THANK YOU

Disability Income Plan of North Carolina

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

October 2015



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October 7, 2015

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Members of the Board:

This report presents the results of the valuation of the Disability Income Plan of North Carolina (referred to as "DIPNC" or the "Disability Income Plan"), prepared as of December 31, 2014.

The valuation has been prepared in accordance with the parameters set forth in Statement Nos. 43 and 45 of the Governmental Accounting Standards Board.

The primary purpose of the valuation report is to determine the required employer contribution rates, to describe the current financial condition of DIPNC, 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 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 Nos. 43 and 45. 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 Table of Contents, which immediately follows, outlines the material contained in the report.

The undersigned actuaries together meet the Qualification Standards of the American Academy of Actuaries (AAA) to render the actuarial opinions contained in this report. Michael A. Ribble and Larry Langer meet the qualification standards of the AAA in the pension practice area and render the opinion related to the long-term aspects of this calculation. Melissa Bissett meets the qualification standards of the AAA in the health practice area and renders the opinion related to the short-term aspects of this calculation. 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



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



Melissa A. Bissett, FSA, MAAA
Senior Consultant, Health and Productivity

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Section 1: Introduction

This report presents the results of the actuarial valuation of the Disability Income Plan of North Carolina, prepared as of December 31, 2014. The purpose of the valuation is to determine the present value of future payments to disabled members as of December 31, 2014, to determine the expected cost of new claims for 2015, and to provide the Annual Required Contribution under GASB Statements 43 and 45 for postemployment benefits.

Appendix A of this report presents detailed tabulations of the active membership of the plan as of the valuation date.

Appendix B of this report presents detailed tabulations of the disabled membership of the plan as of the valuation date.

Appendix C of this report presents the development of the actuarial value of assets.

Appendix D outlines the full set of actuarial assumptions and methods employed.

The valuation was based on provisions of the Plan as amended through December 31, 2014. A summary of the main Plan provisions used for valuation purposes appears in Appendix E.

Section 2: Summary of Principal Results

The table below provides the principal results of the valuation and a comparison with the preceding year's results.

Table 1: Summary of Principal Results

Valuation Date	12/31/2014	12/31/2013
Number of active members		
Teachers' and State Employees' Retirement System	307,313	310,370
Optional Retirement Program	<u>16,266</u>	<u>15,272</u>
Total	323,579	325,642
Reported compensation		
Teachers' and State Employees' Retirement System	\$ 12,932,045,817	\$ 12,834,121,020
Optional Retirement Program	<u>1,527,620,790</u>	<u>1,459,896,474</u>
Total	\$ 14,459,666,607	\$ 14,294,017,494
Valuation compensation*		
Teachers' and State Employees' Retirement System	\$ 13,737,065,885	\$ 13,607,743,917
Optional Retirement Program	<u>1,650,076,732</u>	<u>1,590,205,013</u>
Total	\$ 15,387,142,617	\$ 15,197,948,930
Number of disabled members receiving long term disability benefits	6,900	7,012
Annual reported benefits	\$ 77,682,745	\$ 75,004,516
Assets and Liabilities as of	12/31/2014	12/31/2013
Assets		
Actuarial Value	\$ 450,598,573	\$ 442,422,332
Market Value	\$ 439,705,629	\$ 420,925,066
Liability for currently disabled members	\$ 351,124,308	\$ 372,335,533
Deficit/(Surplus)	\$ (99,474,265)	\$ (70,086,799)
GASB 43/45 Results for Fiscal Year Ending	6/30/2017	6/30/2016
Annual required contribution (ARC)		
Normal Cost	0.38%	0.41%
Accrued Liability	<u>0.00%</u>	<u>0.00%</u>
Total	0.38%	0.41%

* Reported compensation adjusted to reflect the assumed rate of pay increase prior to the valuation date.

Section 2: Summary of Principal Results

Table 2: Reconciliation of Change in Annual Required Contribution

Fiscal year ending June 30, 2016 Preliminary ARC (based on December 31, 2013 valuation)	0.41%
Impact of Legislative Changes	<u>0.00%</u>
Fiscal year ending June 30, 2016 Final ARC	0.41%
Change Due to Demographic (Gain)/Loss	(0.03%)
Change Due to Investment (Gain)/Loss	0.00%
Change Due to Contributions Greater than ARC	<u>0.00%</u>
Fiscal year ending June 30, 2017 Preliminary ARC (based on December 31, 2014 valuation)	0.38%

Section 3: Membership Data

Data for 307,313 active members of the Teachers' and State Employees' Retirement System with reported compensation of \$12,932,045,817 and 16,266 members of the Optional Retirement Program with reported compensation of \$1,527,620,790 were furnished by the Retirement Systems Division as of December 31, 2014. The reported compensation includes annual longevity payments. The number and reported compensation of active members, distributed by age, as of December 31, 2014 are shown in Appendix A.

The membership service requirement for short term disability benefits under the Plan is one year and the membership service requirement for long term disability benefits under the Plan is five years.

The Retirement Systems Division also supplied data for 6,900 disabled employees in receipt of annual long-term disability benefits totaling \$77,682,745 as of the valuation date. Of this number, 105 disabled employees are grandfathered under all provisions of the old Disability Salary Continuation Plan and 6,795 are receiving long-term disability benefits under the provisions of this Plan. Appendix B presents a comparison of the number and annual amount of benefits payable as of the current and previous valuation dates.

Section 4: Assets

Asset information taken into account in this valuation is based principally on information reported by the Retirement Systems Division. The market value of assets was \$439,705,629 as of December 31, 2014.

For valuation purposes, the assets were valued at market related actuarial value. The market related actuarial value as of the valuation date was \$450,598,573. The development of this amount is shown in Appendix C.

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

**Table 3: Allocation of Investments by Category
as of December 31, 2014**

Cash and Receivables	7.8%
Fixed Income (LTIF)	92.2%
Public Equity	0.0%
Other*	<u>0.0%</u>
Total	100.0%

* Real Estate, Alternatives, Inflation and Credit.

Section 5: Condition of the Plan

The following table shows the assets and liabilities of the Plan as of the current valuation date of December 31, 2014. The items shown in the table, other than the actuarial value of assets, are present values actuarially determined as of the valuation date.

**Table 4: Statement of Condition of the Plan
as of December 31, 2014**

Present value of prospective benefits payable to all disabled members on LTD as of the valuation date for:	
LTD approved claims	\$ 277,033,660
LTD incurred but not reported claims	63,038,436
STD incurred but not reported claims	<u>11,052,212</u>
Total claim liability	\$ 351,124,308
Actuarial value of assets	\$ 450,598,573
Deficit/(Surplus)	\$ (99,474,265)
Prospective present value of benefits for current active members	\$ 615,089,101
Present value of benefits not covered by actuarial value of assets	\$ 515,614,836
Present value of compensation for active members	\$ 137,034,181,900
Level contribution as a percentage of compensation to fund present value of benefits not covered by actuarial value of assets	0.38%

Claim liabilities are equal to the present value of future claim payments the Plan is obligated to make to members disabled as of the valuation date. The claim liabilities are separated into three classifications, which reflect the status of each claim as of the valuation date.

- (a) Approved claim liabilities are for long term disabilities which have occurred, have been approved, and are in long term payment status as of the valuation date.
- (b) LTD incurred but not reported liabilities are for disabilities which have occurred but are not in payment status as of the valuation date. These liabilities are estimated based on the one-year term cost for expected disablements during the year and a reserve of 14/12 of the term cost is added to account for the time after disability to receive LTD benefits.

Section 5: Condition of the Plan

- (c) STD incurred but not reported liabilities are for disabilities which have occurred but are not in payment status as of the valuation date. These liabilities are estimated based on the one-year term cost for expected disablements during the year and a reserve of 62/72 of the term cost is added to account for the timing of STD payments.

The method of determining claim liabilities and the assumptions used are described in Appendix D.

Section 6: Experience

Section 5 shows that the deficit/(surplus) under the Plan has decreased by \$29,387,466 from \$(70,086,799) to \$(99,474,265) since the previous valuation date.

The following table shows a detailed reconciliation of the change in deficit/(surplus) since the prior valuation.

**Table 5: Reconciliation of Change in Deficit/(Surplus)
Since the Prior Valuation**

Prior Year Deficit/(Surplus)	\$	(70,086,799)
Prior Year Term Cost		66,453,464
Actual Contributions		(64,520,440)
Interest Adjustment		(3,974,417)
STD Experience		(953,860)
LTD Experience		(29,115,449)
Asset Loss/(Gain)		2,723,236
Current Deficit/(Surplus)	\$	(99,474,265)

Section 7: Accounting Information

Statement Nos. 43 and 45 of the Governmental Accounting Standards Board (GASB) set forth certain items of information to be disclosed in the financial statements of the Plan.

The table below provides a distribution of the number of employees by type of membership.

Table 6: Number of Active and Disabled Participants as of December 31, 2014

Group	Number
Disabled participants receiving long-term disability benefits	6,900
Terminated members and survivors of deceased members entitled to benefits but not yet receiving benefits	0
Active members, including those in the waiting period or on short-term disability	<u>323,579</u>
Total	330,479

The table below provides the schedule of funding progress.

Table 7: Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Entry Age Actuarial Liability (AAL) (b)	Unfunded AAL (UAAL) (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll [(b) - (a)] / (c)
12/31/08	\$ 350,145,153	\$ 477,574,565	\$ 127,429,412	73.3%	\$ 14,493,066,028	0.88%
12/31/09	352,627,921	492,731,413	140,103,492	71.6%	14,534,661,403	0.96%
12/31/10	377,994,992	498,505,723	120,510,731	75.8%	14,360,373,354	0.84%
12/31/11	406,067,915	511,416,654	105,348,739	79.4%	14,139,467,246	0.75%
12/31/12	432,667,367	503,192,392	70,525,025	86.0%	14,163,204,361	0.50%
12/31/13	442,422,332	522,940,655	80,518,323	84.6%	14,294,017,494	0.56%
12/31/14	450,598,573	503,060,332	52,461,759	89.6%	14,459,666,607	0.36%

The aggregate cost method does not identify or separately amortize unfunded liabilities. Information about the plan's funded status and funding progress have been prepared using the entry age actuarial cost method as an approximation and as required by GASB Statements 43 and 45.

Section 7: Accounting Information

The table below provides a reconciliation of the preliminary employer annual required contribution rate to the final employer annual required contribution for fiscal year ending June 30, 2015. The preliminary annual required contribution rate is based on the December 31, 2012 valuation.

Table 8: Reconciliation of Annual Required Contribution Rate

	Fiscal Year Ending 06/30/2015
Preliminary Annual Required Contribution Rate	
Normal Cost	0.41 %
Accrued Liability	<u>0.00</u>
Total	0.41 %
Impact of Legislative Changes	<u>0.00</u>
Final Annual Required Contribution Rate	0.41 %
Actual payroll for June 30, 2015	\$ <u>15,419,247,287</u>
Annual Required Contribution	\$ 63,218,914

Section 7: Accounting Information

The tables below provide the calculation of the annual OPEB cost and net OPEB obligation for the fiscal year ending June 30, 2015 followed by a three-year trend of the net OPEB obligation.

Table 9: Annual OPEB Cost and Net OPEB Obligation

	Fiscal Year Ending 06/30/2015
(a) Employer annual required contribution	\$ 63,218,914
(b) Interest on OPEB obligation*	(1,274,532)
(c) Adjustment to annual required contribution**	<u>2,479,345</u>
(d) Annual OPEB cost: (a) + (b) + (c)	\$ 64,423,727
(e) Employer contributions made for fiscal year ending 6/30/2015	<u>63,218,914</u>
(f) Increase (decrease) in net OPEB obligation: (d) - (e)	\$ 1,204,813
(g) Net OPEB obligation beginning of fiscal year	<u>(22,165,770)</u>
(h) Net OPEB obligation end of fiscal year: (f) + (g)	\$ (20,960,957)

* Based on the 5.75% investment rate of return assumption used for the December 31, 2012 valuation.

** Based on the ratio of the present value of future salary to valuation compensation for the December 31, 2012 valuation.

Table 10: Trend Information

Fiscal Year Ending	Annual OPEB Cost (AOC)	Percentage of AOC Contributed	Net OPEB Obligation
6/30/2013	\$ 65,437,243	97.9%	\$ (23,474,444)
6/30/2014	67,039,143	98.0%	(22,165,770)
6/30/2015	64,423,727	98.1%	(20,960,957)

Section 7: Accounting Information

The table below provides the annual required contribution (ARC) of the employer as a percentage of payroll, determined in accordance with the parameters of GASB 43/45.

Table 11: 2016/2017 Fiscal Year Annual Required Contribution (ARC) based on the Valuation as of December 31, 2014

Normal Cost	0.38 %
Accrued Liability	0.00
Total	0.38 %

Table 12: Additional Information for GASB 43/45

Valuation Date	12/31/2014
Actuarial Cost Method	Aggregate
Amortization Method	Level percent
Remaining amortization period	The aggregate cost method does not identify or separately amortize unfunded liabilities
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*	5.75%
Projected Salary Increases**	4.25% - 9.10%
*Includes Inflation of	3.00%
**Includes Inflation and Productivity of	3.50%
Cost-of-living Adjustments	3.50% for gross long term disability benefits
Total Claim Liability	\$ 351,124,308
Market Related Value of Assets	450,598,573
Deficit/(Surplus)	\$ (99,474,265)

Appendix A: Detailed Tabulations of the Active Member Data

Table A-1: The Number and Average Reported Compensation 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	3,438	4,630	14	0	0	0	0	0	0	0	8,082
	13,451	29,845	30,611	0	0	0	0	0	0	0	22,872
25 to 29	3,769	19,888	4,496	40	0	0	0	0	0	0	28,193
	12,550	34,140	36,998	35,936	0	0	0	0	0	0	31,712
30 to 34	2,179	12,061	13,672	5,177	63	0	0	0	0	0	33,152
	13,865	38,212	40,042	43,198	36,119	0	0	0	0	0	38,141
35 to 39	1,895	9,845	10,151	11,271	4,093	17	0	0	0	0	37,272
	13,363	42,165	45,419	47,052	49,105	44,294	0	0	0	0	43,828
40 to 44	1,639	9,037	10,198	9,466	10,465	3,261	48	0	0	0	44,114
	12,079	40,377	45,637	48,182	51,761	53,768	50,074	0	0	0	45,917
45 to 49	1,418	8,027	9,857	9,408	7,947	7,647	2,895	47	0	0	47,246
	11,980	39,113	44,096	48,250	50,765	56,493	56,512	51,640	0	0	47,009
50 to 54	1,072	6,862	8,672	8,988	7,877	5,615	6,096	1,328	19	0	46,529
	11,903	39,915	42,527	45,351	48,435	54,552	59,522	61,337	51,429	0	47,200
55 to 59	854	5,143	7,294	7,793	7,556	5,688	4,704	2,045	544	12	41,633
	12,568	40,874	43,311	45,067	47,990	55,837	59,860	65,615	65,455	48,188	48,525
60 to 64	364	3,034	5,098	5,142	4,611	3,823	2,822	1,188	668	164	26,914
	13,791	42,589	45,146	46,771	50,053	57,072	65,753	81,009	76,948	69,426	51,960
65 to 69	130	786	1,668	1,705	1,251	922	679	420	300	173	8,034
	16,013	48,812	47,820	51,930	58,405	64,697	75,732	99,948	98,430	88,044	59,700
70 & Up	41	265	437	505	353	253	177	118	102	159	2,410
	12,566	37,172	40,591	49,239	52,739	67,125	82,228	89,889	114,644	102,165	58,784
Total	16,799	79,578	71,557	59,495	44,216	27,226	17,421	5,146	1,633	508	323,579
	12,916	38,120	43,150	46,695	50,095	56,080	60,959	71,296	79,123	85,512	44,687

Appendix A: Detailed Tabulations of the Active Member Data

Table A-2: The Number and Reported Compensation of Active Members Distributed by Age as of December 31, 2014

Age	Men		Women	
	Number	Compensation	Number	Compensation
19	21	\$ 210,808	6	\$ 58,506
20	36	398,811	29	276,372
21	111	1,770,793	89	1,310,866
22	299	5,500,716	579	9,154,015
23	738	15,697,474	2,063	41,427,168
24	1,111	28,675,767	2,997	80,322,693
25	1,433	40,609,890	3,731	109,016,504
26	1,542	45,837,625	3,890	119,908,042
27	1,597	49,336,514	4,093	130,469,806
28	1,710	55,746,128	4,105	134,845,413
29	1,889	66,053,928	4,203	142,219,851
30	1,924	70,158,198	4,242	149,079,392
31	1,973	74,031,687	4,365	158,381,100
32	2,100	82,518,132	4,560	168,739,482
33	2,148	87,576,545	4,726	182,737,338
34	2,286	99,412,936	4,828	191,833,050
35	2,386	106,060,258	4,930	198,746,113
36	2,321	109,482,552	4,963	207,260,606
37	2,390	114,424,437	5,117	214,465,068
38	2,462	122,335,348	5,197	221,269,969
39	2,403	120,595,603	5,103	218,897,305
40	2,482	129,139,930	5,503	236,157,907
41	2,575	128,588,434	5,485	239,557,259
42	2,658	136,201,124	5,829	250,977,705
43	2,949	153,836,349	6,320	275,393,742
44	3,284	169,282,735	7,029	306,471,698
45	3,123	170,336,765	6,936	304,422,763
46	3,106	170,167,120	6,644	292,172,146
47	2,939	158,418,156	6,265	270,044,248
48	2,856	160,005,473	6,303	271,788,294
49	2,916	159,014,492	6,161	264,688,426
50	2,944	159,737,976	6,391	277,487,412
51	3,014	168,395,217	6,372	276,492,912
52	2,960	163,318,026	6,387	278,744,113
53	2,888	157,249,012	6,490	284,871,950
54	2,831	156,347,722	6,252	273,528,891
55	2,680	149,393,835	6,073	270,705,672
56	2,715	152,103,138	5,818	257,967,487
57	2,668	151,868,556	5,779	261,794,502
58	2,598	144,898,428	5,594	253,981,577

Appendix A: Detailed Tabulations of the Active Member Data

Table A-2: The Number and Reported Compensation of Active Members Distributed by Age as of December 31, 2014 (continued)

Age	Men		Women	
	Number	Compensation	Number	Compensation
59	2,513	\$ 138,340,042	5,195	\$ 239,179,034
60	2,394	138,472,182	4,823	220,817,108
61	2,247	131,365,475	4,235	196,267,013
62	1,919	114,030,079	3,619	170,778,496
63	1,549	98,303,760	2,673	132,354,069
64	1,323	90,056,937	2,132	106,001,687
65	1,023	68,711,148	1,611	76,924,991
66	837	61,687,507	1,116	56,757,558
67	642	49,703,102	793	40,125,233
68	599	43,564,002	669	33,913,178
69	367	29,518,584	377	18,723,126
70	298	21,743,001	290	14,042,682
71	230	15,765,276	201	9,411,997
72	202	14,933,842	174	7,685,832
73	159	12,926,028	121	5,135,498
74	115	7,699,839	85	3,349,507
75	82	5,308,152	60	2,798,145
76	72	3,964,941	46	1,748,484
77	51	3,696,215	33	1,142,544
78	40	2,919,073	20	737,426
79	19	907,389	18	738,210
80	15	1,187,284	13	466,193
81	13	619,192	5	188,262
82	5	390,339	9	285,525
83	8	540,880	5	148,724
84	5	374,010	3	69,339
85	3	188,307	1	45,142
86	1	30,604		
87	2	269,317	1	69,150
88			2	77,335
89			1	21,515
90	2	43,096		
Total	103,801	\$ 5,291,996,241	219,778	\$ 9,167,670,366

Appendix A: Detailed Tabulations of the Active Member Data

Table A-3: The Number and Reported Compensation of Active Members Distributed by Service as of December 31, 2014

Service	Men		Women	
	Number	Compensation	Number	Compensation
0	4,927	\$ 65,488,861	11,872	\$ 151,488,961
1	8,401	302,452,997	16,213	524,168,763
2	7,503	322,236,397	14,992	549,500,151
3	6,075	272,730,096	11,706	448,012,605
4	5,056	235,590,761	9,632	378,836,493
5	4,261	199,774,390	7,930	319,019,478
6	3,629	188,433,126	7,051	285,282,976
7	5,493	261,656,281	11,506	458,234,061
8	4,940	246,286,920	10,840	437,001,875
9	4,811	242,945,935	11,096	449,073,717
10	4,276	214,071,349	9,786	408,608,829
11	4,021	209,443,950	9,034	391,701,447
12	3,546	189,936,205	7,892	350,447,653
13	3,024	170,562,455	7,084	320,225,683
14	3,122	177,403,533	7,710	345,738,145
15	3,041	173,961,612	7,400	335,510,581
16	2,848	165,662,807	6,962	317,646,509
17	2,573	149,585,747	6,218	291,794,096
18	2,364	139,719,849	5,510	260,860,606
19	2,253	135,860,625	5,047	244,381,825
20	2,043	121,642,112	4,544	226,843,068
21	2,140	133,924,539	4,124	210,794,140
22	1,739	116,544,968	3,709	196,631,644
23	1,695	110,128,798	3,272	173,580,085
24	1,299	88,488,599	2,661	148,246,040
25	1,554	103,557,245	2,825	155,174,516
26	1,316	87,447,558	2,692	150,118,963
27	1,264	86,330,233	2,453	138,566,368
28	1,056	75,090,782	1,975	116,550,504
29	732	55,058,518	1,553	94,011,034
30	627	50,312,841	1,264	75,647,286
31	493	41,282,522	836	52,482,910
32	329	29,112,705	486	32,429,851
33	233	21,653,690	381	26,573,370
34	214	19,122,427	282	18,204,689
35	164	15,308,653	301	19,008,961
36	167	15,725,456	246	16,744,311
37	139	15,213,180	198	13,224,517
38	119	10,985,512	133	9,087,413
39	68	6,908,460	98	7,002,373

Appendix A: Detailed Tabulations of the Active Member Data

Table A-3: The Number and Reported Compensation of Active Members Distributed by Service as of December 31, 2014 (continued)

Service	Men		Women	
	Number	Compensation	Number	Compensation
40	58	\$ 5,578,732	69	\$ 5,441,310
41	51	4,671,064	64	4,077,959
42	27	2,763,845	38	2,687,117
43	39	3,623,807	30	2,324,298
44	18	1,672,536	18	1,277,289
45	18	2,023,298	18	1,338,601
46	8	863,404	10	883,493
47	14	1,606,631	5	337,078
48	3	295,200	1	86,898
49	3	607,626		
50	1	77,979	1	64,409
51	2	164,961		
52	2	253,580	6	463,483
53			1	41,354
54	1	94,037	1	48,865
55	1	56,847	1	67,849
59			1	73,866
Total	103,801	\$ 5,291,996,241	219,778	\$ 9,167,670,366

Appendix B: Detailed Tabulations of the Disabled Member Data

Table B-1: The Number and Annual Amount of Long Term Disability Benefits Reported

Group	As of December 31, 2014		As of December 31, 2013	
	Number	Annual Reported Benefits	Number	Annual Reported Benefits
Disabled prior to January 1, 1988	105	\$ 205,551	120	\$ 238,645
Disabled after January 1, 1988	<u>6,795</u>	<u>77,477,194</u>	<u>6,892</u>	<u>74,765,871</u>
Total	6,900	\$ 77,682,745	7,012	\$ 75,004,516

Appendix B: Detailed Tabulations of the Disabled Member Data

Table B-2: The Number and Annual Long Term Disability Benefits of Disabled Members by Age as of December 31, 2014
Disabled Prior to January 1, 1988

Age	Men		Women	
	Number	Contributions	Number	Contributions
54			1	\$ 4,973
58			1	4,478
59			4	9,171
60			4	9,744
61	1	\$ 471	3	10,488
62	1	1,078		
63	1	2,315	3	7,031
64	2	4,351	1	176
65	2	3,621	1	472
66	1	1,418	1	3,078
67	1	2,652	2	3,477
68	3	5,184	6	18,590
69	1	2,663		
70	1	2,140	2	3,023
71	1	2,090		
72	1	2,203	2	4,739
73	1	1,127	3	3,325
74	2	2,955	3	7,225
75			2	3,946
77	1	307	1	2,298
78			1	1,764
79	1	2,717	1	1,059
80			1	6,443
81			1	130
82			1	1,209
83			2	3,774
84			2	3,911
85			2	858
86	1	2,354	3	5,994
87			5	12,663
88			3	1,415
89			1	4,645
90			5	9,796
91			1	622
92	1	1,144	4	3,355

Appendix B: Detailed Tabulations of the Disabled Member Data

Table B-2: The Number and Annual Long Term Disability Benefits of Disabled Members by Age as of December 31, 2014 (continued)

Disabled Prior to January 1, 1988

Age	Men		Women	
	Number	Contributions	Number	Contributions
93			4	\$ 4,399
94	1	\$ 1,229		
95			1	1,052
97			1	2,660
99			1	565
101			1	984
Total	24	\$ 42,019	81	\$ 163,532

Appendix B: Detailed Tabulations of the Disabled Member Data

Table B-3: The Number and Annual Long Term Disability Benefits of Disabled Members by Age as of December 31, 2014

Disabled After January 1, 1988

Age	Men		Women	
	Number	Contributions	Number	Contributions
29	1	\$ 17,003	1	\$ 14,413
30			2	11,896
31	1	21,971	6	119,178
32	1	10,208	2	42,460
33	4	46,770	12	201,806
34	4	27,284	6	66,350
35	3	35,712	11	151,633
36	7	109,632	17	250,717
37	9	129,662	22	292,074
38	11	172,388	33	511,898
39	11	145,454	36	582,617
40	17	276,472	36	567,983
41	22	333,014	33	521,563
42	21	213,994	53	803,717
43	23	276,296	67	943,246
44	23	273,207	79	984,065
45	32	381,970	99	1,309,639
46	43	503,822	89	1,362,867
47	58	610,292	115	1,703,082
48	51	557,673	118	1,543,777
49	64	815,602	149	1,924,101
50	71	920,931	168	2,179,350
51	74	810,833	175	2,189,392
52	99	1,027,047	183	2,387,057
53	91	891,784	216	2,567,968
54	84	980,735	266	3,142,545
55	105	1,107,185	248	3,022,088
56	127	1,396,626	264	3,028,923
57	125	1,195,408	271	3,022,461
58	156	1,546,572	269	2,929,029
59	134	1,330,651	308	3,486,657
60	122	1,204,500	273	2,897,653
61	113	918,794	249	2,893,529
62	111	955,548	220	2,411,695
63	119	913,829	238	2,296,945

Appendix B: Detailed Tabulations of the Disabled Member Data

Table B-3: The Number and Annual Long Term Disability Benefits of Disabled Members by Age as of December 31, 2014 (continued)

Disabled After January 1, 1988

Age	Men		Women	
	Number	Contributions	Number	Contributions
64	129	\$ 955,568	214	\$ 2,281,160
65	74	576,041	99	1,017,461
66	1	13,859	1	21,105
67	1	14,913		
68			3	49,955
72	1	14,927		
74			1	8,962
Total	2,143	\$ 21,734,177	4,652	\$ 55,743,017

Appendix C: Development of Actuarial Value of Assets

Development of Actuarial Value of Assets for the Year Ending December 31, 2014

1. Actuarial Value of Assets as of December 31, 2013	\$ 442,422,332
2. 2014 Net Cash Flow	
a. Contributions	\$ 64,520,440
b. Disbursements	78,653,910
c. Net Cash Flow: (a) - (b)	\$ (14,133,470)
3. Expected Investment Return: $[(1) \times .0575] + [(2)c \times .02875]$	\$ 25,032,947
4. Expected Actuarial Value of Assets as of December 31, 2014 (1) + (2)c + (3)	\$ 453,321,809
5. Market Value of Assets as of December 31, 2014	\$ 439,705,629
6. Excess of Market Value over Expected Actuarial Value of Assets (5) - (4)	\$ (13,616,180)
7. 20% Adjustment towards Market Value: (6) * .20	\$ (2,723,236)
8. Preliminary Actuarial Value of Assets as of December 31, 2014 (4) + (7)	\$ 450,598,573
9. Final actuarial Value of Assets as of December 31, 2014 [(8) not less than 80% of (5) and not greater than 120% of (5)]	\$ 450,598,573
10. Rate of investment return on actuarial value	5.12%
11. Rate of investment return on market value	7.95%

Appendix D: Statement of Actuarial Assumptions and Methods

Assumptions are based on the experience investigation of the Teachers' and State Employees' Retirement System of North Carolina prepared as of December 31, 2009 and adopted by the Board of Trustees on October 21, 2010. The next experience investigation will be based on the five-year period ending December 31, 2014. The actuary will present this investigation during the fall of 2015 for adoption by the Board of Trustees with the intent of using the assumptions recommended in the December 31, 2014 experience review beginning with the December 31, 2015 annual valuation.

Interest Rate: 5.75% per annum, compounded annually.

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

Real Wage Growth: 0.50% per annum.

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

Service	Annual Rates of Withdrawal					
	General Employees and Other Education		Classroom Teachers		Law Enforcement Officers	
	Male	Female	Male	Female	Male	Female
0	.270	.270	.260	.220	.180	.180
1	.180	.185	.180	.170	.090	.090
2	.120	.120	.130	.130	.070	.070
3	.080	.100	.100	.100	.070	.070
4	.070	.090	.080	.080	.060	.060

Age	General Employees and Other Education Annual Rates of			
	Withdrawal and Vesting*		Base Mortality**	
	Male	Female	Male	Female
25	.0650	.0900	.0004	.0002
30	.0650	.0800	.0005	.0003
35	.0500	.0600	.0008	.0005
40	.0400	.0400	.0011	.0008
45	.0350	.0400	.0016	.0012
50	.0350	.0400	.0023	.0018
55	.0350	.0400	.0033	.0028
60	.0350	.0400	.0054	.0043
65			.0081	.0062
69			.0099	.0076

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

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

Appendix D: Statement of Actuarial Assumptions and Methods

Classroom Teachers

Annual Rates of

Age	Withdrawal and Vesting*		Base Mortality**	
	Male	Female	Male	Female
25	.0600	.0700	.0004	.0002
30	.0550	.0600	.0004	.0003
35	.0400	.0450	.0007	.0005
40	.0350	.0300	.0010	.0007
45	.0350	.0300	.0014	.0011
50	.0350	.0300	.0020	.0017
55	.0350	.0300	.0028	.0025
60	.0350	.0300	.0044	.0039
65			.0070	.0058
69			.0091	.0073

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

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

Law Enforcement Officers

Annual Rates of

Age	Withdrawal and Vesting*		Base Mortality**	
	Male	Female	Male	Female
25	.0400	.0400	.0004	.0002
30	.0350	.0350	.0004	.0003
35	.0300	.0350	.0008	.0005
40	.0300	.0350	.0011	.0007
45	.0300	.0350	.0015	.0011
50	.0300	.0350	.0021	.0017
55	.0300	.0350	.0030	.0025
60	.0300	.0350	.0049	.0039
65			.0076	.0058
69			.0095	.0073

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

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

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

Appendix D: Statement of Actuarial Assumptions and Methods

General Employees and Other Education - Males

Age	Service						
	<u>5</u>	<u>10</u>	<u>15</u>	<u>20</u>	<u>25</u>	<u>30</u>	<u>35</u>
50				0.0370	0.1000	0.3500	0.3500
55				0.0550	0.1000	0.3000	0.2000
60	0.1000	0.1000	0.1000	0.1000	0.3500	0.3000	0.2250
65	0.3500	0.3500	0.3500	0.3500	0.3500	0.3500	0.3500
70	0.2250	0.2250	0.2250	0.2250	0.2250	0.2250	0.2250
75	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

General Employees and Other Education - Females

Age	Service						
	<u>5</u>	<u>10</u>	<u>15</u>	<u>20</u>	<u>25</u>	<u>30</u>	<u>35</u>
50				0.0400	0.0350	0.3500	0.3500
55				0.0550	0.0900	0.3500	0.2250
60	0.1400	0.1400	0.1400	0.1400	0.4500	0.3500	0.2500
65	0.3500	0.3500	0.3500	0.3500	0.3500	0.3500	0.3500
70	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500
75	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Classroom Teachers - Males

Age	Service						
	<u>5</u>	<u>10</u>	<u>15</u>	<u>20</u>	<u>25</u>	<u>30</u>	<u>35</u>
50				0.0300	0.0900	0.3000	0.3000
55				0.0450	0.0900	0.3750	0.3000
60	0.1200	0.1200	0.1200	0.1200	0.4000	0.3750	0.3000
65	0.3500	0.3500	0.3500	0.3500	0.3500	0.3500	0.3500
70	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500
75	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Classroom Teachers - Females

Age	Service						
	<u>5</u>	<u>10</u>	<u>15</u>	<u>20</u>	<u>25</u>	<u>30</u>	<u>35</u>
50				0.0350	0.0900	0.3000	0.3000
55				0.0550	0.1000	0.4500	0.2750
60	0.1500	0.1500	0.1500	0.1500	0.5000	0.4500	0.2750
65	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000
70	0.2750	0.2750	0.2750	0.2750	0.2750	0.2750	0.2750
75	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Appendix D: Statement of Actuarial Assumptions and Methods

Age	Law Enforcement Officers						
	Service						
	<u>5</u>	<u>10</u>	<u>15</u>	<u>20</u>	<u>25</u>	<u>30</u>	<u>35</u>
50			0.0600	0.0600	0.0600	0.5000	0.5000
55	0.3000	0.3000	0.3000	0.3000	0.3000	0.5000	0.5000
60	0.2500	0.2500	0.2500	0.2500	0.2500	0.5000	0.5000
65	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000
70	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000
75	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

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

Annual Rate of Salary Increase			
Service	Teachers	General Employees	Law Enforcement Officers
0	7.55%	5.50%	9.10%
5	6.55	5.50	7.10
10	5.70	5.45	5.40
15	5.45	5.25	4.95
20	5.25	5.25	4.65
25	5.25	5.25	4.25
30	5.25	5.25	4.25
35	5.25	5.25	4.25
40	4.75	4.75	4.25
45	4.25	4.25	4.25
50	4.25	4.25	4.25

Deaths Prior to Retirement: According to the RP-2000 Mortality tables for active employees. These tables are set back one year for male teachers, set forward one year for all general employees and unadjusted for female teachers and all law enforcement officers. 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 rate 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 withdrawals, deaths, disabilities, retirements and salary increases are assumed to occur on July 1 of each year.

Appendix D: Statement of Actuarial Assumptions and Methods

Rates of Disability: The assumed rates of disability per 1,000 lives exposed are as follows:

Age	Rate of Disability Per 1,000 Lives	
	Males	Females
20 – 24	1.18	1.50
25 – 29	1.26	1.63
30 – 34	1.44	2.13
35 – 39	1.87	3.16
40 – 44	2.66	4.02
45 – 49	4.31	5.60
50 – 54	7.18	7.89
55 – 59	12.03	10.83
60 – 64	17.07	12.80

Rates of Termination: Monthly select rates of termination of disability were used for the first 24 months of disability. Sample rates of termination per 1,000 lives are as follows:

Males									
Duration of Disability (in months)	Age at Disability								
	<u>22</u>	<u>27</u>	<u>32</u>	<u>37</u>	<u>42</u>	<u>47</u>	<u>52</u>	<u>57</u>	<u>62</u>
5	142.2	129.1	118.7	106.4	94.1	81.5	67.3	49.8	27.5
10	69.0	60.0	52.3	45.6	39.0	32.9	26.4	18.5	11.2
15	44.0	38.6	34.0	29.9	25.2	21.3	17.8	12.2	6.3
20	28.0	25.5	23.0	21.2	18.5	15.3	13.1	8.9	4.9
24	20.2	18.6	16.7	15.7	14.0	11.6	9.8	7.5	4.8

Females									
Duration of Disability (in months)	Age at Disability								
	<u>22</u>	<u>27</u>	<u>32</u>	<u>37</u>	<u>42</u>	<u>47</u>	<u>52</u>	<u>57</u>	<u>62</u>
5	147.7	134.1	123.3	110.5	97.8	84.7	69.9	51.7	28.6
10	78.6	68.3	59.6	51.9	44.4	37.5	30.1	21.1	12.8
15	45.9	40.3	35.5	31.2	26.3	22.2	18.6	12.7	6.6
20	28.2	25.7	23.1	21.3	18.6	15.4	13.2	9.0	4.9
24	19.7	18.1	16.3	15.3	13.6	11.3	9.5	7.3	4.7

Appendix D: Statement of Actuarial Assumptions and Methods

Annual select and ultimate rates of termination of disability were used after the first 24 months of disability, with select rates effective from 24 months to 10 years. Sample rates per 1,000 lives are as follows:

Males									
Duration of Disability (in months)	Age at Disability								
	<u>22</u>	<u>27</u>	<u>32</u>	<u>37</u>	<u>42</u>	<u>47</u>	<u>52</u>	<u>57</u>	<u>62</u>
5	105.9	93.8	78.4	63.5	52.9	48.2	48.5	50.5	48.8
10	27.3	28.5	30.3	32.6	36.4	36.9	37.3	44.9	57.2
15	25.1	27.0	29.9	34.2	36.3	38.2	46.0	64.1	90.9
20	27.0	29.9	34.2	36.3	38.2	46.0	64.1	90.9	131.4

Females									
Duration of Disability (in months)	Age at Disability								
	<u>22</u>	<u>27</u>	<u>32</u>	<u>37</u>	<u>42</u>	<u>47</u>	<u>52</u>	<u>57</u>	<u>62</u>
5	73.7	65.3	54.6	44.2	36.8	33.5	33.8	35.1	34.0
10	18.2	19.0	20.2	21.7	24.3	24.6	24.9	29.9	38.2
15	16.8	18.1	20.0	22.9	24.3	25.6	30.8	42.9	60.9
20	18.1	20.0	22.9	24.3	25.6	30.8	42.9	60.9	88.1

Social Security Assumptions: The assumed rate of approval for Social Security disability benefits prior to completion of four years of disability from the conclusion of the waiting period is 50%.

National Average Wage: National average wage growth is assumed to be 3.50% per year for purposes of calculating Social Security benefits.

Future Increases in Social Security Benefits: Social Security disability benefits are assumed to increase by 3.00% per year. This impacts those disabled on or after January 1, 1988.

Across-the-Board Salary Increases: 3.50% per year. This impacts the LTD benefits (before reductions) for those disabled on or after January 1, 1988.

Other Offsets: No additional offsets due to Worker's Compensation or Outside Earnings, other than those reported, have been assumed.

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, but does not add to the eligibility service. The assumed impact of these conversions is shown on the table below.

Appendix D: Statement of Actuarial Assumptions and Methods

	Classroom Teachers		General		Law Enforcement		Other Education	
	Males	Females	Males	Females	Males	Females	Males	Females
Increase in AFC	2.25%	2.25%	2.25%	2.25%	1.50%	1.50%	3.50%	3.50%
Increase in Creditable Service (years)								
Credited	1.25	1.00	0.90	0.65	1.50	1.50	1.25	1.00
Eligibility	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

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

Valuation Compensation: Reported compensation adjusted based on the assumed annual rates of salary increase to reflect the assumed rate of pay as of the valuation date.

Administrative Expenses: No allowance made. It is assumed that the administrative costs of the plan are provided for out of the general operating funds of the state.

Valuation Method: Aggregate.

Asset Valuation Method: Actuarial value, as developed in Appendix C. 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.

Incurred But Not Reported Claims (IBNR): IBNR claims are based on the one-year term cost for expected disablements during the year. For short-term disability, a reserve of 62/72 of the term cost is added to account for the timing of STD payments. That reserve includes an allowance for STD that has been incurred but not reported, as well as STD in pay status. For long-term disability, a reserve of 14/12 of the term cost is added to account for the waiting time after disability to receive LTD benefits.

Changes Since Prior Valuation: None.

Appendix E: Summary of Main Benefit Provisions as Interpreted for Valuation Purposes

The Disability Income Plan of North Carolina became effective January 1, 1988. The Plan replaced the Disability Salary Continuation Plan for Teachers and State Employees of North Carolina (DSC Plan). Those beneficiaries disabled prior to January 1, 1988 continue to be covered under the provisions of the DSC Plan as in effect December 31, 1987. Beneficiaries disabled on or after January 1, 1988 are covered under the provisions of the Disability Income Plan. The following summary describes the main membership, benefit and contribution provisions of the Plan as interpreted for the valuation.

Membership in the Plan

All teachers and other employees who are in active service and are members of the Teachers and State Employees' Retirement System or the Optional Retirement Program on or after January 1, 1988 are eligible to participate in the Plan.

Benefits

Definition of Disability

The mental or physical incapacity for the further performance of duty of a beneficiary; provided that such incapacity was not the result of terrorist activity, of active participation in a riot, of the commission or attempt to commit a felony, or of the intentional self-infliction of an injury.

Waiting Period

A beneficiary shall receive no benefits from the Plan for a period of 60 continuous calendar days from the onset of disability determined as the last actual day of service or the day succeeding at least 365 calendar days after the commencement of service as a teacher or employee, whichever is later.

Salary Continuation Benefits

During the waiting period, a beneficiary may be paid such salary continuation as provided by an employer through the use of sick leave, vacation leave or any other salary continuation.

A disabled beneficiary may elect to receive any such salary continuation in lieu of STD benefits provided such election shall not extend the 365 days duration of the STD period.

A disabled beneficiary may elect to receive any such salary continuation in lieu of LTD benefits provided such election shall not extend the first 36 consecutive calendar months of the LTD period.

Appendix E: Summary of Main Benefit Provisions as Interpreted for Valuation Purposes

Eligibility for Short Term Disability	Any beneficiary who becomes disabled and is no (STD) Benefits longer able to perform his usual occupation after at least 365 calendar days succeeding his date of initial employment and at least one year of contributing membership service in the Teachers' and State Employees' Retirement System (TSERS) may be eligible for STD benefits.
Commencement of STD Benefits	The STD benefit commences on the first day succeeding the waiting period.
Duration of STD Benefits	These benefits are payable for 365 days following the waiting period. The first six months of benefits are payable by the employer outside of the trust. The remaining six months are paid by the employer outside of the trust but the employer is reimbursed by the trust quarterly. STD benefits may be extended up to an additional 365 days if the Medical Board determines that the beneficiary's disability is temporary and is likely to end within the extended period. During this extended period, STD benefits are paid directly from the trust.
Amount of Monthly STD Benefits	50% of 1/12th of the annual base rate of compensation last payable to the beneficiary prior to the beginning of the STD period plus 50% of 1/12th of the annual longevity payment (see below) to which the beneficiary would be eligible, to a maximum of \$3,000 per month, reduced by monthly payments for Workers' Compensation. Provided that a beneficiary has earnings in excess of the STD benefit, the STD benefit shall be reduced on a dollar-for-dollar basis by the amount that exceeds the STD benefit.
Eligibility for Long Term Disability	Any beneficiary who has five or more years of (LTD) Benefits membership service may receive LTD benefits from the Plan upon approval by the Board of Trustees provided that the disability is likely to be permanent.

Appendix E: Summary of Main Benefit Provisions as Interpreted for Valuation Purposes

Commencement of LTD Benefits	Benefits commence on the first day succeeding the conclusion of the short-term disability period provided the beneficiary makes application for such benefits within 180 days after the short-term disability period ceases or after salary continuation payments cease, whichever is later.
Duration of LTD Benefits	The LTD benefit is payable until the earliest date at which the beneficiary is eligible for an unreduced service retirement allowance from TSERS as described in the December 31, 2012 valuation report for TSERS.
Amount of Monthly LTD Benefits	65% of 1/12th of the annual base rate of compensation last payable to the beneficiary prior to the beginning of the STD benefit period plus 65% of 1/12th of the annual longevity payment (see below) to which the beneficiary would be eligible, to a maximum of \$3,900 per month, reduced by benefits payable from other plans including but not limited to the "Plan Offsets" (listed below).
Post Disability Benefit Adjustments	The compensation upon which the short-term or long-term disability benefit is calculated may be increased by any percentage across-the-board salary increases granted by the General Assembly. Benefits shall be reduced by future increases granted by the Social Security Administration.
Plan Offsets	(1) Primary Social Security disability benefits. For beneficiaries not approved for Primary Social Security disability benefits, upon completion of four years from the conclusion of the waiting period, the beneficiary's benefit shall be reduced by an amount as determined by the Board of Trustees, equal to a Primary Social Security disability benefit to which the beneficiary might be entitled had the beneficiary been awarded Social Security disability benefits. For members with less than five years of service as of July 31, 2007, the LTD benefit ceases after 36 months if the member has not been approved for Social Security disability benefits.

Appendix E: Summary of Main Benefit Provisions as Interpreted for Valuation Purposes

- (2) Workers' Compensation and statutory disability plans.
- (3) Teachers' and State Employees' Retirement System, or other retirement systems supported by the State.
- (4) Other insurance plans to which the State contributes.
- (5) Wages or other income paid by public or private employers.

Annual Longevity Payments

These payments are based on service and are additional components of the STD and LTD benefit formulas.

<u>Years of Service</u>	<u>Percentage of Base Salary</u>
less than 10	0.00%
10 - 14	1.50%
15 - 19	2.25%
20 - 24	3.25%
25 and over	4.50%

Benefits for Participants Disabled Prior to January 1, 1988 and Receiving Payments Under Former Disability Salary Continuation Plan

The LTD benefit is payable until termination of disability and pays 60% of monthly salary to a maximum of \$1,000 per month reduced by benefits payable from other plans including but not limited to the "Plan Offsets."

Plan Offsets include:

- Social Security benefits payable:
Prior to July 1, 1974 - Full family benefits.
July 1, 1974 and after - Primary benefits only.
- Workers' Compensation and statutory disability plans.

Appendix E: Summary of Main Benefit Provisions as Interpreted for Valuation Purposes

- Teachers' and State Employees' Retirement System, or other retirement systems supported by the State.
- Other insurance plans to which the State contributes.
- Wages or other income paid by public or private employers.

Benefits shall not be increased by future across-the-board salary increases granted by the General Assembly nor decreased by any future increases granted by the Social Security Administration.

Contributions

All contributions are to be made by the State or Employing Units.

Changes Since Prior Valuation

None.