

Registers of Deeds' Supplemental Pension Fund

Report on the Annual Valuation
Prepared as of December 31, 2015

October 2016



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October 12, 2016

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

Members of the Board:

We submit herewith our report on the actuarial valuation of the Registers of Deeds' Supplemental Pension Fund (referred to as the "Fund"), prepared as of December 31, 2015. The report has been prepared in accordance with North Carolina General Statute 161-50.

The primary purpose of the valuation report is to determine the required member and employer contribution rates, to describe the current financial condition of the 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. Because of the risk of misinterpretation or actuarial results, you should ask Buck to review any statement you wish to make on the results contained in this report. Buck will not accept any liability for any such statement made without prior review.

The valuation is based upon membership data and financial information as furnished by the Retirement Systems Division and the Financial Operations Division and as summarized in this report. Although reviewed for reasonableness and consistency with the prior valuation, these elements have not been audited by 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 latest assumptions were adopted for use with the December 31, 2015 actuarial valuation, based on the experience study prepared as of December 31, 2015 and adopted by the Board of Trustees on April 21, 2016. The economic assumptions with respect to investment yield, salary increase and inflation have been based upon a review of the existing portfolio structure as well as recent and anticipated experience.

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

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, except for some limited analysis in financial projections or required disclosure information.

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,



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Principal, Consulting Actuary



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Section 1: Summary of Principal Results

1. This report, prepared as of December 31, 2015, presents the results of the actuarial valuation of the system. For convenience of reference, the principal results of the valuation and a comparison with the results of the previous valuation are summarized below.

Table 1: Summary of Principal Results

Valuation Results as of	12/31/2015	12/31/2014
Active Members		
Number	100	100
Reported Compensation	\$ 6,343,941	\$ 5,842,163
Valuation Compensation**	\$ 6,586,044	\$ 6,467,323
Retired Members and Survivors of Deceased Members Currently Receiving Benefits		
Number	96	95
Annual Allowances	\$ 1,726,650	\$ 1,707,552
Assets		
Actuarial Value (AVA)	\$ 48,302,937	\$ 48,078,302
Market Value	\$ 46,975,034	\$ 47,814,953
Actuarial Accrued Liability (AAL)	\$ 30,980,364	\$ 23,745,153
Unfunded Accrued Liability (AAL-AVA)	\$ (17,322,573)	\$ (24,333,149)
Funded Ratio (AVA/AAL)***	155.9%	202.5%
Contributions for Fiscal Year Ending	6/30/2018	6/30/2017
Actuarially Determined Employer Contribution:		
Normal Cost	\$ 914,794	\$ 634,379
Accrued Liability	<u>(914,794)</u>	<u>(634,379)</u>
Total	\$ 0	\$ 0
Liquidation Period	N/A*	N/A*

* If the actuarially determined employer contribution (ADEC) is based on 30 year amortization of the unfunded accrued liability, the ADEC is less than \$0, which is not a permissible result. Therefore, the accrued liability contribution has been set such that the total employer ADEC equals \$0.

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

*** The Funded Ratio on a Market Value of Assets basis is 151.6% at December 31, 2015.

Section 1: Summary of Principal Results

2. Tables summarizing the membership of the system as of the valuation date are shown in Section 2.
3. An allocation of investments by category is shown in Section 3.
4. Comments on the valuation results are provided in Section 4.
5. Comments on the experience and actuarial gains/losses during the valuation year are provided in Section 5.
6. Accounting information to be disclosed in the financial statements of the System and the employer is provided in Section 6.
7. Appendix A of this report presents a summary of the results of the valuation, including present and prospective assets and liabilities of the Fund as of December 31, 2015.
8. Appendix B of this report presents the development of the actuarial value of assets.
9. Appendix C of this report outlines the full set of actuarial assumptions and methods employed.
10. Appendix D gives a summary of the benefit and contribution provisions of the system.
11. Appendix E provides the projection of cash flows used to determine the discount rate under GASB Statement No. 67.
12. 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 system for use as a basis for the valuation were furnished by the System's office. The following tables summarize the membership of the system as of December 31, 2015 upon which the valuation was based.

Table 2: Active Member Data

Group	Member Count	Average Age	Average Service	Reported Compensation
Males	26	55.09	12.39	\$ 1,947,716
Females	<u>74</u>	<u>54.73</u>	<u>20.11</u>	<u>4,396,225</u>
Total	100	54.82	18.10	\$ 6,343,941

Table 3: Data for Members Currently Receiving Benefits

Group	Member Count	Average Age	Annual Retirement Allowances
Males	13	73.43	\$ 234,000
Females	<u>83</u>	<u>70.07</u>	<u>1,492,650</u>
Total	96	70.53	\$ 1,726,650

Section 3: Asset Allocation

The following table shows an allocation of investments by category for the Register of Deeds' Supplemental Pension Fund as of December 31, 2015.

Table 4: Allocation of Investments by Category for the Register of Deeds' Supplemental Pension Fund as of December 31, 2015

Cash and Receivables	0.4%
Fixed Income (LTIF)	99.6%
Public Equity	0.0%
Other*	<u>0.0%</u>
Total	100.0%

* Real Estate, Alternatives, Inflation and Credit.

Section 4: Comments on Valuation

Appendix A of this report presents a summary of the results of the valuation, including present and prospective assets and liabilities of the Fund as of December 31, 2015.

The results of the valuation show that the Fund has total prospective liabilities of \$37,402,358 of which \$21,276,718 is for the prospective benefits payable on account of retired members currently receiving benefits and \$16,125,640 is for the prospective benefits payable on account of present active members. Against these liabilities, the Fund has present assets of \$48,302,937 leaving a balance of \$(10,900,579) as the present value of contributions to be made in the future.

The employer's contributions consist of normal contributions and accrued liability contributions. The valuation indicates that employer normal contributions totaling \$914,794 are required to provide the benefits of the Fund for the average new member and include the amount required for administrative expenses.

Prospective employer normal contributions have a present value of \$6,421,994. When this amount is subtracted from \$(10,900,579) which is the present value of total contributions, the result is an unfunded actuarial accrued liability of \$(17,322,573).

Section 5: Comments on Experience and Gains/Losses

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

Table 5: Reconciliation of Change in Unfunded Accrued Liability Since the Prior Valuation
(in millions)

Unfunded Actuarial Accrued Liability (UAAL) as of 12/31/2014	\$ (24.3)
Impact of Experience Study	7.1
Normal Cost during 2015	0.9
Reduction due to Actual Contributions during 2015	(0.8)
Interest on UAAL, Normal Cost, and Contributions	(0.7)
Asset (Gain)/Loss	0.3
Actuarial Accrued Liability (Gain)/Loss	<u>0.2</u>
Unfunded Actuarial Accrued Liability (UAAL) as of 12/31/2015	\$ (17.3)

Commentary: The changes in assumptions and methods from the experience study increased the unfunded actuarial accrued liability (UAAL) by \$7.1 million at December 31, 2014.

Section 6: Accounting Information

The section contains the accounting information for Governmental Accounting Standards Board (GASB) Statement No. 67 for fiscal year ending June 30, 2016 based on a valuation date of December 31, 2015.

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

The June 30, 2016 total pension liability presented in this section was determined by an actuarial valuation as of December 31, 2015, 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 6: Number of Active and Retired Participants as of December 31, 2015

Group	Number
Retired members and survivors of deceased members currently receiving benefits	96
Terminated members and survivors of deceased members entitled to benefits but not yet receiving benefits	0
Active participants	<u>100</u>
Total	196

Section 6: 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 7: Schedule of Changes in Net Pension Liability (Asset)

Calculation as of	June 30, 2016
Total Pension Liability	
Service Cost	\$ 579,000
Interest	1,354,000
Changes of Benefit Terms	0
Difference between Expected and Actual Experience	(45,000)
Change of Assumptions	7,082,000
Benefit Payments, including Refund of Member Contributions	(1,718,000)
Net Change in Total Pension Liability	\$ 7,252,000
Total Pension Liability - Beginning of Year	\$ 23,820,000
Total Pension Liability - End of Year	\$ 31,072,000
Plan Fiduciary Net Position	
Employer Contributions	\$ 817,000
Member Contributions	0
Net Investment Income	3,722,000
Benefit Payments, including Refund of Member Contributions	(1,718,000)
Administrative Expenses	(47,000)
Other	0
Net Change in Fiduciary Net Position	\$ 2,774,000
Plan Fiduciary Net Position - Beginning of Year	\$ 46,994,000
Plan Fiduciary Net Position - End of Year	\$ 49,768,000

Table 8: Net Pension Liability (Asset)

Calculation as of	June 30, 2016	June 30, 2015
Total Pension Liability	\$ 31,072,000	\$ 23,820,000
Plan Fiduciary Net Position	49,768,000	46,994,000
Net Pension Liability (Asset)	\$ (18,696,000)	\$ (23,174,000)
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	160.17%	197.29%

Section 6: Accounting Information

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

Table 9: Sensitivity of the Net Pension Liability (Asset) at June 30, 2016 to Changes in the Discount Rate

	1% Decrease	Current	1% Increase
Discount Rate	2.75%	3.75%	4.75%
Net Pension Liability (Asset)	(15,075,000)	(18,696,000)	(21,738,000)

The discount rate used to measure the total pension liability was 3.75%. 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 10: Additional Information for GASB Statement No. 67

Valuation Date	12/31/2015
Actuarial Cost Method	Entry Age
Amortization Method	Level dollar closed
Amortization Period	N/A*
Asset Valuation Method	Asset returns in excess of or less than the expected return on market value of assets reflected over a five-year period (not greater than 120% of market value and not less than 80% of market value)
Actuarial Assumptions	
Investment Rate of Return**	3.75%
Projected Salary Increases***	3.50% - 7.75%
** Includes Inflation of	3.00%
*** Includes Inflation of and productivity of	3.50%
Cost-of-living Adjustments	N/A

- * If the actuarially determined employer contribution (ADEC) is based on 30 year amortization of the unfunded accrued liability, the ADEC is less than \$0, which is not a permissible result. Therefore, the accrued liability contribution has been set such that the total employer ADEC equals \$0.

Appendix A: Results of the Valuation

Valuation Results as of	12/31/2015
1. Present Value of Future Benefits	
a. Members Currently Receiving Benefits	\$ 21,276,718
b. Active Members	<u>16,125,640</u>
c. Total Actuarial Liabilities	\$ 37,402,358
2. Actuarial Value of Assets	\$ 48,302,937
3. Present Value of Future Contributions (1c) - (2)	\$ (10,900,579)
4. Present Value of Future Normal Contributions by Employers	<u>6,421,994</u>
5. Present Value of Unfunded Accrued Liability Contributions by Employers (3) - (4)	\$ (17,322,573)

Appendix B: Development of Actuarial Value of Assets

Asset Data as of	12/31/2015
Beginning of Year Market Value of Assets	\$ 47,814,953
Contributions	810,996
Benefit Payments	(1,766,187)
Net Cash Flow	(955,191)
Expected Investment Return	1,775,151
Expected End of Year Market Value of Assets	48,634,913
End of Year Market Value of Assets	46,975,034
Excess of Market Value over Expected Market Value of Assets	(1,659,879)
80% of 2015 Asset Gain/(Loss)	(1,327,903)
60% of 2014 Asset Gain/(Loss)	N/A
40% of 2013 Asset Gain/(Loss)	N/A
20% of 2012 Asset Gain/(Loss)	N/A
Total Deferred Asset Gain/(Loss)	(1,327,903)
Preliminary End of Year Actuarial Value of Assets	48,302,937
Final End of Year Actuarial Value of Assets (not less than 80% and not greater than 120% of Market Value)	48,302,937
Estimated Net Investment Return on Actuarial Value	3.05%
Estimated Net Investment Return on Market Value	0.24%

Commentary: The actuarial value of assets smooths investment gains/losses resulting in less volatility in the employer contribution. The asset valuation method was changed during the experience study from a method that calculated the actuarial value of assets as 20% of the market value of assets plus 80% of the expected actuarial value of assets to a method that recognizes asset returns in excess of or less than the expected return on the market value of assets over a five-year period.

The new asset valuation method adopted with the experience study assumptions re-set the actuarial value of assets to the market value of assets at December 31, 2014, effective for the December 31, 2015 valuation. Lower than expected market returns in 2015 resulted in an actuarial value of asset return for calendar year 2015 of 3.05% and an asset loss of \$332,000 during 2015.

The actuarial value of assets would have been \$49,283,128 as of December 31, 2015 under the asset method used in the prior valuation.

Appendix C: Actuarial Assumptions and Methods

Assumptions are based on the experience investigation prepared as of December 31, 2014 and adopted by the Board of Trustees on April 21, 2016 for use with the December 31, 2015 annual actuarial valuation.

Interest Rate: 3.75% per annum, compounded annually.

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

Real Wage Growth: 0.50% per annum.

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

<u>Service</u>	<u>Annual Rate of Withdrawal</u>	
	<u>Male</u>	<u>Female</u>
0	.1850	.2050
1	.1550	.1750
2	.1300	.1500
3	.1050	.1250
4	.0850	.1050

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

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

** Base mortality rates as of 2014.

Appendix C: Actuarial Assumptions and Methods

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

Males

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

Females

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

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

Service	Annual Rate of Salary Increase
0	7.75%
5	6.00
10	4.95
15	4.20
20	3.75
25	3.50
30	3.50
35	3.50
40	3.50
45	3.50
50	3.50

Appendix C: Actuarial Assumptions and Methods

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

Annual Rate of Death after Retirement

Age	Retirees (Healthy at Retirement)		Retirees (Disabled at Retirement)	
	Male	Female	Male	Female
55	.0066	.0029	.0241	.0143
60	.0089	.0041	.0274	.0168
65	.0127	.0064	.0326	.0207
70	.0193	.0102	.0416	.0279
75	.0309	.0165	.0559	.0406
80	.0604	.0404	.0789	.0604

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

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

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

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

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

Administrative Expenses: Assumed to be 0.15% of the market value of assets at the beginning of each calendar year.

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

Valuation Compensation: Reported compensation adjusted to reflect the assumed rate of pay as of the valuation date.

Actuarial Cost Method: Entry age normal cost method.

Appendix C: Actuarial Assumptions and Methods

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

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

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

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

Changes Since Prior Valuation: The discount rate, the withdrawal rates, the disability rates, the retirement rates, the mortality assumption, the annual rate of salary increase, and the asset valuation method were changed based on the experience study prepared as of December 31, 2014 and adopted by the Board of Trustees on April 21, 2016.

Appendix D: Summary of Main Plan Provisions

The Registers of Deeds' Supplemental Pension Fund was established October 1, 1987 for all county registers of deeds who are retired from the Local Governmental Employees' Retirement System or an equivalent locally sponsored plan.

Benefits

Service Retirement Allowance

Conditions for Allowance	Retirement from the Local Governmental Employees' Retirement System or equivalent locally sponsored plan with 10 or more years of service as a register of deeds.
Amount of Allowance	Benefit payable for the life of the member only, equal to 75% of a registers of deeds equivalent annual salary immediately preceding retirement computed on the latest monthly base rate. Maximum benefit is \$1,500 per month.

Deferred Vested Retirement Allowance

Conditions for Allowance	Separation from service after completing at least 10 years of service as a register of deeds.
Amount of Allowance	Service Retirement Allowance described above commencing upon retirement with the Local Governmental Retirement System.

Contributions

Employer Contributions 1.5% of the monthly receipts collected pursuant to Article 1 of Chapter 161 of the General Statutes.

Employee Contributions None.

Changes Since Prior Valuation None.

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
2016	\$ 46,975	\$ 0	\$ 0	\$ 1,810	\$ 72	1,726	\$ 46,819
2017	46,819	0	0	1,838	72	1,720	46,629
2018	46,629	0	0	1,848	71	1,713	46,423
2019	46,423	0	0	1,875	71	1,705	46,182
2020	46,182	0	0	1,909	71	1,695	45,897
2021	45,897	0	0	1,961	70	1,684	45,550
2022	45,550	0	0	1,989	70	1,670	45,161
2023	45,161	0	0	2,022	69	1,655	44,725
2024	44,725	0	0	2,057	68	1,638	44,238
2025	44,238	0	0	2,095	68	1,619	43,694
2026	43,694	0	0	2,146	67	1,597	43,078
2027	43,078	0	0	2,153	66	1,575	42,434
2028	42,434	0	0	2,144	65	1,550	41,775
2029	41,775	0	0	2,135	64	1,526	41,102
2030	41,102	0	0	2,112	63	1,500	40,427
2031	40,427	0	0	2,103	62	1,476	39,738
2032	39,738	0	0	2,065	61	1,451	39,063
2033	39,063	0	0	2,026	60	1,426	38,403
2034	38,403	0	0	1,973	59	1,402	37,773
2035	37,773	0	0	1,913	58	1,380	37,182
2036	37,182	0	0	1,847	57	1,359	36,637
2037	36,637	0	0	1,779	56	1,340	36,142
2038	36,142	0	0	1,712	55	1,322	35,697
2039	35,697	0	0	1,636	55	1,308	35,314
2040	35,314	0	0	1,560	54	1,294	34,994
2041	34,994	0	0	1,486	53	1,283	34,738
2042	34,738	0	0	1,407	53	1,276	34,554
2043	34,554	0	0	1,333	53	1,270	34,438
2044	34,438	0	0	1,254	53	1,268	34,399
2045	34,399	0	0	1,181	53	1,267	34,432
2046	34,432	0	0	1,105	53	1,269	34,543
2047	34,543	0	0	1,030	53	1,276	34,736
2048	34,736	0	0	957	53	1,283	35,009
2049	35,009	0	0	887	53	1,296	35,365
2050	35,365	0	0	819	54	1,310	35,802
2051	35,802	0	0	753	55	1,327	36,321
2052	36,321	0	0	692	55	1,347	36,921
2053	36,921	0	0	634	56	1,372	37,603
2054	37,603	0	0	578	57	1,398	38,366
2055	38,366	0	0	525	59	1,428	39,210
2056	39,210	0	0	477	60	1,461	40,134
2057	40,134	0	0	431	61	1,495	41,137
2058	41,137	0	0	388	63	1,535	42,221
2059	42,221	0	0	348	65	1,575	43,383
2060	43,383	0	0	312	66	1,620	44,625
2061	44,625	0	0	278	68	1,667	45,946
2062	45,946	0	0	246	70	1,717	47,347
2063	47,347	0	0	218	72	1,770	48,827
2064	48,827	0	0	190	75	1,826	50,388
2065	50,388	0	0	167	77	1,886	52,030

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
2066	\$ 52,030	\$ 0	\$ 0	\$ 145	\$ 79	1,946	\$ 53,752
2067	53,752	0	0	125	82	2,012	55,557
2068	55,557	0	0	107	85	2,080	57,445
2069	57,445	0	0	91	88	2,151	59,417
2070	59,417	0	0	77	91	2,225	61,474
2071	61,474	0	0	65	94	2,302	63,617
2072	63,617	0	0	55	97	2,383	65,848
2073	65,848	0	0	45	101	2,467	68,169
2074	68,169	0	0	37	104	2,553	70,581
2075	70,581	0	0	30	108	2,644	73,087
2076	73,087	0	0	25	112	2,738	75,688
2077	75,688	0	0	20	116	2,836	78,388
2078	78,388	0	0	16	120	2,937	81,189
2079	81,189	0	0	13	124	3,042	84,094
2080	84,094	0	0	11	128	3,151	87,106
2081	87,106	0	0	8	133	3,264	90,229
2082	90,229	0	0	6	138	3,381	93,466
2083	93,466	0	0	5	143	3,502	96,820
2084	96,820	0	0	4	148	3,629	100,297
2085	100,297	0	0	3	153	3,758	103,899
2086	103,899	0	0	2	159	3,894	107,632
2087	107,632	0	0	2	164	4,033	111,499
2088	111,499	0	0	1	170	4,178	115,506
2089	115,506	0	0	1	176	4,328	119,657
2090	119,657	0	0	0	183	4,483	123,957
2091	123,957	0	0	0	189	4,644	128,412
2092	128,412	0	0	0	196	4,812	133,028
2093	133,028	0	0	0	203	4,984	137,809
2094	137,809	0	0	0	211	5,164	142,762
2095	142,762	0	0	0	218	5,350	147,894
2096	147,894	0	0	0	226	5,542	153,210
2097	153,210	0	0	0	234	5,741	158,717
2098	158,717	0	0	0	242	5,946	164,421
2099	164,421	0	0	0	251	6,161	170,331
2100	170,331	0	0	0	260	6,383	176,454
2101	176,454	0	0	0	270	6,612	182,796
2102	182,796	0	0	0	279	6,850	189,367
2103	189,367	0	0	0	289	7,095	196,173
2104	196,173	0	0	0	300	7,351	203,224
2105	203,224	0	0	0	310	7,615	210,529
2106	210,529	0	0	0	322	7,889	218,096
2107	218,096	0	0	0	333	8,172	225,935
2108	225,935	0	0	0	345	8,466	234,056
2109	234,056	0	0	0	358	8,771	242,469
2110	242,469	0	0	0	370	9,085	251,184
2111	251,184	0	0	0	384	9,413	260,213
2112	260,213	0	0	0	398	9,751	269,566
2113	269,566	0	0	0	412	10,101	279,255
2114	279,255	0	0	0	427	10,465	289,293
2115	289,293	0	0	0	442	10,840	299,691

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 3.75%	Unfunded Payments at 2.71%	Using Single Discount Rate of 3.75%
2016	\$ 46,975	\$ 1,810	\$ 1,810	\$ 0	\$ 1,777	\$ 0	\$ 1,777
2017	46,819	1,838	1,838	0	1,739	0	1,739
2018	46,629	1,848	1,848	0	1,686	0	1,686
2019	46,423	1,875	1,875	0	1,648	0	1,648
2020	46,182	1,909	1,909	0	1,618	0	1,618
2021	45,897	1,961	1,961	0	1,602	0	1,602
2022	45,550	1,989	1,989	0	1,566	0	1,566
2023	45,161	2,022	2,022	0	1,534	0	1,534
2024	44,725	2,057	2,057	0	1,504	0	1,504
2025	44,238	2,095	2,095	0	1,477	0	1,477
2026	43,694	2,146	2,146	0	1,458	0	1,458
2027	43,078	2,153	2,153	0	1,410	0	1,410
2028	42,434	2,144	2,144	0	1,353	0	1,353
2029	41,775	2,135	2,135	0	1,299	0	1,299
2030	41,102	2,112	2,112	0	1,238	0	1,238
2031	40,427	2,103	2,103	0	1,189	0	1,189
2032	39,738	2,065	2,065	0	1,125	0	1,125
2033	39,063	2,026	2,026	0	1,064	0	1,064
2034	38,403	1,973	1,973	0	998	0	998
2035	37,773	1,913	1,913	0	933	0	933
2036	37,182	1,847	1,847	0	868	0	868
2037	36,637	1,779	1,779	0	806	0	806
2038	36,142	1,712	1,712	0	748	0	748
2039	35,697	1,636	1,636	0	689	0	689
2040	35,314	1,560	1,560	0	633	0	633
2041	34,994	1,486	1,486	0	581	0	581
2042	34,738	1,407	1,407	0	530	0	530
2043	34,554	1,333	1,333	0	484	0	484
2044	34,438	1,254	1,254	0	439	0	439
2045	34,399	1,181	1,181	0	399	0	399
2046	34,432	1,105	1,105	0	360	0	360
2047	34,543	1,030	1,030	0	323	0	323
2048	34,736	957	957	0	289	0	289
2049	35,009	887	887	0	258	0	258
2050	35,365	819	819	0	230	0	230
2051	35,802	753	753	0	204	0	204
2052	36,321	692	692	0	181	0	181
2053	36,921	634	634	0	159	0	159
2054	37,603	578	578	0	140	0	140
2055	38,366	525	525	0	123	0	123
2056	39,210	477	477	0	107	0	107
2057	40,134	431	431	0	94	0	94
2058	41,137	388	388	0	81	0	81
2059	42,221	348	348	0	70	0	70
2060	43,383	312	312	0	61	0	61
2061	44,625	278	278	0	52	0	52
2062	45,946	246	246	0	44	0	44
2063	47,347	218	218	0	38	0	38
2064	48,827	190	190	0	32	0	32
2065	50,388	167	167	0	27	0	27

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 3.75%	Unfunded Payments at 2.71%	Using Single Discount Rate of 3.75%
2066	\$ 52,030	\$ 145	\$ 145	\$ 0	\$ 23	\$ 0	\$ 23
2067	53,752	125	125	0	19	0	19
2068	55,557	107	107	0	15	0	15
2069	57,445	91	91	0	13	0	13
2070	59,417	77	77	0	10	0	10
2071	61,474	65	65	0	8	0	8
2072	63,617	55	55	0	7	0	7
2073	65,848	45	45	0	5	0	5
2074	68,169	37	37	0	4	0	4
2075	70,581	30	30	0	3	0	3
2076	73,087	25	25	0	3	0	3
2077	75,688	20	20	0	2	0	2
2078	78,388	16	16	0	2	0	2
2079	81,189	13	13	0	1	0	1
2080	84,094	11	11	0	1	0	1
2081	87,106	8	8	0	1	0	1
2082	90,229	6	6	0	1	0	1
2083	93,466	5	5	0	0	0	0
2084	96,820	4	4	0	0	0	0
2085	100,297	3	3	0	0	0	0
2086	103,899	2	2	0	0	0	0
2087	107,632	2	2	0	0	0	0
2088	111,499	1	1	0	0	0	0
2089	115,506	1	1	0	0	0	0
2090	119,657	0	0	0	0	0	0
2091	123,957	0	0	0	0	0	0
2092	128,412	0	0	0	0	0	0
2093	133,028	0	0	0	0	0	0
2094	137,809	0	0	0	0	0	0
2095	142,762	0	0	0	0	0	0
2096	147,894	0	0	0	0	0	0
2097	153,210	0	0	0	0	0	0
2098	158,717	0	0	0	0	0	0
2099	164,421	0	0	0	0	0	0
2100	170,331	0	0	0	0	0	0
2101	176,454	0	0	0	0	0	0
2102	182,796	0	0	0	0	0	0
2103	189,367	0	0	0	0	0	0
2104	196,173	0	0	0	0	0	0
2105	203,224	0	0	0	0	0	0
2106	210,529	0	0	0	0	0	0
2107	218,096	0	0	0	0	0	0
2108	225,935	0	0	0	0	0	0
2109	234,056	0	0	0	0	0	0
2110	242,469	0	0	0	0	0	0
2111	251,184	0	0	0	0	0	0
2112	260,213	0	0	0	0	0	0
2113	269,566	0	0	0	0	0	0
2114	279,255	0	0	0	0	0	0
2115	289,293	0	0	0	0	0	0

Appendix F: Detailed Tabulations of the Data

Table F-1: The Number and Average Reported Compensation of Active Members Distributed by Age and Service as of December 31, 2015

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	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0
25 to 29	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0
30 to 34	0	1	1	0	0	0	0	0	0	0	0	2
	0	85,678	68,696	0	0	0	0	0	0	0	0	77,187
35 to 39	1	1	1	1	0	0	0	0	0	0	0	4
	44,610	16,667	51,225	60,084	0	0	0	0	0	0	0	43,147
40 to 44	0	0	1	4	1	5	0	0	0	0	0	11
	0	0	48,484	78,310	74,932	63,507	0	0	0	0	0	68,563
45 to 49	0	1	3	3	3	1	4	0	0	0	0	15
	0	80,637	47,224	65,529	57,657	46,607	84,056	0	0	0	0	64,980
50 to 54	0	2	1	2	3	5	2	2	0	0	0	17
	0	57,910	105,569	61,728	57,425	53,856	82,061	74,711	0	0	0	64,703
55 to 59	0	1	5	2	2	3	3	4	2	0	0	22
	0	53,097	52,936	53,287	64,853	51,297	60,195	78,965	51,469	0	0	59,424
60 to 64	0	2	2	5	0	2	3	3	0	0	0	17
	0	73,445	82,888	71,981	0	42,212	65,739	43,856	0	0	0	63,869
65 to 69	0	1	2	1	2	1	2	0	1	0	0	10
	0	48,062	61,259	50,844	96,410	68,950	62,016	0	64,938	0	0	67,216
70 & Up	0	0	0	0	0	0	1	0	0	1	0	2
	0	0	0	0	0	0	53,687	0	0	69,197	0	61,442
Total	1	9	16	18	11	17	15	9	3	1	0	100
	44,610	60,761	60,539	67,261	67,519	55,335	70,391	66,317	55,959	69,197	0	63,440

Appendix F: Detailed Tabulations of the Data

Table F-2: The Number and Annual Retirement Allowances of Retired Members and Survivors of Deceased Members Distributed by Age as of December 31, 2015

Age	Men		Women	
	Number	Allowances	Number	Allowances
52			1	\$ 18,000
54			1	18,000
56			1	18,000
57			3	54,000
58			1	18,000
59			4	72,000
60			2	36,000
61			1	18,000
62	1	\$ 18,000	3	54,000
63	3	54,000	3	54,000
64			3	54,000
65			2	36,000
66	1	18,000	7	126,000
67			5	90,000
68	1	18,000	4	72,000
69	1	18,000	4	72,000
70			5	90,000
71			6	108,000
73			2	36,000
74			1	18,000
75	1	18,000	3	52,650
76			3	54,000
77			3	54,000
79			2	36,000
80	1	18,000	1	18,000
81	1	18,000		
82	1	18,000	1	18,000
83			2	36,000
84			1	18,000
85			2	36,000

Appendix F: Detailed Tabulations of the Data

Table F-2: The Number and Annual Retirement Allowances of Retired Members and Survivors of Deceased Members Distributed by Age as of December 31, 2015

Age	Men		Women	
	Number	Allowances	Number	Allowances
86			2	\$ 36,000
90			1	18,000
91			1	18,000
92	2	\$ 36,000		
96			1	18,000
97			1	18,000
Total	13	\$ 234,000	83	\$ 1,492,650