

**DIVISION A OF THE MACON-BIBB COUNTY
PENSION AND RETIREMENT SYSTEMS**

**ACTUARIAL VALUATION
AS OF JULY 1, 2017**

**DETERMINES THE CONTRIBUTION
FOR THE 2018/19 FISCAL YEAR**



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October 9, 2017

Introduction

This report presents the results of the July 1, 2017 actuarial valuation of Division A of the Macon-Bibb County Pension and Retirement Systems. This valuation is based upon the participant data and draft asset information provided as of July 1, 2017 by Macon-Bibb County. Except for a cursory review for reasonableness including a comparison to the data provided for the previous valuation, we have not attempted to verify the accuracy of this information.

The primary purpose of this report is to provide a summary of the funded status of the plan as of July 1, 2017 and to determine the minimum required contribution under Georgia Code Section 47-20-10 for the 2018/19 plan year. In addition, this report provides a projection of the long-term funding requirements of the plan, statistical information concerning the assets held in the trust, statistical information concerning the participant population, and a summary of any recent plan changes.

The liabilities and cost presented in this report are based on numerous assumptions concerning the cost of benefits to be provided in the future, long-term investment returns, and the future demographic experience of the current participants. Anyone referring to this report should remember that the cost developed herein is only an *estimate* of the true cost of providing post-employment pension benefits. No one can predict with certainty whether the true cost will be higher or lower than the cost presented in this report. The calculated cost is entirely dependent upon the assumptions that are described in Table IV-A. If any of the assumptions is changed, then the cost shown in this report will change accordingly. Likewise, if any of the assumptions is not completely realized, then the cost shown in this report will change in the future.

Certain assumptions play a bigger role than others in determining the cost of the post-employment pension benefits. In some cases, relatively small changes in a particular assumption can have a dramatic impact on the anticipated cost of benefits. Although a thorough analysis of the impact of such changes is beyond the scope of this report, Table I-B illustrates the impact that alternative long-term investment returns would have on the minimum required contribution rate.

Minimum Required Contribution

Table I-A shows the development of the minimum required contribution for the 2018/19 plan year. The minimum required contribution rate is 38.30% of covered payroll, which represents a decrease of 2.49% of payroll from the prior valuation.

Table I-C provides a breakdown of the sources of change in the contribution rate. Significantly, the rate decreased by 0.27% of payroll due to investment gains and decreased by another 2.22% of payroll due to demographic experience. Although the market value of assets earned an 11.67% investment return during the 2016/17 plan year, the actuarial



value of assets is based on a five-year phase-in of the market value returns. On this basis, the actuarial value of assets earned 7.67% during the 2016/17 plan year, whereas a 7.50% annual investment return was required to maintain a stable contribution rate.

Georgia Code Section 47-20-10 sets forth many of the rules concerning the minimum required contribution for public pension plans within the state. Essentially, the County will meet the minimum funding requirement if the employer contributions are at least equal to the annual required contribution under GASB 25/27. In addition, Georgia Code Section 47-20-13 exempts public plan sponsors from the minimum funding requirements if the plan's actuarial value of assets exceeds 150% of the present value of accumulated retirement system benefits.

Based on the current assets, participant data, and actuarial assumptions and methods that are used to value the plan, the present-day value of the total long-term funding requirement is \$103,849,109. As illustrated in Table I-A, current assets are sufficient to cover \$85,232,136 of this amount, the employer's 2017/18 expected contribution will cover \$4,255,299 of this amount, and the employer's 2018/19 expected contribution will cover \$4,115,403 of this amount, leaving \$10,246,271 to be covered by future employer funding after June 30, 2019. Again, demographic and investment experience that differs from that assumed will either increase or decrease the future employer funding requirement.

Contents of the Report

Tables I-D through I-G provide a detailed breakdown of various liability amounts by type of benefit and by participant group. Tables II-A through II-F provide information concerning the assets of the trust fund. Specifically, Table II-A shows the development of the actuarial value of assets, which is based on the five-year average return on the market value of assets in order to provide a more stable and predictable contribution rate for the employer. Tables III-A through III-G provide statistical information concerning the plan's participant population. In particular, Table III-G gives a 10-year projection of the cash that is expected to be required from the trust fund in order to pay benefits to the current group of participants. Finally, Tables IV-A through V-B provide a summary of the actuarial assumptions and methods that are used to value the plan's benefits and of the relevant plan provisions as of July 1, 2017, as well as a summary of the changes that have occurred since the previous valuation report was prepared.

Certification

This actuarial valuation was prepared by me or under my direct supervision and I acknowledge responsibility for the results. To the best of my knowledge, the results are complete and accurate and, in my opinion, the techniques and assumptions used are reasonable and meet the requirements and intent of Georgia Code Section 47-20-10. There is no benefit or expense to be provided by the plan and/or paid from the plan's assets for which liabilities or current costs have not been established or otherwise taken into account in the valuation. All known events or trends which may require a material change in plan costs or required contribution rates have been taken into account in the valuation.



For the firm,



Charles T. Carr
Consulting Actuary
Southern Actuarial Services Company, Inc.

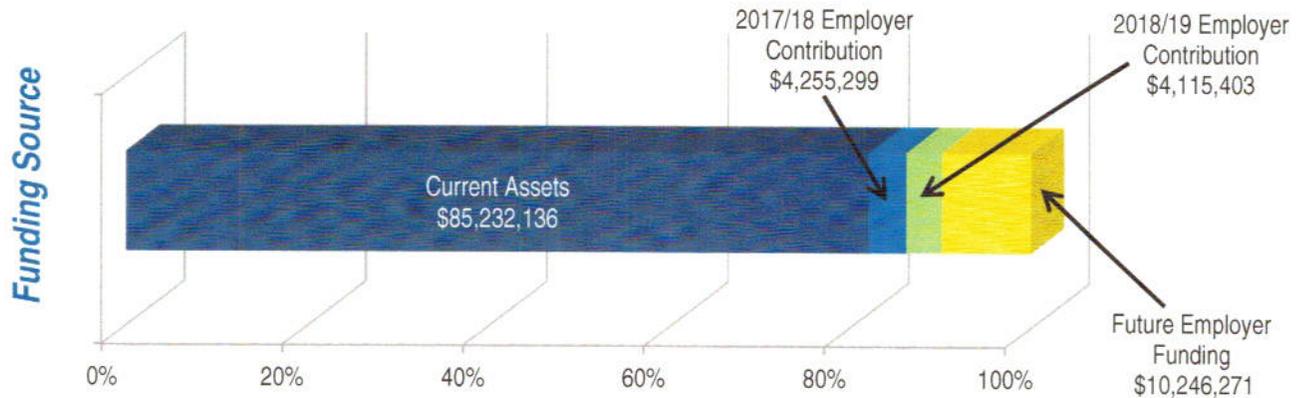
Enrolled Actuary No. 17-04927

The individual above is a member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.



Minimum Required Contribution

Table I-A



For the 2018/19 Plan Year

Present Value of Future Benefits	\$103,727,600
Present Value of Future Administrative Expenses	\$121,509
Actuarial Value of Assets	(\$85,232,136)
Present Value of Future Employee Contributions	\$0
Present Value of Future Normal Costs	\$18,616,973
Present Value of Future Payroll	÷ \$48,603,495

Minimum Required Contribution Rate **38.30%**

Expected Payroll x \$10,745,178

Estimated Minimum Required Contribution \$4,115,403

(The actual contribution should be based on the minimum required contribution rate multiplied by the actual payroll for the year.)

Exemption Test Under Georgia Code Section 47-20-13

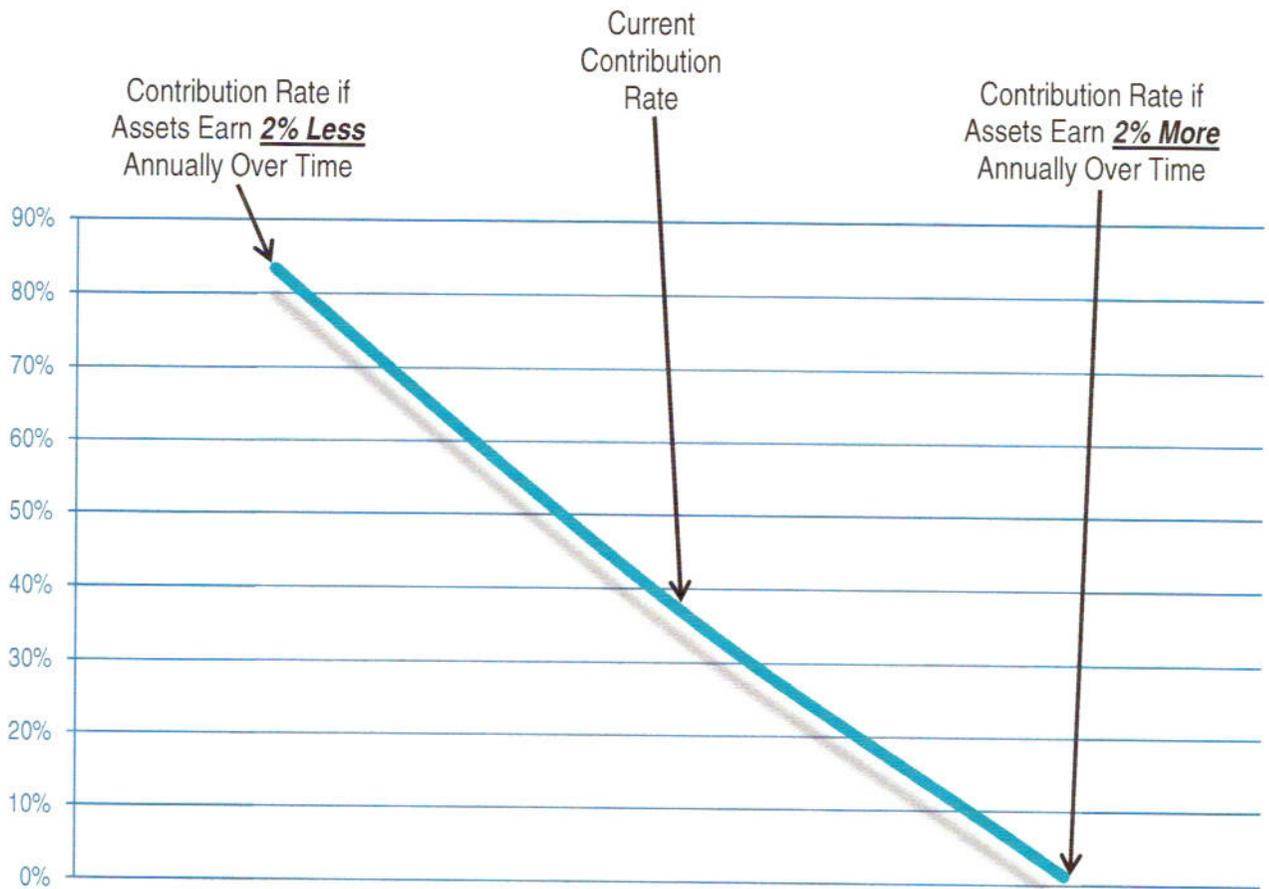
Actuarial Value of Assets	\$85,232,136
Present Value of Accumulated Retirement System Benefits	\$94,360,412
Funded Ratio	90.33%

(If the funded ratio is at least 150%, then the plan is exempt from the State minimum funding standards.)



Sensitivity Analysis

Table I-B



The line above illustrates the sensitivity of the contribution rate to changes in the long-term investment return.



Gain and Loss Analysis

Table I-C

Previous minimum required contribution rate	40.79%
Increase (decrease) due to investment gains and losses	-0.27%
Increase (decrease) due to demographic experience	-2.22%
Increase (decrease) due to plan amendments	0.00%
Increase (decrease) due to actuarial assumption changes	0.00%
Increase (decrease) due to actuarial method changes	0.00%
Current minimum required contribution rate	<u>38.30%</u>



Present Value of Future Benefits

Table I-D

	Old Assumptions <u>w/o Amendment</u>	Old Assumptions <u>w/ Amendment</u>	New Assumptions <u>w/ Amendment</u>
<i><u>Actively Employed Participants</u></i>			
Retirement benefits	\$24,085,038	\$24,085,038	\$24,085,038
Termination benefits	\$4,207,847	\$4,207,847	\$4,207,847
Disability benefits	\$706,557	\$706,557	\$706,557
Death benefits	\$239,729	\$239,729	\$239,729
Refund of employee contributions	\$0	\$0	\$0
Sub-total	\$29,239,171	\$29,239,171	\$29,239,171
<i><u>Deferred Vested Participants</u></i>			
Retirement benefits	\$7,295,983	\$7,295,983	\$7,295,983
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
Refund of employee contributions	\$0	\$0	\$0
Sub-total	\$7,295,983	\$7,295,983	\$7,295,983
<i><u>Due a Refund of Contributions</u></i>	\$0	\$0	\$0
<i><u>Deferred Beneficiaries</u></i>	\$0	\$0	\$0
<i><u>Retired Participants</u></i>			
Service retirements	\$60,233,686	\$60,233,686	\$60,233,686
Disability retirements	\$4,634,451	\$4,634,451	\$4,634,451
Beneficiaries receiving	\$2,324,309	\$2,324,309	\$2,324,309
DROP participants	\$0	\$0	\$0
Sub-total	\$67,192,446	\$67,192,446	\$67,192,446
<i><u>Grand Total</u></i>	<u>\$103,727,600</u>	<u>\$103,727,600</u>	<u>\$103,727,600</u>



Present Value of Accrued Benefits

Table I-E

	Old Assumptions <u>w/o Amendment</u>	Old Assumptions <u>w/ Amendment</u>	New Assumptions <u>w/ Amendment</u>
<i><u>Actively Employed Participants</u></i>			
Retirement benefits	\$16,616,279	\$16,616,279	\$16,616,279
Termination benefits	\$2,584,671	\$2,584,671	\$2,584,671
Disability benefits	\$523,422	\$523,422	\$523,422
Death benefits	\$147,611	\$147,611	\$147,611
Refund of employee contributions	\$0	\$0	\$0
Sub-total	\$19,871,983	\$19,871,983	\$19,871,983
<i><u>Deferred Vested Participants</u></i>			
Retirement benefits	\$7,295,983	\$7,295,983	\$7,295,983
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
Refund of employee contributions	\$0	\$0	\$0
Sub-total	\$7,295,983	\$7,295,983	\$7,295,983
<i><u>Due a Refund of Contributions</u></i>	\$0	\$0	\$0
<i><u>Deferred Beneficiaries</u></i>	\$0	\$0	\$0
<i><u>Retired Participants</u></i>			
Service retirements	\$60,233,686	\$60,233,686	\$60,233,686
Disability retirements	\$4,634,451	\$4,634,451	\$4,634,451
Beneficiaries receiving	\$2,324,309	\$2,324,309	\$2,324,309
DROP participants	\$0	\$0	\$0
Sub-total	\$67,192,446	\$67,192,446	\$67,192,446
<i><u>Grand Total</u></i>	<u>\$94,360,412</u>	<u>\$94,360,412</u>	<u>\$94,360,412</u>
<i><u>Funded Percentage</u></i>	87.60%	87.60%	87.60%



Present Value of Vested Benefits

Table I-F

	Old Assumptions <u>w/o Amendment</u>	Old Assumptions <u>w/ Amendment</u>	New Assumptions <u>w/ Amendment</u>
<i><u>Actively Employed Participants</u></i>			
Retirement benefits	\$16,616,279	\$16,616,279	\$16,616,279
Termination benefits	\$2,276,107	\$2,276,107	\$2,276,107
Disability benefits	\$493,090	\$493,090	\$493,090
Death benefits	\$144,963	\$144,963	\$144,963
Refund of employee contributions	\$0	\$0	\$0
Sub-total	\$19,530,439	\$19,530,439	\$19,530,439
<i><u>Deferred Vested Participants</u></i>			
Retirement benefits	\$7,295,983	\$7,295,983	\$7,295,983
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
Refund of employee contributions	\$0	\$0	\$0
Sub-total	\$7,295,983	\$7,295,983	\$7,295,983
<i><u>Due a Refund of Contributions</u></i>	\$0	\$0	\$0
<i><u>Deferred Beneficiaries</u></i>	\$0	\$0	\$0
<i><u>Retired Participants</u></i>			
Service retirements	\$60,233,686	\$60,233,686	\$60,233,686
Disability retirements	\$4,634,451	\$4,634,451	\$4,634,451
Beneficiaries receiving	\$2,324,309	\$2,324,309	\$2,324,309
DROP participants	\$0	\$0	\$0
Sub-total	\$67,192,446	\$67,192,446	\$67,192,446
<i><u>Grand Total</u></i>	<u>\$94,018,868</u>	<u>\$94,018,868</u>	<u>\$94,018,868</u>



Entry Age Normal Accrued Liability

Table I-G

	<u>Old Assumptions w/o Amendment</u>	<u>Old Assumptions w/ Amendment</u>	<u>New Assumptions w/ Amendment</u>
<i><u>Actively Employed Participants</u></i>			
Retirement benefits	\$20,790,346	\$20,790,346	\$20,790,346
Termination benefits	\$3,428,038	\$3,428,038	\$3,428,038
Disability benefits	\$564,233	\$564,233	\$564,233
Death benefits	\$195,560	\$195,560	\$195,560
Refund of employee contributions	\$0	\$0	\$0
Sub-total	\$24,978,177	\$24,978,177	\$24,978,177
<i><u>Deferred Vested Participants</u></i>			
Retirement benefits	\$7,295,983	\$7,295,983	\$7,295,983
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
Refund of employee contributions	\$0	\$0	\$0
Sub-total	\$7,295,983	\$7,295,983	\$7,295,983
<i><u>Due a Refund of Contributions</u></i>	\$0	\$0	\$0
<i><u>Deferred Beneficiaries</u></i>	\$0	\$0	\$0
<i><u>Retired Participants</u></i>			
Service retirements	\$60,233,686	\$60,233,686	\$60,233,686
Disability retirements	\$4,634,451	\$4,634,451	\$4,634,451
Beneficiaries receiving	\$2,324,309	\$2,324,309	\$2,324,309
DROP participants	\$0	\$0	\$0
Sub-total	\$67,192,446	\$67,192,446	\$67,192,446
<i><u>Grand Total</u></i>	<u>\$99,466,606</u>	<u>\$99,466,606</u>	<u>\$99,466,606</u>



Actuarial Value of Assets

Table II-A

Market Value Rate of Return

For the 2012/13 plan year	8.85%		Average return for the preceding five years 7.67%
For the 2013/14 plan year	14.17%		
For the 2014/15 plan year	3.26%		
For the 2015/16 plan year	0.96%		
For the 2016/17 plan year	11.67%		

Actuarial Value of Assets as of July 1, 2016	\$80,846,875
Plus contributions for the 2016/17 plan year	\$4,745,322
Minus benefit payments and administrative expenses for the 2016/17 plan year	(\$6,492,277)
Plus/minus advance employer contribution	\$0
Adjustment for interest at the average rate shown above, but restricted to an amount that keeps the actuarial value of assets within an 80%-120% corridor of the market value	\$6,132,216

Actuarial Value of Assets as of July 1, 2017 **\$85,232,136**

Historical Actuarial Value of Assets	
July 1, 2008	\$71,138,626
July 1, 2009	\$68,613,754
July 1, 2010	\$66,314,901
July 1, 2011	\$66,969,366
July 1, 2012	\$66,155,121
July 1, 2013	\$67,470,067
July 1, 2014	\$73,937,064
July 1, 2015	\$79,441,644
July 1, 2016	\$80,846,875
July 1, 2017	\$85,232,136

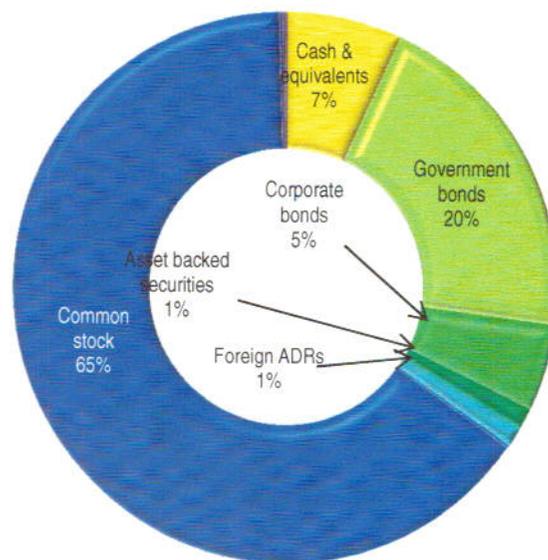


Market Value of Assets

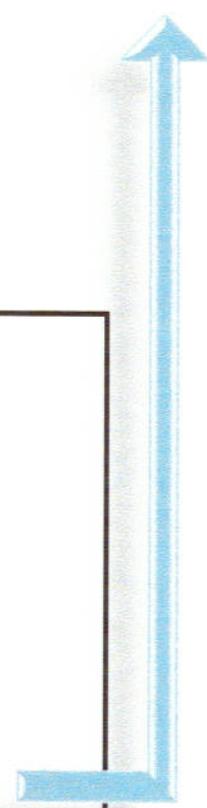
Table II-B

As of July 1, 2017

Market Value of Assets	<u>\$82,660,389</u>
Cash & equivalents	\$5,678,840
Government bonds	\$16,732,234
Corporate bonds	\$4,230,977
Asset backed securities	\$1,072,934
Foreign ADRs	\$923,485
Collateralized mortgage oblig.	\$169,134
Common stock	\$53,572,974
Accrued interest receivable	\$175,792
Accounts receivable	\$152,965
Accounts payable	(\$48,946)

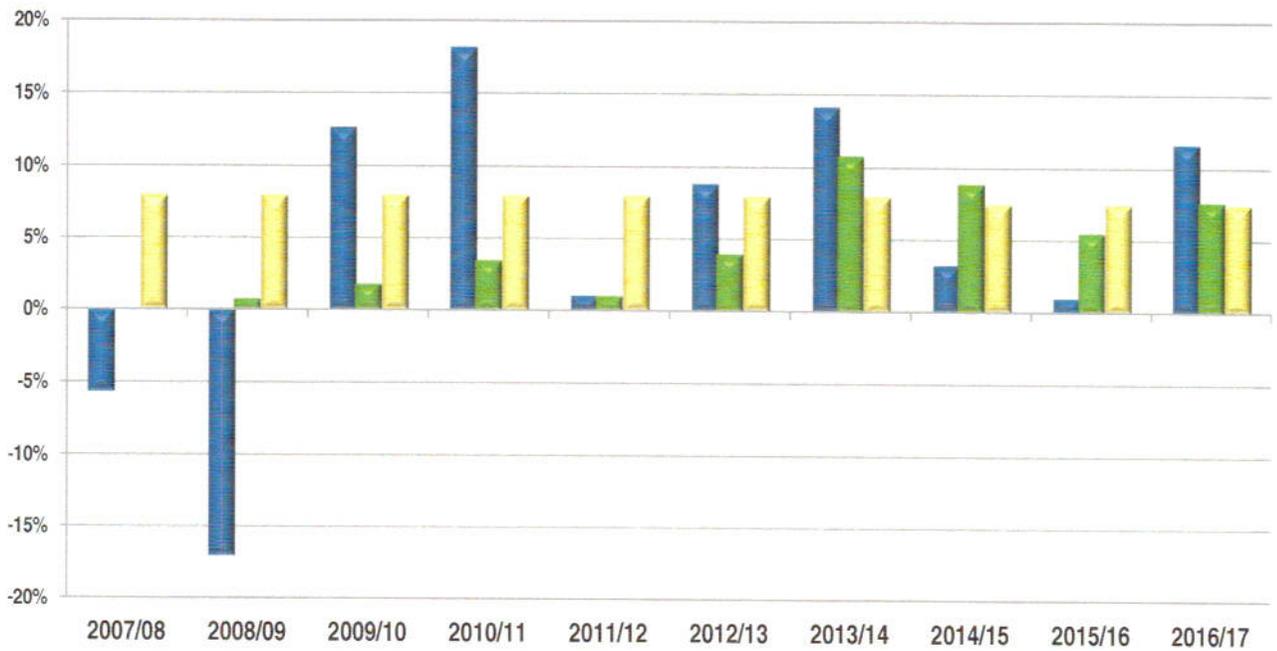


Historical Market Value of Assets	
July 1, 2008	\$67,018,954
July 1, 2009	\$53,182,399
July 1, 2010	\$56,652,313
July 1, 2011	\$64,246,879
July 1, 2012	\$63,393,341
July 1, 2013	\$67,662,534
July 1, 2014	\$76,404,373
July 1, 2015	\$77,850,061
July 1, 2016	\$75,677,499
July 1, 2017	\$82,660,389



Investment Return

Table II-C



Annual Investment Returns

- Market Value Return
- Actuarial Value Return
- Assumed Return

Plan Year	Market Value Return	Actuarial Value Return	Assumed Return
2007/08	-5.68%	0.01%	8.00%
2008/09	-17.02%	0.76%	8.00%
2009/10	12.68%	1.82%	8.00%
2010/11	18.16%	3.50%	8.00%
2011/12	1.01%	1.03%	8.00%
2012/13	8.85%	3.97%	8.00%
2013/14	14.17%	10.82%	8.00%
2014/15	3.26%	8.90%	7.50%
2015/16	0.96%	5.53%	7.50%
2016/17	11.67%	7.67%	7.50%
10yr. Avg.	4.30%	4.34%	7.85%



Asset Reconciliation

Table II-D

	<u>Market Value</u>	<u>Actuarial Value</u>
As of July 1, 2016	\$75,677,499	\$80,846,875
<i>Increases Due To:</i>		
Employer Contributions	\$4,745,322	\$4,745,322
Employee Contributions	\$0	\$0
Service Purchase Contributions	\$0	\$0
Total Contributions	<u>\$4,745,322</u>	<u>\$4,745,322</u>
Interest and Dividends	\$1,899,532	
Realized Gains (Losses)	\$0	
Unrealized Gains (Losses)	\$7,398,206	
Total Investment Income	<u>\$9,297,738</u>	\$6,132,216
Other Income	(\$6,035)	
Total Income	<u>\$14,037,025</u>	<u>\$10,877,538</u>
<i>Decreases Due To:</i>		
Monthly Benefit Payments	(\$6,460,625)	(\$6,460,625)
Refund of Employee Contributions	\$0	\$0
Total Benefit Payments	<u>(\$6,460,625)</u>	<u>(\$6,460,625)</u>
Investment Expenses	(\$561,858)	
Administrative Expenses	(\$31,652)	(\$31,652)
Advance Employer Contribution		\$0
Total Expenses	<u>(\$7,054,135)</u>	<u>(\$6,492,277)</u>
As of July 1, 2017	<u><u>\$82,660,389</u></u>	<u><u>\$85,232,136</u></u>



Historical Trust Fund Detail

Table II-E

Income

<u>Plan Year</u>	<u>Employer Contribs.</u>	<u>Employee Contribs.</u>	<u>Service</u>		<u>Realized Gains / Losses</u>	<u>Unrealized Gains / Losses</u>	<u>Other Income</u>
			<u>Purchase Contribs.</u>	<u>Interest / Dividends</u>			
2007/08	\$272,790	\$0	\$0	\$4,287,381	\$0	-\$8,239,344	\$48,035
2008/09	\$392,547	\$0	\$0	\$2,782,025	\$0	-\$13,819,557	\$10,905
2009/10	\$436,833	\$0	\$0	\$1,255,335	\$0	\$5,453,808	\$0
2010/11	\$1,305,517	\$0	\$0	\$1,327,051	\$0	\$8,781,305	\$17,284
2011/12	\$2,455,897	\$0	\$0	\$1,051,227	\$0	-\$296,886	\$0
2012/13	\$2,990,995	\$0	\$0	\$1,309,832	\$0	\$4,650,099	\$0
2013/14	\$3,712,060	\$0	\$0	\$2,208,758	\$0	\$7,712,892	\$0
2014/15	\$3,547,411	\$0	\$0	\$1,572,329	\$0	\$1,388,852	\$6,841
2015/16	\$3,305,931	\$0	\$0	\$1,727,347	\$0	-\$523,562	\$1,069
2016/17	\$4,745,322	\$0	\$0	\$1,899,532	\$0	\$7,398,206	-\$6,035

Expenses

<u>Plan Year</u>	<u>Monthly Benefit Payments</u>	<u>Contrib. Refunds</u>	<u>Admin. Expenses</u>	<u>Invest. Expenses</u>	<u>Other Actuarial Adjustments</u>
2007/08	\$2,815,839	\$0	\$47,623	\$210,907	\$0
2008/09	\$3,037,562	\$0	\$13,178	\$151,735	\$392,547
2009/10	\$3,434,856	\$0	\$82,017	\$159,189	\$436,833
2010/11	\$3,716,049	\$0	\$57,642	\$62,900	-\$829,380
2011/12	\$3,943,148	\$0	\$9,311	\$111,317	\$0
2012/13	\$4,121,943	\$0	\$153,440	\$406,350	\$0
2013/14	\$4,365,594	\$0	\$137,077	\$389,200	\$0
2014/15	\$4,556,831	\$0	\$21,783	\$491,131	\$0
2015/16	\$6,172,291	\$0	\$40,221	\$470,835	\$0
2016/17	\$6,460,625	\$0	\$31,652	\$561,858	\$0

Other Actuarial Adjustments

Note: Information was not available for certain plan years to separate the investment expenses from the investment income and administrative expenses prior to July 1, 2015 nor to separate the realized and unrealized income.



Other Reconciliations

Table II-F

Advance Employer Contribution

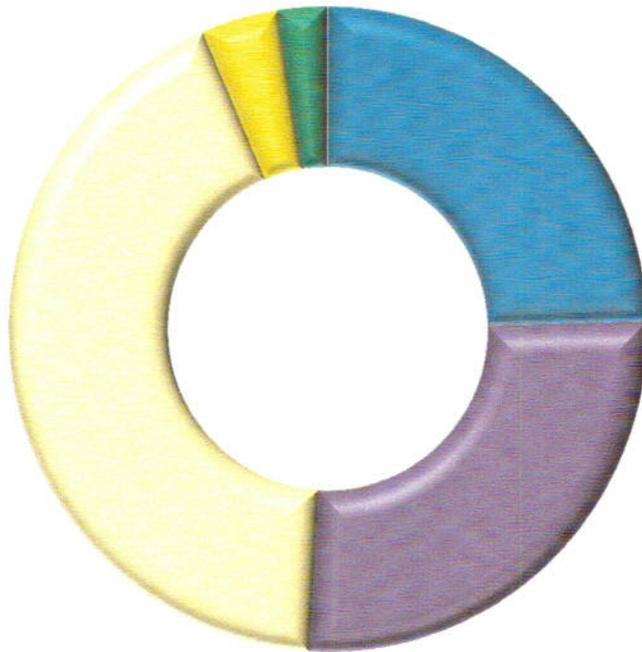
Advance Employer Contribution as of July 1, 2016	\$0
Additional Employer Contribution	\$4,745,322
Minimum Required Contribution	<u>(\$4,745,322)</u>
Net Increase in Advance Employer Contribution	\$0
Advance Employer Contribution as of July 1, 2017	<u><u>\$0</u></u>



Summary of Participant Data

Table III-A

As of July 1, 2017



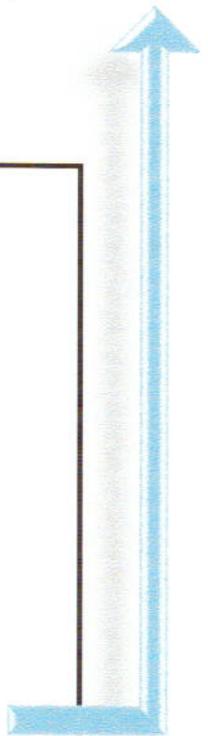
Participant Distribution by Status

<u>Actively Employed Participants</u>		
◆	Active Participants	256
◆	DROP Participants	0
<u>Inactive Participants</u>		
◆	Deferred Vested Participants	276
◆	Due a Refund of Contributions	0
◆	Deferred Beneficiaries	0
<u>Participants Receiving a Benefit</u>		
◆	Service Retirements	446
◆	Disability Retirements	41
◆	Beneficiaries Receiving	26

Total Participants 1,045

Number of Participants Included in Prior Valuations

	<i>Active</i>	<i>DROP</i>	<i>Inactive</i>	<i>Retired</i>	<i>Total</i>
July 1, 2008	609	0	223	353	1,185
July 1, 2009	N/A	N/A	N/A	N/A	N/A
July 1, 2010	506	0	259	346	1,111
July 1, 2011	519	0	253	363	1,135
July 1, 2012	485	0	258	386	1,129
July 1, 2013	484	0	255	395	1,134
July 1, 2014	443	0	260	414	1,117
July 1, 2015	375	0	268	435	1,078
July 1, 2016	284	0	273	499	1,056
July 1, 2017	256	0	276	513	1,045



Data Reconciliation

Table III-B

	<u>Active</u>	<u>DROP</u>	<u>Deferred Vested</u>	<u>Due a Refund</u>	<u>Def. Benef.</u>	<u>Service Retiree</u>	<u>Disabled Retiree</u>	<u>Benef. Rec'v.</u>	<u>Total</u>
<u>July 1, 2016</u>	284	0	273	0	0	428	43	28	1,056
<u>Change in Status</u>									
Re-employed									
Terminated	(21)		17						(4)
Retired	(7)		(14)			20	1		
<u>Participation Ended</u>									
Transferred Out									
Cashed Out									
Died						(6)	(3)	(2)	(11)
<u>Participation Began</u>									
Newly Hired									
Transferred In									
New Beneficiary									
Other Adjustment						4			4
<u>July 1, 2017</u>	256	0	276	0	0	446	41	26	1,045

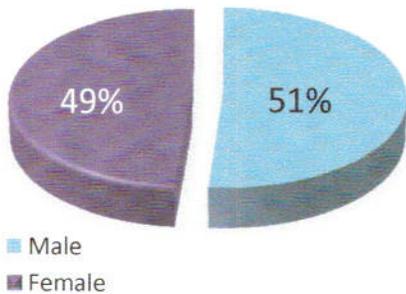


Active Participant Data

Table III-C

As of July 1, 2017

Gender Mix



Average Age	49.3 years
Average Service	14.4 years
Total Annualized Compensation for the Prior Year	\$9,925,809
Total Expected Compensation for the Current Year	\$10,432,212
Average Increase in Compensation for the Prior Year	1.21%
Expected Increase in Compensation for the Current Year	3.00%

Actual vs. Expected Salary Increases



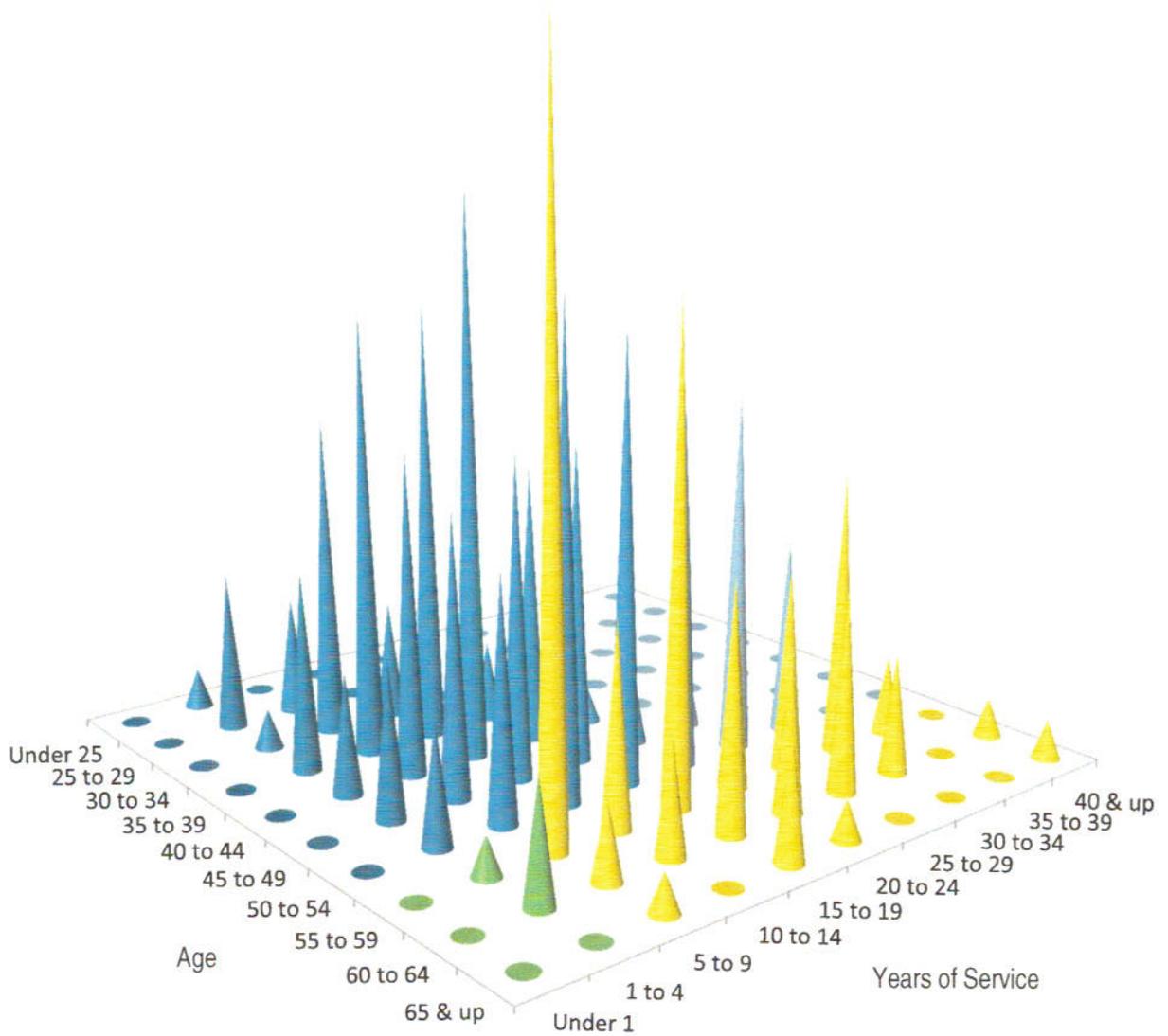
Active Participant Statistics From Prior Valuations

	Average Age	Average Service	Average Salary	Average Expected Salary Increase	Average Actual Salary Increase
July 1, 2008	46.3	11.5	\$29,451	4.50%	3.86%
July 1, 2009	N/A	N/A	N/A	3.00%	0.46%
July 1, 2010	46.9	11.4	\$31,637	3.00%	0.00%
July 1, 2011	47.2	11.6	\$32,840	3.00%	3.21%
July 1, 2012	46.9	11.8	\$34,154	3.00%	5.59%
July 1, 2013	47.4	12.1	\$34,084	3.00%	1.71%
July 1, 2014	47.8	12.7	\$35,140	3.00%	2.43%
July 1, 2015	48.8	13.9	\$36,871	3.00%	4.93%
July 1, 2016	48.0	13.1	\$38,468	3.00%	4.46%
July 1, 2017	49.3	14.4	\$38,773	3.00%	1.21%



Active Age-Service Distribution

Table III-D



- ▲ Eligible to retire
- ▲ May be eligible to retire
- ▲ Not eligible to retire



Active Age-Service-Salary Table

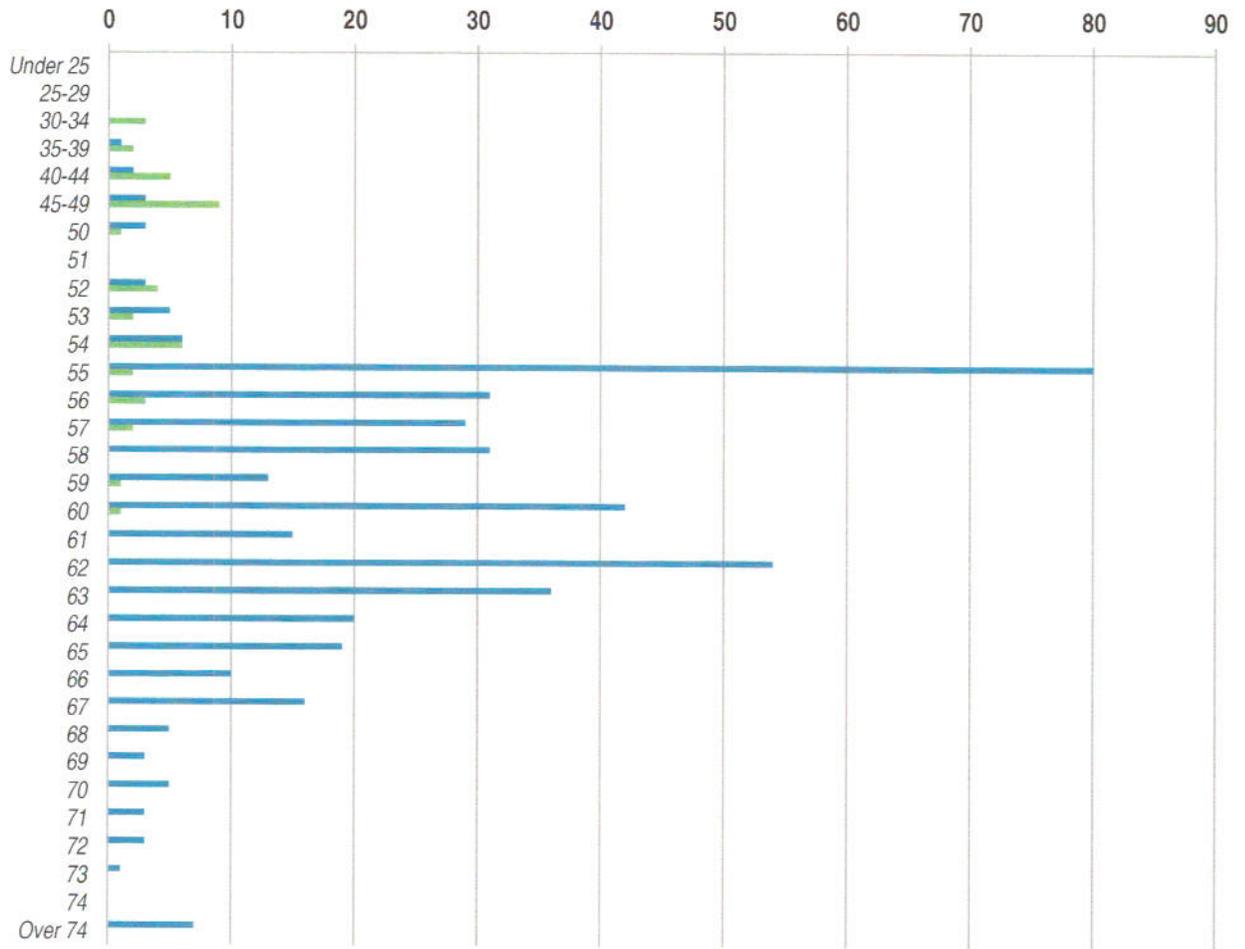
Table III-E

Attained Age	Completed 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	1	0	0	0	0	0	0	0	0	0	1
Avg.Pay	0	22,360	0	0	0	0	0	0	0	0	0	22,360
25 to 29	0	4	3	0	0	0	0	0	0	0	0	7
Avg.Pay	0	27,310	34,687	0	0	0	0	0	0	0	0	30,472
30 to 34	0	1	8	3	0	0	0	0	0	0	0	12
Avg.Pay	0	70,117	32,372	29,799	0	0	0	0	0	0	0	34,875
35 to 39	0	5	11	11	2	0	0	0	0	0	0	29
Avg.Pay	0	46,866	33,961	34,014	33,488	0	0	0	0	0	0	36,173
40 to 44	0	3	8	14	7	1	0	0	0	0	0	33
Avg.Pay	0	29,563	38,503	32,100	46,234	37,419	0	0	0	0	0	36,581
45 to 49	0	4	7	8	8	2	2	0	0	0	0	31
Avg.Pay	0	29,796	59,812	38,428	43,358	39,187	37,419	0	0	0	0	43,399
50 to 54	0	3	6	12	11	9	9	5	0	0	0	55
Avg.Pay	0	31,082	31,082	36,792	42,337	36,645	36,999	32,777	0	0	0	36,612
55 to 59	0	1	18	5	12	5	5	7	2	0	0	55
Avg.Pay	0	25,251	37,381	30,023	37,241	44,429	39,163	37,220	41,673	0	0	37,399
60 to 64	0	3	2	3	6	4	5	3	0	1	0	27
Avg.Pay	0	31,824	41,351	48,277	35,856	42,047	43,850	64,739	0	88,712	0	44,759
65 & up	0	0	1	0	3	1	0	0	0	1	0	6
Avg.Pay	0	0	112,278	0	41,891	49,254	0	0	0	103,792	0	65,166
Total	0	25	64	56	49	22	21	15	2	2	2	256
Avg.Pay	0	34,316	39,338	34,943	40,630	40,236	39,185	41,243	41,673	96,252	0	38,773



Inactive Participant Data

Table III-F



Retirement Age

- Service Retirements
- Disability Retirements
- DROP Participants

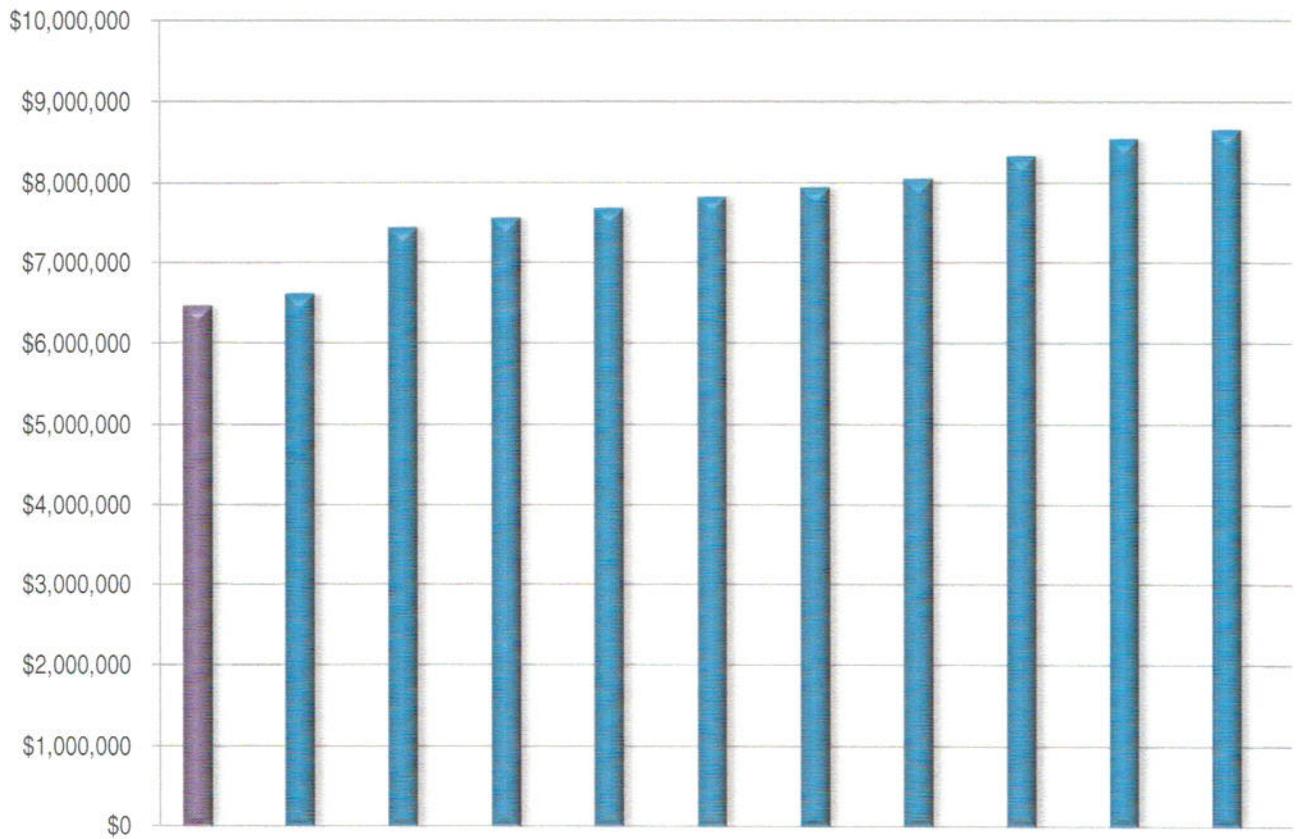
Average Monthly Benefit

Service Retirements	\$1,101.03
Disability Retirements	\$825.06
Beneficiaries Receiving	\$810.47
DROP Participants	Not applicable
Deferred Vested Participants	\$263.60
Deferred Beneficiaries	Not applicable



Projected Benefit Payments

Table III-G



Actual

For the period July 1, 2016 through June 30, 2017

\$6,460,625

Projected

For the period July 1, 2017 through June 30, 2018

\$6,614,875

For the period July 1, 2018 through June 30, 2019

\$7,444,790

For the period July 1, 2019 through June 30, 2020

\$7,569,039

For the period July 1, 2020 through June 30, 2021

\$7,690,124

For the period July 1, 2021 through June 30, 2022

\$7,835,398

For the period July 1, 2022 through June 30, 2023

\$7,949,654

For the period July 1, 2023 through June 30, 2024

\$8,061,167

For the period July 1, 2024 through June 30, 2025

\$8,341,759

For the period July 1, 2025 through June 30, 2026

\$8,549,764

For the period July 1, 2026 through June 30, 2027

\$8,657,218



Summary of Actuarial Methods and Assumptions

Table IV-A

NOTE: The following assumptions and methods have been selected and approved by the Board of Trustees based in part on the advice of the plan's enrolled actuary in accordance with the authority granted to the Board under the pension ordinances and State law.

1. Actuarial Cost Method

Aggregate cost method. Under this actuarial cost method, a funding cost is developed for the plan as a level percentage of payroll. The level funding percentage is calculated as the excess of the total future benefit liability over accumulated assets and future employee contributions, with this excess spread over the expected future payroll for current active participants. The normal cost is equal to the level funding percentage multiplied by the expected payroll for the year immediately following the valuation date. The actuarial accrued liability is equal to the accumulated assets. Therefore, under the aggregate cost method, no unfunded accrued liability is developed.

2. Asset Method

The actuarial value of assets is equal to the prior year's actuarial value of assets adjusted for contributions, benefit payments, and expenses and further adjusted by the average return on the market value of assets for the preceding five years; the actuarial value of assets is restricted to 80% to 120% of the market value.

3. Interest (or Discount) Rate

7.50% per annum

4. Salary Increases

Plan compensation is assumed to increase at the rate of 3.00% per annum, unless actual plan compensation is known for a prior plan year.

5. Decrements

- Pre-retirement mortality: Sex-distinct rates set forth in the RP-2000 Mortality Table for annuitants, projected to 2015 by Scale AA, as published by the Internal Revenue Service (IRS) for purposes of Internal Revenue Code (IRC) section 430; future generational improvements in mortality have not been reflected.
- Post-retirement mortality: Sex-distinct rates set forth in the RP-2000 Mortality Table for annuitants, projected to 2015 by Scale AA, as published by the Internal Revenue Service (IRS) for purposes of Internal Revenue Code (IRC) section 430; future generational improvements in mortality have not been reflected.



Summary of Actuarial Methods and Assumptions

Table IV-A

(continued)

- Disability: Disability rates set forth in the 1964 OASDI Table
- Termination: A sample of the withdrawal rates is set forth in the following table:

<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
20	21.67%	30	18.22%	40	11.01%	50	5.52%
25	21.67%	35	14.76%	45	7.27%	55	3.76%

- Retirement: Retirement is assumed to occur at age 60, except that those employees who are eligible for the early retirement window are assumed to retire immediately.

No decrements are assumed during the year immediately following the valuation date.

6. Form of Payment

Future retirees are assumed to elect the 10-year certain and life annuity.

7. Contingent Annuitants

85% of participants who die prior to retirement are assumed to have a surviving spouse of the opposite gender; males are assumed to be three years older than females for this purpose.

8. Expenses

Administrative expenses are assumed to be 0.25% of future payroll. In addition, the interest rate set forth in item 3. above is assumed to be net of investment expenses and commissions.

9. Cost-of-Living Adjustment

We have assumed that all eligible retirees will receive an automatic cost-of-living adjustment equal to 1.50% per annum.



Changes in Actuarial Methods and Assumptions

Table IV-B

No assumptions or methods have been changed since the previous valuation was completed.



Summary of Plan Provisions

Table V-A

1. Monthly Accrued Benefit

For individuals who were participants in the plan as of June 30, 1984:

Greater of: (a) 2.00% of Average Monthly Compensation multiplied by Years of Service, offset by 1.50% of his Primary Social Security Benefit multiplied by up to 33 $\frac{1}{3}$ Years of Service; or (b) 1.52% of Average Monthly Compensation up to \$1,250.00 multiplied by Years of Service plus 1.90% of Average Monthly Compensation in excess of \$1,250.00 multiplied by Years of Service

For all other participants:

1.52% of Average Monthly Compensation up to \$1,250.00 multiplied by Years of Service plus 1.90% of Average Monthly Compensation in excess of \$1,250.00 multiplied by Years of Service

2. Normal Retirement Age and Benefit

- **Age**

Age 60 (participants hired after October 16, 2007 must have earned at least five Years of Service to be eligible for a normal retirement benefit)

- **Amount**

Monthly Accrued Benefit

- **Form of Payment**

Five-year certain and life annuity (normal form of payment);
Actuarially equivalent 10-year certain and life annuity (optional);
Actuarially equivalent 66 $\frac{2}{3}$ % joint and contingent annuity (optional);
Actuarially equivalent 100% joint and contingent annuity (optional);
Actuarially equivalent social security level income annuity (optional); or
Actuarially equivalent single lump sum payment (mandatory if the monthly pension benefit is less than \$25.00)

3. Early Retirement Age and Benefit

- **Age**

Age 55 (participants hired after October 16, 2007 must have earned at least five Years of Service to be eligible for an early retirement benefit)

- **Amount**

Monthly Accrued Benefit (*payable at age 60*); or
Monthly Accrued Benefit reduced 5% for each year by which the participant's Early Retirement Age precedes age 60 (*payable at Early Retirement Age*)

- **Form of Payment**

Same as for Normal Retirement



Summary of Plan Provisions

Table V-A

(continued)

4. **Delayed Retirement Age and Benefit**

- **Age**
After Normal Retirement Age
- **Amount**
Monthly Accrued Benefit
- **Form of Payment**
Same as for Normal Retirement

5. **Disability Retirement Eligibility and Benefit**

- **Eligibility**
Any age with at least five Years of Service
- **Condition**
The participant must be determined to be totally and permanently disabled by the Social Security Administration; alternatively, the Retirement Committee may determine that the participant is totally and permanently disabled.
- **Amount**
Greater of: (a) 50% of Average Monthly Compensation minus 50% of the participant's Social Security disability benefit, increased by 0.50% of Average Monthly Compensation for each completed Year of Service in excess of five years; or (b) Monthly Accrued Benefit
- **Form of Payment**
Same as for Normal Retirement

6. **Deferred Vested Benefit**

- **Age**
Any age with at least five Years of Service
- **Amount**
Monthly Accrued Benefit multiplied by the participant's Vested Percentage and payable at age 60 or at age 55 with a 5% annual reduction for the earlier commencement of the benefit
- **Form of Payment**
Same as for Normal Retirement



Summary of Plan Provisions

Table V-A

(continued)

7. Pre-Retirement Death Benefit

For married participants who die prior to retirement and who have earned at least five Years of Service:
50% of the Monthly Accrued Benefit payable immediately for the life of the spouse

For all other participants who die prior to retirement, but who are eligible for early or normal retirement, and who have earned at least five Years of Service:
Monthly Accrued Benefit, reduced for early retirement if applicable, payable immediately for five years

8. Vested Percentage

Retirement benefits become vested in accordance with the following schedule:

Years of Creditable Service	Vested Percentage
Less than five	0%
At least five, but less than six	25%
At least six, but less than seven	30%
At least seven, but less than eight	35%
At least eight, but less than nine	40%
At least nine, but less than 10	45%
At least 10, but less than 11	50%
At least 11, but less than 12	60%
At least 12, but less than 13	70%
At least 13, but less than 14	80%
At least 14, but less than 15	90%
At least 15	100%

9. Average Monthly Compensation

The participant's Average Monthly Compensation is equal to the average of the participant's W-2 compensation (including deferred compensation) for the highest 36 consecutive months during his period of service.



Summary of Plan Provisions

Table V-A

(continued)

10. Employee Contribution

Prior to July 1, 1985, all participating employees were required to make an employee contribution to the plan; a participant who terminates his employment for any reason (or his eligible beneficiary) and who is not otherwise entitled to a monthly benefit will receive a refund of his Employee Contribution.

11. Years of Service

Years of Service are equal to the years and completed calendar months of employment.

12. Participation Requirement

All regular employees hired prior to 2014 by the City of Macon who work at least 30 hours per week are eligible to participate in the plan, including employees of the Planning and Zoning Commission, but excluding police officers, firefighters, the mayor, County Commission members, the judge of the municipal court, management interns, and employees who are not classified as full-time and permanent.

13. Automatic Cost-of-Living Adjustment (COLA)

A participant who is entitled to a monthly annuity receives an automatic annual compounded COLA based on the Consumer Price Index, but limited to 1.50%, as of each January 1 after one year of retirement, unless such COLA is suspended by an act of the County Commission based on the financial condition of the pension fund.

14. Primary Social Security Benefit

The monthly social security benefit that is payable at age 65 without regard to subsequent employment after the employee's termination of employment with Macon-Bibb County

15. Actuarial Equivalence

Based on 7.00% interest per annum and the mortality table promulgated by the Internal Revenue Commissioner for purposes of determining lump sum distributions pursuant to IRC section 417(e)(3)

16. Original Effective Date of the Amended Plan

July 1, 1972



Summary of Plan Provisions

Table V-A

(continued)

17. Early Retirement Window

An early retirement window was adopted effective May 31, 2015. Under the window, employees who attained age 58 by December 31, 2015 with at least three years of service were eligible for an enhanced normal retirement benefit. Alternatively, employees who attained age 55 by December 31, 2015 with at least three years of service were eligible for an enhanced early retirement benefit. The enhanced retirement benefit is based on a 2.00% benefit formula multiplier. Eligible employees also receive a \$200.00 monthly supplemental pension payable for their lifetime. Eligible employees had to elect by July 31, 2015 to retire under the early retirement window by September 30, 2015.



Summary of Plan Amendments

Table V-B

There were no significant plan changes adopted since the completion of the previous valuation.



MACON-BIBB COUNTY FIRE AND POLICE
EMPLOYEES' RETIREMENT SYSTEM

ACTUARIAL VALUATION
AS OF JULY 1, 2017

DETERMINES THE CONTRIBUTION
FOR THE 2018/19 FISCAL YEAR



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October 9, 2017

Introduction

This report presents the results of the July 1, 2017 actuarial valuation of the Macon-Bibb County Fire and Police Employees' Retirement System. This valuation is based upon the participant data and draft asset information provided as of June 30, 2017 by the City of Macon. Except for a cursory review for reasonableness including a comparison to the data provided for the previous valuation, we have not attempted to verify the accuracy of this information.

The primary purpose of this report is to provide a summary of the funded status of the plan as of July 1, 2017 and to determine the minimum required contribution under Georgia Code Section 47-20-10 for the 2018/19 plan year. In addition, this report provides a projection of the long-term funding requirements of the plan, statistical information concerning the assets held in the trust, statistical information concerning the participant population, and a summary of any recent plan changes.

The liabilities and cost presented in this report are based on numerous assumptions concerning the cost of benefits to be provided in the future, long-term investment returns, and the future demographic experience of the current participants. Anyone referring to this report should remember that the cost developed herein is only an *estimate* of the true cost of providing post-employment pension benefits. No one can predict with certainty whether the true cost will be higher or lower than the cost presented in this report. The calculated cost is entirely dependent upon the assumptions that are described in Table IV-A. If any of the assumptions is changed, then the cost shown in this report will change accordingly. Likewise, if any of the assumptions is not completely realized, then the cost shown in this report will change in the future.

Certain assumptions play a bigger role than others in determining the cost of the post-employment pension benefits. In some cases, relatively small changes in a particular assumption can have a dramatic impact on the anticipated cost of benefits. Although a thorough analysis of the impact of such changes is beyond the scope of this report, Table I-B illustrates the impact that alternative long-term investment returns would have on the minimum required contribution rate.

Minimum Required Contribution

Table I-A shows the development of the minimum required contribution for the 2018/19 plan year. The minimum required contribution rate is 20.01% of covered payroll, which represents a decrease of 6.32% of payroll from the prior valuation.

Table I-C provides a breakdown of the sources of change in the contribution rate. Significantly, the rate decreased by 6.27% of payroll due to investment gains and decreased by another 0.05% of payroll due to demographic experience. The market value of assets earned 12.29% during the 2016/17 plan year, whereas a 7.50% annual investment return was required to maintain a stable contribution rate.



Georgia Code Section 47-20-10 sets forth many of the rules concerning the minimum required contribution for public pension plans within the state. Essentially, the City will meet the minimum funding requirement if the employer contributions are at least equal to the annual required contribution under GASB 25/27. In addition, Georgia Code Section 47-20-13 exempts public plan sponsors from the minimum funding requirements if the plan's actuarial value of assets exceeds 150% of the present value of accumulated retirement system benefits.

Based on the current assets, participant data, and actuarial assumptions and methods that are used to value the plan, the present-day value of the total long-term funding requirement is \$255,775,445. As illustrated in Table I-A, current assets are sufficient to cover \$224,423,836 of this amount, the employer's 2017/18 expected contribution will cover \$5,130,571 of this amount, and the employer's 2018/19 expected contribution will cover \$4,016,050 of this amount, leaving \$22,204,988 to be covered by future employer funding. Again, demographic and investment experience that differs from that assumed will either increase or decrease the future employer funding requirement.

Contents of the Report

Tables I-D through I-G provide a detailed breakdown of various liability amounts by type of benefit and by participant group. Tables II-A through II-F provide information concerning the assets of the trust fund. Tables III-A through III-G provide statistical information concerning the plan's participant population. In particular, Table III-G gives a 10-year projection of the cash that is expected to be required from the trust fund in order to pay benefits to the current group of participants. Finally, Tables IV-A through V-B provide a summary of the actuarial assumptions and methods that are used to value the plan's benefits and of the relevant plan provisions as of July 1, 2017, as well as a summary of the changes that have occurred since the previous valuation report was prepared.

Certification

This actuarial valuation was prepared by me or under my direct supervision and I acknowledge responsibility for the results. To the best of my knowledge, the results are complete and accurate and, in my opinion, the techniques and assumptions used are reasonable and meet the requirements and intent of Georgia Code Section 47-20-10. There is no benefit or expense to be provided by the plan and/or paid from the plan's assets for which liabilities or current costs have not been established or otherwise taken into account in the valuation. All known events or trends which may require a material change in plan costs or required contribution rates have been taken into account in the valuation.



For the firm,



Charles T. Carr
Consulting Actuary
Southern Actuarial Services Company, Inc.

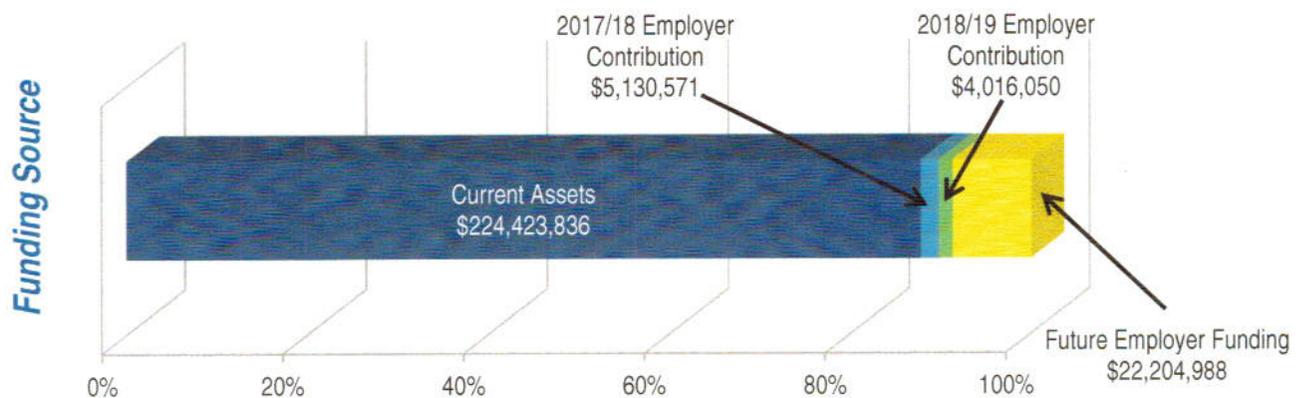
Enrolled Actuary No. 17-04927

The individual above is a member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.



Minimum Required Contribution

Table I-A



For the 2018/19 Plan Year

Present Value of Future Benefits	\$254,992,173
Present Value of Future Administrative Expenses	\$783,272
Actuarial Value of Assets	(\$224,423,836)
Present Value of Future Employee Contributions	\$0
Present Value of Future Normal Costs	\$31,351,609
<hr/>	
Present Value of Future Payroll	÷ \$156,654,354

Minimum Required Contribution Rate 20.01%

Expected Payroll x \$20,070,215

Estimated Minimum Required Contribution \$4,016,050

(The actual contribution should be based on the minimum required contribution rate multiplied by the actual payroll for the year.)

Exemption Test Under Georgia Code Section 47-20-13

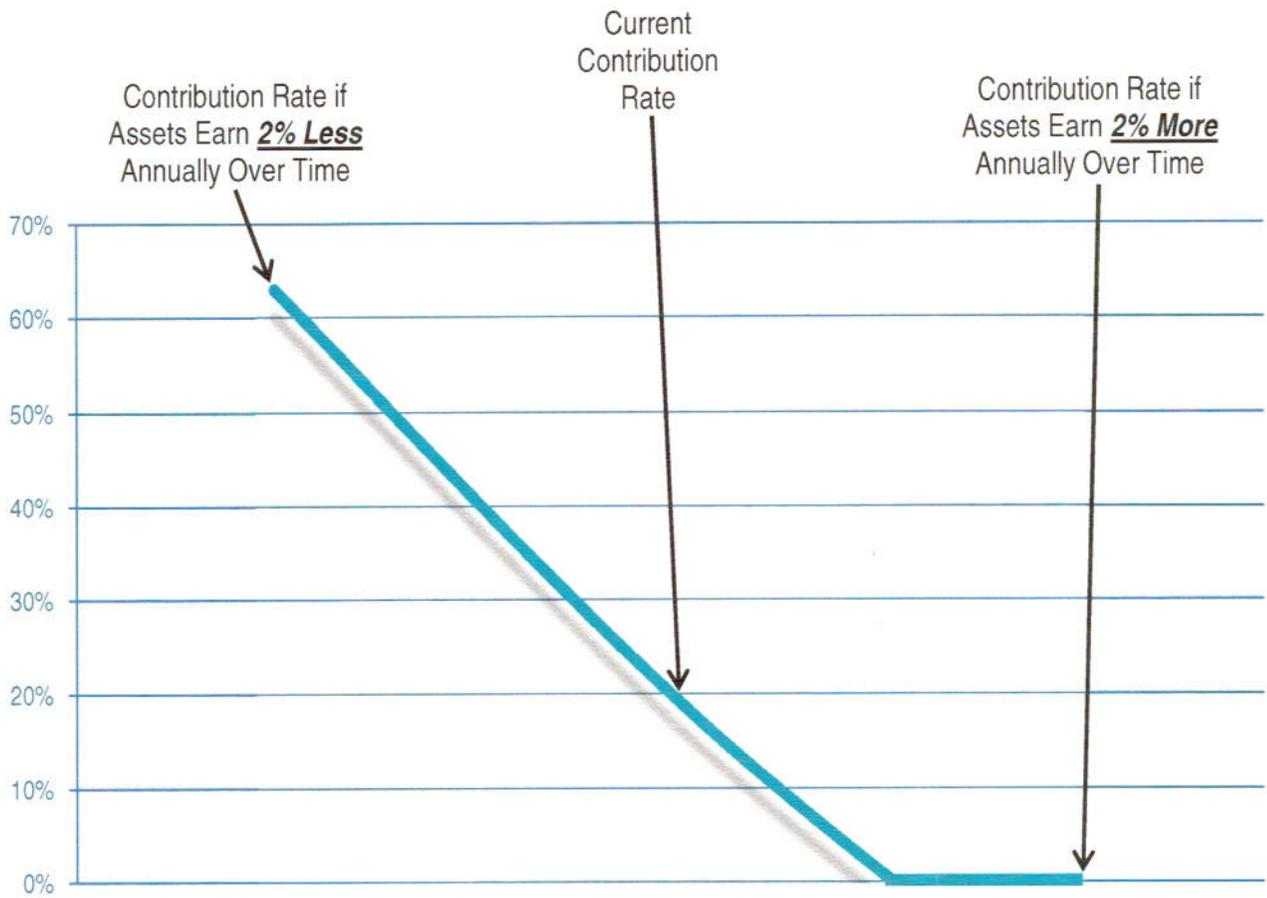
Actuarial Value of Assets	\$224,423,836
Present Value of Accumulated Retirement System Benefits	\$216,387,327
Funded Ratio	103.71%

(If the funded ratio is at least 150%, then the plan is exempt from the State minimum funding standards.)



Sensitivity Analysis

Table I-B



The line above illustrates the sensitivity of the contribution rate to changes in the long-term investment return.



Gain and Loss Analysis

Table I-C

Previous minimum required contribution rate	26.33%
Increase (decrease) due to investment gains and losses	-6.27%
Increase (decrease) due to demographic experience	-0.05%
Increase (decrease) due to plan amendments	0.00%
Increase (decrease) due to actuarial assumption changes	0.00%
Increase (decrease) due to actuarial method changes	0.00%
Current minimum required contribution rate	<u>20.01%</u>



Present Value of Future Benefits

Table I-D

	Old Assumptions <u>w/o Amendment</u>	Old Assumptions <u>w/ Amendment</u>	New Assumptions <u>w/ Amendment</u>
<i><u>Actively Employed Participants</u></i>			
Retirement benefits	\$76,952,049	\$76,952,049	\$76,952,049
Termination benefits	\$780,340	\$780,340	\$780,340
Disability benefits	\$2,265,275	\$2,265,275	\$2,265,275
Death benefits	\$706,136	\$706,136	\$706,136
Refund of employee contributions	\$0	\$0	\$0
Sub-total	\$80,703,800	\$80,703,800	\$80,703,800
<i><u>Deferred Vested Participants</u></i>			
Retirement benefits	\$9,197,353	\$9,197,353	\$9,197,353
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
Refund of employee contributions	\$0	\$0	\$0
Sub-total	\$9,197,353	\$9,197,353	\$9,197,353
<i><u>Due a Refund of Contributions</u></i>	\$0	\$0	\$0
<i><u>Deferred Beneficiaries</u></i>	\$41,158	\$41,158	\$41,158
<i><u>Retired Participants</u></i>			
Service retirements	\$148,871,493	\$148,871,493	\$148,871,493
Disability retirements	\$6,386,255	\$6,386,255	\$6,386,255
Beneficiaries receiving	\$9,792,114	\$9,792,114	\$9,792,114
DROP participants	\$0	\$0	\$0
Sub-total	\$165,049,862	\$165,049,862	\$165,049,862
<i><u>Grand Total</u></i>	<u>\$254,992,173</u>	<u>\$254,992,173</u>	<u>\$254,992,173</u>



Present Value of Accrued Benefits

Table I-E

	Old Assumptions <u>w/o Amendment</u>	Old Assumptions <u>w/ Amendment</u>	New Assumptions <u>w/ Amendment</u>
<i><u>Actively Employed Participants</u></i>			
Retirement benefits	\$40,110,095	\$40,110,095	\$40,110,095
Termination benefits	\$405,436	\$405,436	\$405,436
Disability benefits	\$1,108,202	\$1,108,202	\$1,108,202
Death benefits	\$475,221	\$475,221	\$475,221
Refund of employee contributions	\$0	\$0	\$0
Sub-total	\$42,098,954	\$42,098,954	\$42,098,954
<i><u>Deferred Vested Participants</u></i>			
Retirement benefits	\$9,197,353	\$9,197,353	\$9,197,353
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
Refund of employee contributions	\$0	\$0	\$0
Sub-total	\$9,197,353	\$9,197,353	\$9,197,353
<i><u>Due a Refund of Contributions</u></i>	\$0	\$0	\$0
<i><u>Deferred Beneficiaries</u></i>	\$41,158	\$41,158	\$41,158
<i><u>Retired Participants</u></i>			
Service retirements	\$148,871,493	\$148,871,493	\$148,871,493
Disability retirements	\$6,386,255	\$6,386,255	\$6,386,255
Beneficiaries receiving	\$9,792,114	\$9,792,114	\$9,792,114
DROP participants	\$0	\$0	\$0
Sub-total	\$165,049,862	\$165,049,862	\$165,049,862
<i><u>Grand Total</u></i>	<u>\$216,387,327</u>	<u>\$216,387,327</u>	<u>\$216,387,327</u>
<i><u>Funded Percentage</u></i>	103.71%	103.71%	103.71%



Present Value of Vested Benefits

Table I-F

	Old Assumptions w/o Amendment	Old Assumptions w/ Amendment	New Assumptions w/ Amendment
<i><u>Actively Employed Participants</u></i>			
Retirement benefits	\$37,083,581	\$37,083,581	\$37,083,581
Termination benefits	\$268,413	\$268,413	\$268,413
Disability benefits	\$1,108,202	\$1,108,202	\$1,108,202
Death benefits	\$475,221	\$475,221	\$475,221
Refund of employee contributions	\$0	\$0	\$0
Sub-total	\$38,935,417	\$38,935,417	\$38,935,417
<i><u>Deferred Vested Participants</u></i>			
Retirement benefits	\$9,197,353	\$9,197,353	\$9,197,353
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
Refund of employee contributions	\$0	\$0	\$0
Sub-total	\$9,197,353	\$9,197,353	\$9,197,353
<i><u>Due a Refund of Contributions</u></i>	\$0	\$0	\$0
<i><u>Deferred Beneficiaries</u></i>	\$41,158	\$41,158	\$41,158
<i><u>Retired Participants</u></i>			
Service retirements	\$148,871,493	\$148,871,493	\$148,871,493
Disability retirements	\$6,386,255	\$6,386,255	\$6,386,255
Beneficiaries receiving DROP participants	\$9,792,114	\$9,792,114	\$9,792,114
Sub-total	\$165,049,862	\$165,049,862	\$165,049,862
<i><u>Grand Total</u></i>	<u>\$213,223,790</u>	<u>\$213,223,790</u>	<u>\$213,223,790</u>



Entry Age Normal Accrued Liability

Table I-G

	Old Assumptions w/o Amendment	Old Assumptions w/ Amendment	New Assumptions w/ Amendment
<u>Actively Employed Participants</u>			
Retirement benefits	\$55,431,450	\$55,431,450	\$55,431,450
Termination benefits	\$532,207	\$532,207	\$532,207
Disability benefits	\$1,538,933	\$1,538,933	\$1,538,933
Death benefits	\$477,679	\$477,679	\$477,679
Refund of employee contributions	\$0	\$0	\$0
Sub-total	\$57,980,269	\$57,980,269	\$57,980,269
<u>Deferred Vested Participants</u>			
Retirement benefits	\$9,197,353	\$9,197,353	\$9,197,353
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
Refund of employee contributions	\$0	\$0	\$0
Sub-total	\$9,197,353	\$9,197,353	\$9,197,353
<u>Due a Refund of Contributions</u>	\$0	\$0	\$0
<u>Deferred Beneficiaries</u>	\$41,158	\$41,158	\$41,158
<u>Retired Participants</u>			
Service retirements	\$148,871,493	\$148,871,493	\$148,871,493
Disability retirements	\$6,386,255	\$6,386,255	\$6,386,255
Beneficiaries receiving	\$9,792,114	\$9,792,114	\$9,792,114
DROP participants	\$0	\$0	\$0
Sub-total	\$165,049,862	\$165,049,862	\$165,049,862
<u>Grand Total</u>	<u>\$232,268,642</u>	<u>\$232,268,642</u>	<u>\$232,268,642</u>



Actuarial Value of Assets

Table II-A

Market Value of Assets as of July 1, 2017	\$224,423,836
Minus advance employer contribution	\$0
Actuarial Value of Assets as of July 1, 2017	<u>\$224,423,836</u>

Historical Actuarial Value of Assets	
July 1, 2008	\$165,221,559
July 1, 2009	\$163,500,555
July 1, 2010	\$162,873,906
July 1, 2011	\$178,704,483
July 1, 2012	\$177,556,573
July 1, 2013	\$191,412,512
July 1, 2014	\$218,919,063
July 1, 2015	\$218,394,110
July 1, 2016	\$210,159,258
July 1, 2017	\$224,423,836

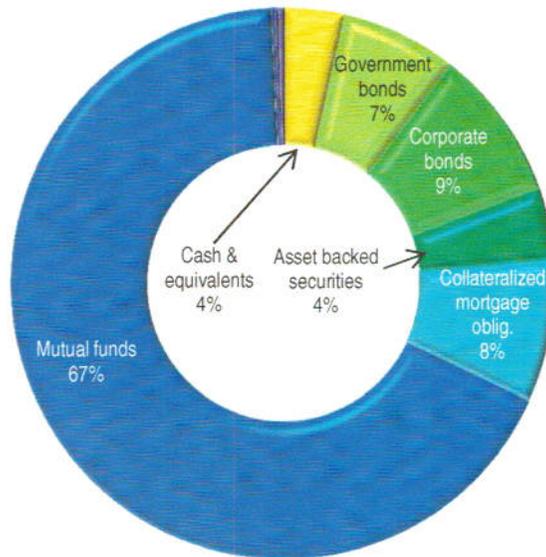


Market Value of Assets

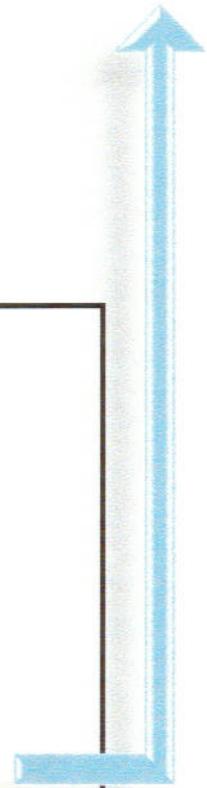
Table II-B

As of July 1, 2017

Market Value of Assets	<u>\$224,423,836</u>
Cash & equivalents	\$8,093,942
Government bonds	\$15,631,109
Corporate bonds	\$20,129,633
Asset backed securities	\$9,498,995
Collateralized mortgage oblig.	\$19,021,258
Mutual funds	\$151,879,462
Accrued interest receivable	\$365,872
Other receivables	\$534,196
Accounts payable	(\$730,631)

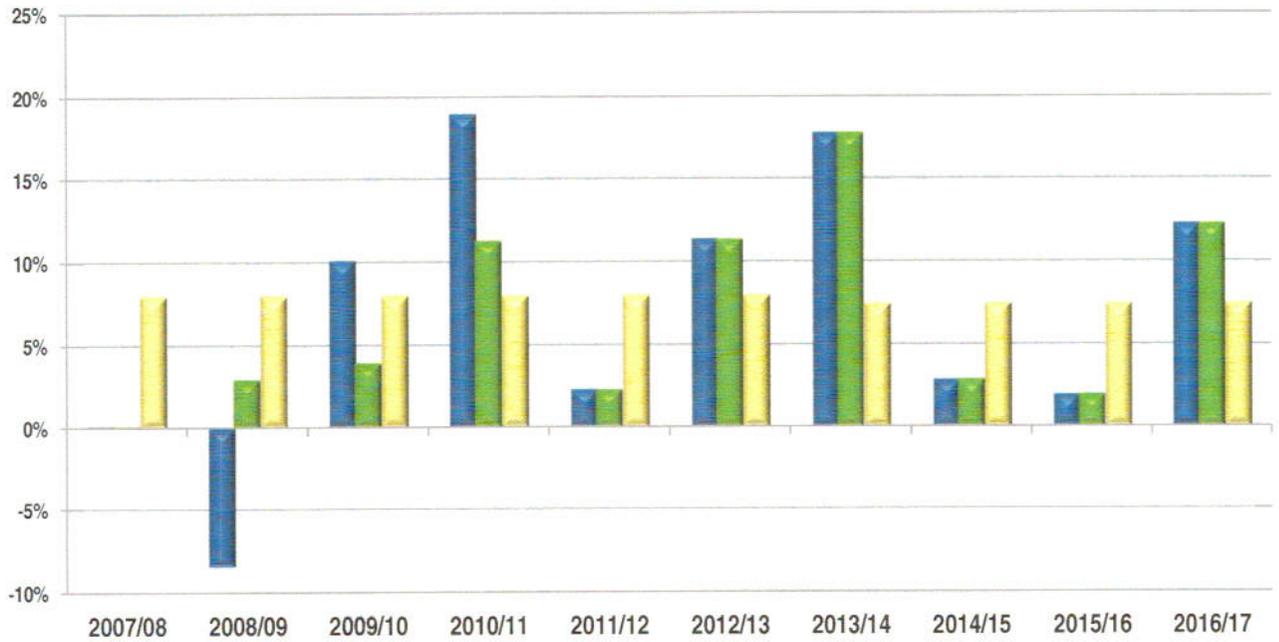


<u>Historical Market Value of Assets</u>	
July 1, 2008	\$165,221,559
July 1, 2009	\$145,026,087
July 1, 2010	\$152,433,162
July 1, 2011	\$178,704,483
July 1, 2012	\$177,556,573
July 1, 2013	\$191,412,512
July 1, 2014	\$218,919,063
July 1, 2015	\$218,394,110
July 1, 2016	\$210,159,258
July 1, 2017	\$224,423,836



Investment Return

Table II-C



Annual Investment Returns

■ Market Value Return
 ■ Actuarial Value Return
 ■ Assumed Return

Plan Year	Market Value Return	Actuarial Value Return	Assumed Return
2007/08	0.15%	0.15%	8.00%
2008/09	-8.43%	2.98%	8.00%
2009/10	10.14%	3.95%	8.00%
2010/11	18.96%	11.28%	8.00%
2011/12	2.33%	2.33%	8.00%
2012/13	11.38%	11.38%	8.00%
2013/14	17.77%	17.77%	7.50%
2014/15	2.91%	2.91%	7.50%
2015/16	2.00%	2.00%	7.50%
2016/17	12.29%	12.29%	7.50%
10yr. Avg.	6.63%	6.56%	7.80%



Asset Reconciliation

Table II-D

	<u>Market Value</u>	<u>Actuarial Value</u>
As of July 1, 2016	\$210,159,258	\$210,159,258
<i>Increases Due To:</i>		
Employer Contributions	\$3,471,034	\$3,471,034
Employee Contributions	\$0	\$0
Service Purchase Contributions	\$0	\$0
Total Contributions	\$3,471,034	\$3,471,034
Interest and Dividends	\$5,030,926	
Realized Gains (Losses)	\$0	
Unrealized Gains (Losses)	\$20,335,936	
Total Investment Income	\$25,366,862	\$25,155,250
Other Income	\$9,707	
Total Income	\$28,847,603	\$28,626,284
<i>Decreases Due To:</i>		
Monthly Benefit Payments	(\$14,200,728)	(\$14,200,728)
Refund of Employee Contributions	\$0	\$0
Total Benefit Payments	(\$14,200,728)	(\$14,200,728)
Investment Expenses	(\$221,319)	
Administrative Expenses	(\$160,978)	(\$160,978)
Advance Employer Contribution		\$0
Total Expenses	(\$14,583,025)	(\$14,361,706)
As of July 1, 2017	\$224,423,836	\$224,423,836



Historical Trust Fund Detail

Table II-E

Income

<u>Plan</u> <u>Year</u>	<u>Employer</u> <u>Contribs.</u>	<u>Employee</u> <u>Contribs.</u>	<u>Service</u> <u>Purchase</u> <u>Contribs.</u>	<u>Interest /</u> <u>Dividends</u>	<u>Realized</u> <u>Gains /</u> <u>Losses</u>	<u>Unrealized</u> <u>Gains /</u> <u>Losses</u>	<u>Other</u> <u>Income</u>
2007/08	\$1,331,339	\$0	\$0	\$6,050,694	\$0	-\$5,718,788	\$529,779
2008/09	\$1,312,188	\$0	\$0	\$4,800,525	\$0	-\$18,470,572	\$177,622
2009/10	\$1,310,573	\$0	\$0	\$4,012,989	\$0	\$10,390,817	\$147,531
2010/11	\$6,447,175	\$0	\$0	\$4,111,103	\$0	\$24,744,037	\$0
2011/12	\$4,059,025	\$0	\$0	\$9,618,782	\$0	-\$5,291,592	\$0
2012/13	\$3,586,837	\$0	\$0	\$4,089,979	\$0	\$16,404,464	\$0
2013/14	\$4,233,620	\$0	\$0	\$8,044,751	\$0	\$25,673,790	\$0
2014/15	\$3,745,793	\$0	\$0	\$4,943,518	\$0	\$2,196,890	\$24,528
2015/16	\$1,370,415	\$0	\$0	\$4,778,377	\$0	\$215,861	\$731
2016/17	\$3,471,034	\$0	\$0	\$5,030,926	\$0	\$20,335,936	\$9,707

Expenses

<u>Plan</u> <u>Year</u>	<u>Monthly</u> <u>Benefit</u> <u>Payments</u>	<u>Contrib.</u> <u>Refunds</u>	<u>Admin.</u> <u>Expenses</u>	<u>Invest.</u> <u>Expenses</u>
2007/08	\$6,895,122	\$0	\$256,861	\$606,849
2008/09	\$7,765,033	\$0	\$86,942	\$163,260
2009/10	\$8,133,669	\$0	\$125,911	\$195,255
2010/11	\$8,715,665	\$0	\$133,329	\$182,000
2011/12	\$9,098,988	\$0	\$204,733	\$230,404
2012/13	\$9,434,334	\$0	\$167,692	\$623,315
2013/14	\$10,062,322	\$0	\$152,725	\$230,565
2014/15	\$10,449,501	\$0	\$85,771	\$900,410
2015/16	\$13,767,179	\$0	\$89,054	\$744,003
2016/17	\$14,200,728	\$0	\$160,978	\$221,319

Other Actuarial Adjustments

<u>Advance</u> <u>Employer</u> <u>Contribs.</u>
\$0
\$0
\$0
\$0
\$0
\$0
\$0
\$0
\$0
\$0
\$0

Note: Information was not available for certain plan years to separate the investment expenses from the investment income and administrative expenses nor to separate the investment income by source.



Other Reconciliations

Table II-F

Advance Employer Contribution

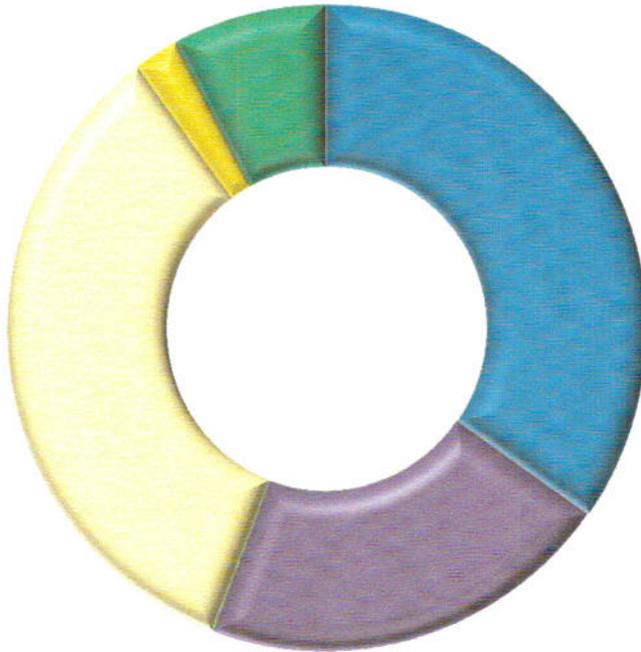
Advance Employer Contribution as of July 1, 2016	\$0
Additional Employer Contribution	\$3,471,034
Minimum Required Contribution	<u>(\$3,471,034)</u>
Net Increase in Advance Employer Contribution	\$0
Advance Employer Contribution as of July 1, 2017	<u><u>\$0</u></u>



Summary of Participant Data

Table III-A

As of July 1, 2017



Participant Distribution by Status

Actively Employed Participants

◆ Active Participants	442
◆ DROP Participants	0

Inactive Participants

◆ Deferred Vested Participants	267
◆ Due a Refund of Contributions	0
◆ Deferred Beneficiaries	2

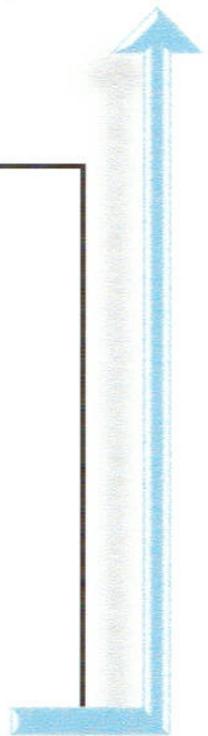
Participants Receiving a Benefit

◆ Service Retirements	434
◆ Disability Retirements	29
◆ Beneficiaries Receiving	99

Total Participants 1,273

Number of Participants Included in Prior Valuations

	<i>Active</i>	<i>DROP</i>	<i>Inactive</i>	<i>Retired</i>	<i>Total</i>
July 1, 2008	N/A	N/A	N/A	N/A	N/A
July 1, 2009	670	0	194	388	1,252
July 1, 2010	N/A	N/A	N/A	N/A	N/A
July 1, 2011	679	0	200	421	1,300
July 1, 2012	665	0	224	430	1,319
July 1, 2013	681	0	232	448	1,361
July 1, 2014	633	0	239	466	1,338
July 1, 2015	532	0	254	518	1,304
July 1, 2016	461	0	260	562	1,283
July 1, 2017	442	0	269	562	1,273



Data Reconciliation

Table III-B

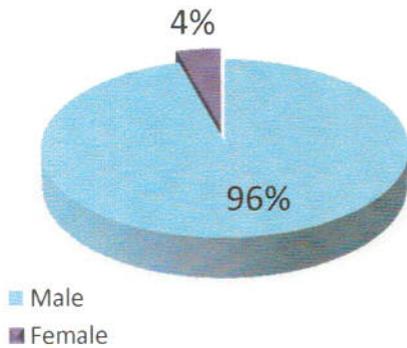
	<u>Active</u>	<u>DROP</u>	<u>Deferred Vested</u>	<u>Due a Refund</u>	<u>Def. Benef.</u>	<u>Service Retiree</u>	<u>Disabled Retiree</u>	<u>Benef. Rec'v.</u>	<u>Total</u>
<u>July 1, 2016</u>	461	0	258	0	2	436	29	97	1,283
<u>Change in Status</u>									
Re-employed									
Terminated	(17)		15						(2)
Retired	(2)		(6)			7	1		
<u>Participation Ended</u>									
Transferred Out									
Cashed Out									
Died						(10)	(1)	(7)	(18)
<u>Participation Began</u>									
Newly Hired									
Transferred In									
New Beneficiary								9	9
Other Adjustment						1			1
<u>July 1, 2017</u>	442	0	267	0	2	434	29	99	1,273



Active Participant Data

Table III-C

Gender Mix



As of July 1, 2017

<i>Average Age</i>	40.0 years
<i>Average Service</i>	13.0 years
<i>Total Annualized Compensation for the Prior Year</i>	\$18,269,832
<i>Total Expected Compensation for the Current Year</i>	\$19,485,646
<i>Average Increase in Compensation for the Prior Year</i>	0.76%
<i>Expected Increase in Compensation for the Current Year</i>	3.00%



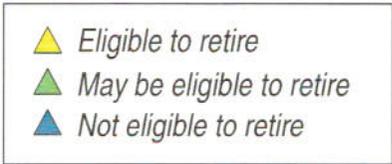
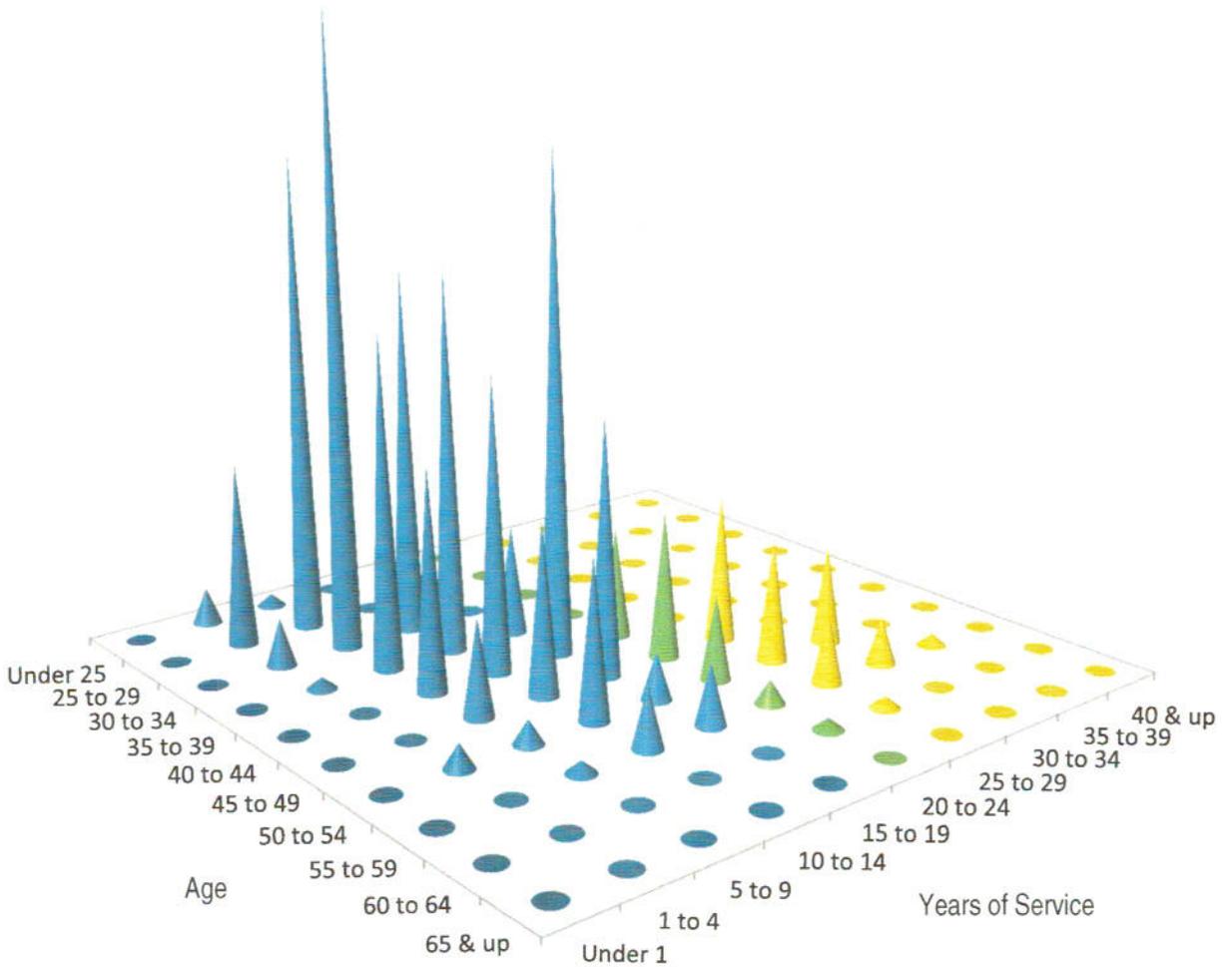
Active Participant Statistics From Prior Valuations

	<i>Average Age</i>	<i>Average Service</i>	<i>Average Salary</i>	<i>Average Expected Salary Increase</i>	<i>Average Actual Salary Increase</i>
July 1, 2008	N/A	N/A	N/A	N/A	N/A
July 1, 2009	37.5	11.2	\$34,093	4.00%	0.00%
July 1, 2010	N/A	N/A	N/A	4.00%	9.48%
July 1, 2011	37.7	11.1	\$36,419	4.00%	0.00%
July 1, 2012	37.9	11.5	\$36,576	4.00%	1.08%
July 1, 2013	37.3	11.0	\$36,141	4.00%	1.02%
July 1, 2014	38.5	12.0	\$36,201	3.00%	-0.02%
July 1, 2015	38.8	12.1	\$37,020	3.00%	4.17%
July 1, 2016	38.9	12.0	\$40,752	3.00%	11.83%
July 1, 2017	40.0	13.0	\$41,334	3.00%	0.76%



Active Age-Service Distribution

Table III-D



Active Age-Service-Salary Table

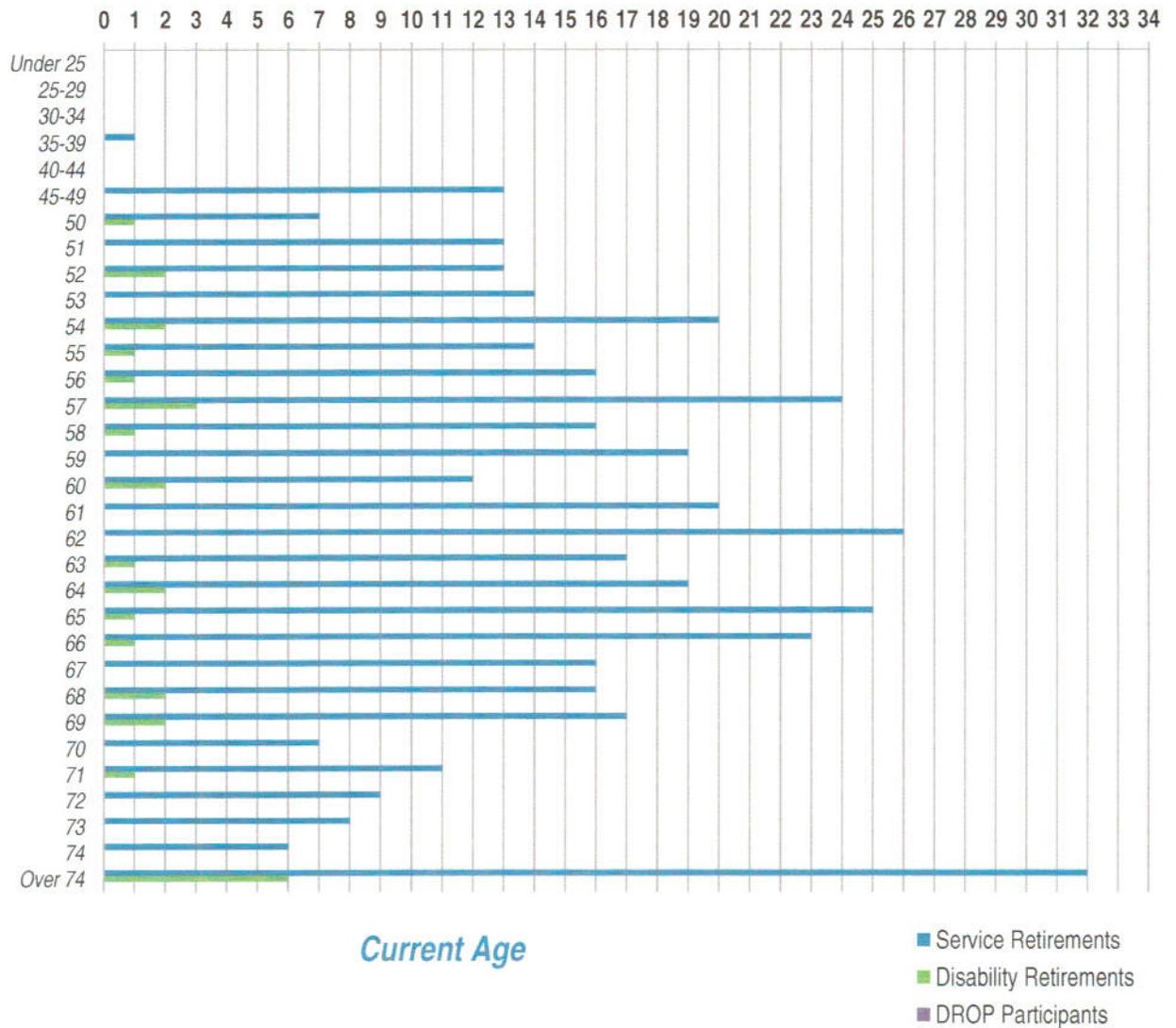
Table III-E

Attained Age	Completed 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	3	1	0	0	0	0	0	0	0	4
Avg. Pay	0	34,577	34,570	0	0	0	0	0	0	0	34,575
25 to 29	0	15	39	0	0	0	0	0	0	0	54
Avg. Pay	0	34,582	35,207	0	0	0	0	0	0	0	35,033
30 to 34	0	4	51	30	0	0	0	0	0	0	85
Avg. Pay	0	34,580	35,293	40,292	0	0	0	0	0	0	37,023
35 to 39	0	1	27	31	9	0	0	0	0	0	68
Avg. Pay	0	34,590	35,669	38,782	42,232	0	0	0	0	0	37,941
40 to 44	0	0	18	24	41	9	0	0	0	0	92
Avg. Pay	0	0	36,739	41,762	45,251	50,317	0	0	0	0	43,171
45 to 49	0	0	8	14	21	12	12	0	0	0	67
Avg. Pay	0	0	34,585	42,586	44,870	52,332	57,107	0	0	0	46,693
50 to 54	0	2	2	13	4	7	10	8	0	0	46
Avg. Pay	0	35,287	34,590	37,388	44,723	47,315	53,115	62,177	0	0	47,053
55 to 59	0	0	1	5	5	2	6	4	1	0	24
Avg. Pay	0	0	34,570	45,246	39,524	50,461	48,090	53,051	107,952	0	48,668
60 to 64	0	0	0	0	0	1	1	0	0	0	2
Avg. Pay	0	0	0	0	0	34,570	45,531	0	0	0	40,051
65 & up	0	0	0	0	0	0	0	0	0	0	0
Avg. Pay	0	0	0	0	0	0	0	0	0	0	0
Total	0	25	147	117	80	31	29	12	1	0	442
Avg. Pay	0	34,638	35,458	40,357	44,427	49,921	53,466	59,135	107,952	0	41,334



Inactive Participant Data

Table III-F



Current Age

- Service Retirements
- Disability Retirements
- DROP Participants

Average Monthly Benefit

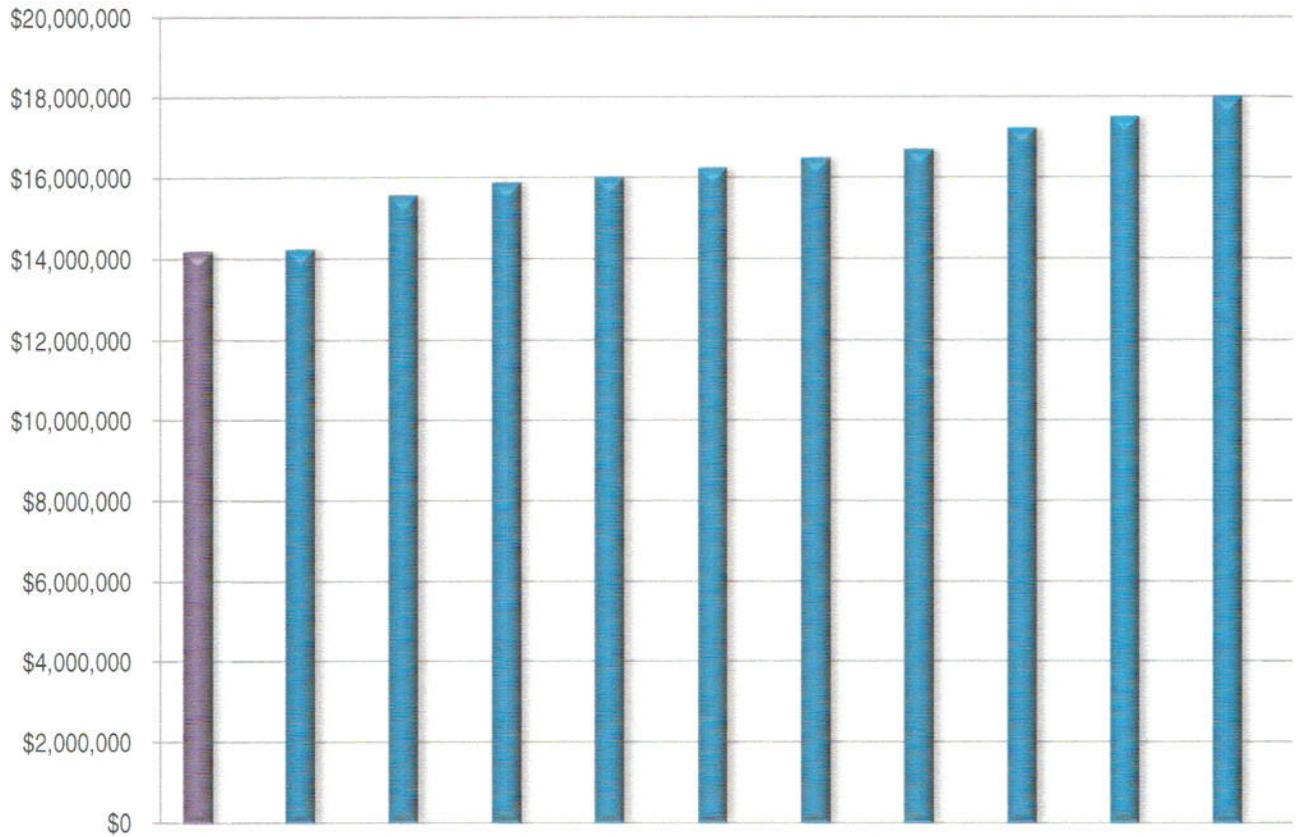
Service Retirements	\$2,412.35
Disability Retirements	\$1,488.31
Beneficiaries Receiving	\$950.80
DROP Participants	Not applicable
Deferred Vested Participants	\$243.47
Deferred Beneficiaries	\$500.00

* Note: Information concerning retirement age was not available.



Projected Benefit Payments

Table III-G



Actual

For the period July 1, 2016 through June 30, 2017

\$14,200,728

Projected

For the period July 1, 2017 through June 30, 2018

\$14,262,256

For the period July 1, 2018 through June 30, 2019

\$15,575,053

For the period July 1, 2019 through June 30, 2020

\$15,895,408

For the period July 1, 2020 through June 30, 2021

\$16,019,409

For the period July 1, 2021 through June 30, 2022

\$16,253,212

For the period July 1, 2022 through June 30, 2023

\$16,503,521

For the period July 1, 2023 through June 30, 2024

\$16,714,566

For the period July 1, 2024 through June 30, 2025

\$17,243,180

For the period July 1, 2025 through June 30, 2026

\$17,521,387

For the period July 1, 2026 through June 30, 2027

\$18,020,857



Summary of Actuarial Methods and Assumptions

Table IV-A

NOTE: The following assumptions and methods have been selected and approved by the Board of Trustees based in part on the advice of the plan's enrolled actuary in accordance with the authority granted to the Board under the pension ordinances and State law.

1. Actuarial Cost Method

Aggregate cost method. Under this actuarial cost method, a funding cost is developed for the plan as a level percentage of payroll. The level funding percentage is calculated as the excess of the total future benefit liability over accumulated assets and future employee contributions, with this excess spread over the expected future payroll for current active participants. The normal cost is equal to the level funding percentage multiplied by the expected payroll for the year immediately following the valuation date. The actuarial accrued liability is equal to the accumulated assets. Therefore, under the aggregate cost method, no unfunded accrued liability is developed.

2. Asset Method

The actuarial value of assets is equal to the market value of assets.

3. Interest (or Discount) Rate

7.50% per annum

4. Salary Increases

Plan compensation is assumed to increase at the rate of 3.00% per annum, unless actual plan compensation is known for a prior plan year.

5. Decrements

- Pre-retirement mortality: Sex-distinct rates set forth in the RP-2000 Mortality Table for annuitants, projected to 2015 by Scale AA, as published by the Internal Revenue Service (IRS) for purposes of Internal Revenue Code (IRC) section 430; future generational improvements in mortality have not been reflected; all deaths prior to retirement are assumed to be service-connected.
- Post-retirement mortality: Sex-distinct rates set forth in the RP-2000 Mortality Table for annuitants, projected to 2015 by Scale AA, as published by the Internal Revenue Service (IRS) for purposes of Internal Revenue Code (IRC) section 430; future generational improvements in mortality have not been reflected;



Summary of Actuarial Methods and Assumptions

Table IV-A

(continued)

- Disability: A sample of the disability rates is set forth in the following table; all disabilities are assumed to be service-connected:

Age	Rate	Age	Rate	Age	Rate	Age	Rate
20	0.09%	30	0.11%	40	0.15%	50	0.330%
25	0.10%	35	0.13%	45	0.24%	55	0.755%

- Termination: A sample of the withdrawal rates used for firefighters is set forth in the following table:

Age	Rate	Age	Rate	Age	Rate	Age	Rate
20	2.50%	30	1.34%	40	0.20%	50	0.00%
25	1.92%	35	0.77%	45	0.10%	55	0.00%

A sample of the withdrawal rates used for police officers is set forth in the following table:

Age	Rate	Age	Rate	Age	Rate	Age	Rate
20	8.000%	30	4.270%	40	0.62%	50	0.00%
25	6.135%	35	2.445%	45	0.31%	55	0.00%

- Retirement: With respect to current active participants, retirement is assumed to occur at the later of age 50 or the attainment of 25 years of service, except that those employees who are eligible for the early retirement window have been assumed to retire immediately. With respect to current deferred vested participants, retirement is assumed to occur at age 50 since information was not available concerning their accrued service.

No decrements are assumed during the first year following the valuation date.

6. **Form of Payment**

85% of future retirees are assumed to receive a 50% joint and contingent annuity and 15% of future retirees are assumed to receive a single life annuity; current retirees who are not receiving a single life annuity are assumed to be receiving a 100% joint and contingent annuity.



Summary of Actuarial Methods and Assumptions

Table IV-A

(continued)

7. Contingent Annuitants

85% of participants who die prior to retirement are assumed to have a surviving spouse of the opposite gender; no other beneficiaries are assumed; males are assumed to be three years older than females for this purpose.

8. Expenses

Administrative expenses are assumed to be 0.50% of future payroll. In addition, the interest rate set forth in item 3. above is assumed to be net of investment expenses and commissions.

9. Cost-of-Living Adjustment

We have assumed that all eligible retirees will receive an automatic cost-of-living adjustment equal to 1.50% per annum.

10. Supplemental Pension

Information was not available concerning which retired participants are eligible for the \$100.00 monthly supplemental benefit. Therefore, we have assumed that only those retirees who are receiving a total monthly benefit of at least \$750.00 are eligible for the \$100.00 monthly supplemental benefit.

11. Missing Data

Dates of birth were not available for some beneficiaries who are receiving a monthly survivor annuity. We have assumed that these beneficiaries were age 70 on the valuation date.



Changes in Actuarial Methods and Assumptions

Table IV-B

No assumptions or methods have been changed since the previous valuation was completed.



Summary of Plan Provisions

Table V-A

1. **Monthly Accrued Benefit**

2.00% of Average Monthly Compensation multiplied by up to 35 Years of Service

2. **Normal Retirement Age and Benefit**

- **Age**

Age 50 with at least 25 Years of Service

- **Amount**

Monthly Accrued Benefit, with a minimum monthly benefit of \$500.00

- **Form of Payment**

Single life annuity (normal form of payment for unmarried participants);
 50% joint and contingent annuity (normal form of payment for married participants);
 Actuarially equivalent 66⅔% joint and contingent annuity (optional);
 Actuarially equivalent 100% joint and contingent annuity (optional); or
 Actuarially equivalent 10-year certain and life annuity (optional)

3. **Early Retirement Age and Benefit**

- **Age**

Any age with at least 25 Years of Service

- **Amount**

Monthly Accrued Benefit (*payable at age 50*); or
 Monthly Accrued Benefit reduced 2.50% for each year by which the participant's Early Retirement Age precedes age 50 (*payable at Early Retirement Age*)

- **Form of Payment**

Same as for Normal Retirement

4. **Delayed Retirement Age and Benefit**

- **Age**

After Normal Retirement Age

- **Amount**

Monthly Accrued Benefit, with a minimum monthly benefit of \$500.00

- **Form of Payment**

Same as for Normal Retirement



Summary of Plan Provisions

Table V-A

(continued)

5. **Disability Retirement Eligibility and Benefit**

- **Eligibility**
No eligibility requirement in the case of a disability that is incurred in the line of duty;
Any age with at least 15 Years of Service otherwise
- **Condition**
The participant must be determined to be totally and permanently disabled by the Board of Trustees.
- **Amount**
With respect to a disability that is incurred in the line of duty, the Monthly Accrued Benefit is payable; with respect to all other disabilities, the Monthly Accrued Benefit is multiplied by 40% (for 15 Years of Service), 45% (for 16 Years of Service), 50% (for 17 Years of Service), 55% (for 18 Years of Service), 60% (for 19 Years of Service), or 65% (for more than 19, but less than 25, Years of Service).
- **Form of Payment**
Same as for Normal Retirement

6. **Deferred Vested Benefit**

- **Age**
Any age with at least five Years of Service
- **Amount**
Monthly Accrued Benefit multiplied by the participant's Vested Percentage and payable at the participant's Normal Retirement Age or at Early Retirement Age with a 5.00% reduction for each year prior to Normal Retirement Age
- **Form of Payment**
Same as for Normal Retirement

7. **Pre-Retirement Death Benefit**

For participants who die prior to retirement in the line of duty:

50% of the Monthly Accrued Benefit payable immediately for the life of the spouse, plus an additional 15% for one minor child, an additional 20% for two minor children, or an additional 25% for three or more minor children; for an unmarried participant, the percentages payable on behalf of the participant's minor children increase to 50% for one minor child, 55% for two minor children, or 60% for three or more minor children; the minimum pre-retirement death benefit is \$500.00 per month.

For all other participants who die prior to retirement and who have earned at least 15 Years of Service:

Same percentage of the Monthly Accrued Benefit as described above, but the percentages are applied to the participant's non-service disability benefit.



Summary of Plan Provisions

Table V-A

(continued)

8. Vested Percentage

Retirement benefits become vested in accordance with the following schedule:

Years of Creditable Service	Vested Percentage
Less than five	0%
At least five, but less than six	10%
At least six, but less than seven	20%
At least seven, but less than eight	30%
At least eight, but less than nine	40%
At least nine, but less than 10	50%
At least 10, but less than 11	60%
At least 11, but less than 12	70%
At least 12, but less than 13	80%
At least 13, but less than 14	90%
At least 14	100%

9. Average Monthly Compensation

The participant's Average Monthly Compensation is equal to the average of the participant's basic compensation for the highest three calendar years (not necessarily consecutive) during his period of service. For this purpose, basic compensation includes actual monthly compensation paid, excluding reimbursed expenses, overtime, and all other unusual compensation, but including worker's compensation benefits paid in lieu of salary until the employee's retirement date.

10. Employee Contribution

Prior to July 1, 1985, all participating employees were required to make an employee contribution to the plan; a participant who terminates his employment for any reason (or his eligible beneficiary) and who is not otherwise entitled to a monthly benefit will receive a refund of his Employee Contribution.



Summary of Plan Provisions

Table V-A

(continued)

11. Years of Service

Years of Service are equal to the years and completed calendar months of employment, except that fractions of one-half year or more are rounded up to the next whole year; service does not include authorized leaves of absence without pay for more than 30 days.

12. Participation Requirement

All full-time, permanent firefighters and police officers of the City of Macon, Georgia, who were hired prior to 2014 are eligible to participate in the plan.

13. Automatic Cost-of-Living Adjustment (COLA)

A participant who is entitled to a monthly annuity receives an automatic annual compounded COLA based on the Consumer Price Index, but limited to 1.50%, as of each January 1 after one year of retirement.

14. Supplemental Benefit

A supplemental benefit equal to \$100.00 per month is payable for life to those retirees who have earned at least 25 Years of Service or who are disabled.

15. Actuarial Equivalence

Based on 7.00% interest per annum and the mortality table promulgated by the Internal Revenue Commissioner for purposes of determining lump sum distributions pursuant to IRC section 417(e)(3)

16. Original Plan Effective Date

July 1, 1969

17. Early Retirement Window

An early retirement window was adopted effective May 31, 2015. Under the window, employees who attain age 48 by December 31, 2015 with at least 23 years of service are eligible for an enhanced normal retirement benefit. Alternatively, employees with at least 23 years of service by December 31, 2015 are eligible for an enhanced early retirement benefit. The enhanced retirement benefit is based on a 2.50% benefit formula multiplier. Eligible employees also receive a \$200.00 monthly supplemental pension payable for their lifetime. Eligible employees may elect by July 31, 2015 to retire under the early retirement window by September 30, 2015.



Summary of Plan Amendments

Table V-B

No significant plan changes were adopted since the completion of the previous valuation.





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**Report of the Actuary on the
Annual Valuation of the
Macon-Bibb County Employee Pension Plan**

Prepared as of June 30, 2017





Cavanaugh Macdonald

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The experience and dedication you deserve

November 6, 2017

Board of Commissioners
Macon-Bibb County Employee Pension Plan
601 Mulberry Street, Room 409
Macon, GA 31298

Members of the Board:

We are pleased to submit the results of the actuarial valuation of the Macon-Bibb County Employee Pension Plan prepared as of June 30, 2017. The purpose of this report is to provide a summary of the funded status of the Plan as of June 30, 2017 and to recommend actuarially determined employer contribution rates for the fiscal year ending June 30, 2019. The information needed for the Plan under Governmental Accounting Standards Board Statements No. 67 and 68 (GASB 67 and 68) will be provided in a separate report. However, for informational purposes, we have also provided accounting information under GASB 25 and 27 in Section VI.

On the basis of the valuation, it is recommended that employer contributions to the Plan be set at a rate of 17.38% of payroll for the fiscal year ending June 30, 2019. Contributions at this rate are sufficient to meet the minimum funding requirements under Title 47, Chapter 20 of the Official Code of Georgia. The promised benefits of the Plan are included in the calculated contribution rate which is developed using the entry age cost method. Five-year smoothed market value of plan assets is used for the actuarial value of assets. Gains and losses are reflected in the unfunded accrued liability that is being amortized by regular annual contributions as a level percentage of payroll within a 24.0-year period as of the valuation date, on the assumption that payroll will increase by 4.25% annually.

Since the previous valuation, no changes were made to the assumptions, methods, or plan provisions.

This is to certify that the independent consulting actuary is a Member of the American Academy of Actuaries and has experience in performing valuations for public retirement systems, that the valuation was prepared in accordance with principles of practice prescribed by the Actuarial Standards Board, and that the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the Plan and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the Plan. While not verifying the data at source, the actuary performed tests for consistency and reasonability.

Future actuarial results may differ significantly from the current results presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

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Board of Commissioners
November 6, 2017
Page 2

This actuarial valuation was performed to determine the recommended funding amount for the Plan. The asset values used to determine unfunded liabilities and funded ratios are not market values but less volatile market related values. A smoothing technique is applied to market values to determine the market related values. The unfunded liability amounts and funded ratios using the market value of assets would be different. The interest rate used for determining liabilities is based on the expected return of assets. Therefore, liability amounts in this report cannot be used to assess a settlement of the obligation.

We trust that the report will meet the approval of the Board and will furnish the desired information concerning the financial condition of the Plan.

Respectfully submitted,

A handwritten signature in blue ink that reads 'Edward J. Koebel'.

Edward J. Koebel, EA, FCA, MAAA
Principal and Consulting Actuary

A handwritten signature in blue ink that reads 'Ben Mobley'.

Ben Mobley, ASA, ACA, MAAA
Actuary

EJK/BDM:kc



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**MACON-BIBB COUNTY EMPLOYEE PENSION PLAN
REPORT OF THE ACTUARY
ON THE VALUATION
PREPARED AS OF JUNE 30, 2017**

SECTION I – SUMMARY OF PRINCIPAL RESULTS

1. For convenience of reference, the principal results of the current and preceding valuations are summarized below.

Valuation Date	June 30, 2017	June 30, 2016
Active members:		
Number	1,010	921
Annualized compensation	\$ 38,440,420	\$ 34,655,044
Retired members and beneficiaries:		
Number	499	500
Annual allowances	\$ 12,268,020	\$ 12,207,352
Number of terminated vested members	70	70
Assets:		
Market Value	\$ 114,812,917	\$ 109,459,404
Actuarial Value	115,851,052	113,223,803
Unfunded Actuarial Accrued Liability	\$ 68,353,107	\$ 67,795,068
Funding Ratio		
Market Value	62.3%	60.5%
Actuarial Value	62.9%	62.5%
Amortization Period	24.0 years	25.0 years
Fiscal Year Ending	June 30, 2019	June 30, 2018
Actuarially determined employer contribution rate (ADEC):		
Normal Cost*	7.18%	7.48%
Accrued Liability	<u>10.20</u>	<u>10.92</u>
Total	17.38%	18.40%

* The normal cost contribution includes administrative expenses.



2. The major benefit and contribution provisions of the Plan as reflected in the valuation are summarized in Schedule G. There have been no changes since the previous valuation.
3. Schedule B shows the development of the actuarial value of assets. Schedule D of this report outlines the full set of actuarial assumptions and methods used in the valuation. There have been no changes to assumptions or methods since the previous valuation.
4. The entry age actuarial cost method was used to prepare the valuation. Schedule E contains a brief description of the actuarial cost method.
5. Comments on the valuation results as of June 30, 2017 are given in Section IV and further discussion of the contributions is set out in Section V.
6. As shown in the Summary of Principal Results, the funding ratio is the ratio of assets to the accrued liability and is different based on actuarial or market value of assets. The funding ratio is an indication of progress in funding the promised benefits. Since the ratio is less than 100%, there is a need for additional contributions toward payment of the unfunded accrued liability. In addition, this funded ratio does not have any relationship to measuring sufficiency if the plan had to settle its liabilities.



SECTION II – MEMBERSHIP DATA

1. Data regarding the membership of the Plan for use as a basis of the valuation were furnished by the County. The valuation included 1,010 active members with annualized compensation totaling \$38,440,420.

**THE NUMBER AND ANNUAL BASE EARNINGS
OF ACTIVE MEMBERS
AS OF JUNE 30, 2017**

GROUP	NUMBER	TOTAL ANNUAL BASE EARNINGS
General	739	\$ 27,994,327
Law Enforcement	<u>271</u>	<u>10,446,093</u>
Total	1,010	\$ 38,440,420

2. The following table shows the number of retired members and beneficiaries as of June 30, 2017 together with the amount of their annual retirement benefits payable under the Plan as of that date.

**THE NUMBER AND ANNUAL BENEFITS OF
RETIRED MEMBERS AND BENEFICIARIES
AS OF JUNE 30, 2017**

GROUP	NUMBER*	ANNUAL RETIREMENT BENEFITS
Service Retirements	424	\$ 11,305,024
Disability Retirements	26	363,068
Beneficiaries of Deceased Members	<u>49</u>	<u>599,928</u>
Total	499	\$ 12,268,020

*In addition, there are 70 terminated members entitled to deferred vested benefits totaling \$703,931.



3. Table 1 of Schedule G shows the status reconciliation for the past plan year. Table 2 shows the distribution by age and years of membership service of the number of active members included in the valuation, while Table 3 shows the number and annual benefits of retired members and beneficiaries included in the valuation, distributed by age.

SECTION III – ASSETS

1. As of June 30, 2017, the total market value of assets amounted to \$114,812,917, as reported by the auditor. The estimated investment return on a market value basis for the plan year was 10.68%. Schedule C shows the receipts and disbursements of the Plan for the year preceding the valuation date and a reconciliation of the Plan balances at market value.
2. The market-related actuarial value of assets using a 5-year smoothing technique of investment gains and losses is \$115,851,052. The estimated investment return for the plan year ending June 30, 2017 on an actuarial value of assets basis was 7.84%, which can be compared to the investment return assumed for the period of 7.50%. Schedule B shows the development of the actuarial value of assets as of June 30, 2017.

SECTION IV – COMMENTS ON VALUATION

1. The valuation was prepared in accordance with the actuarial assumptions set forth in Schedule D and the actuarial cost method which is described in Schedule E.
2. The valuation balance sheet shows that the Plan has total prospective liabilities of \$203,201,332 of which \$125,480,137 is for the prospective benefits payable on account of present retired members, beneficiaries of deceased members, and terminated members entitled to deferred benefits, and \$77,721,195 is for the prospective benefits payable on account of present active members. Against these liabilities, the Plan has a total present actuarial value of assets of \$115,851,052 as of June 30, 2017. The difference of \$87,350,280 between the total liabilities and the total present assets represents the present value of future contributions.



3. The contributions to the Plan consist of normal cost contributions and accrued liability contributions. The normal cost rate is equal to the actuarial present value of benefits accruing during the current year divided by the annual active members' payroll. Estimated budgeted administrative expenses are included in the normal cost rate. The expenses for the fiscal year ending June 30, 2019 are estimated to be 0.10% of payroll. The employer normal cost rate is determined to be 7.18% of payroll.
4. Prospective normal contributions at the rate of 7.18% have a present value of \$18,997,173. When this amount is subtracted from \$87,350,280, which is the present value of the total future contributions to be made, there remains \$68,353,107 as the amount of unfunded actuarial accrued liability contributions. The development of the unfunded actuarial accrued liability is shown in Schedule A.
5. The accrued liability contribution rate is 10.20% of active members' compensation, which will amortize the unfunded actuarial accrued liability over a 24.0-year period on a level percent of pay amortization basis.
6. The total contribution rate required for the fiscal year ending June 30, 2019 is, therefore, 17.38% of payroll.
7. The unfunded actuarial accrued liability (UAAL) increased approximately \$0.6 million for the plan year ending June 30, 2017 and the funding ratio on an actuarial value basis increased from 62.5% to 62.9%. There was a gain due to the investment return on an actuarial value basis for the year being greater than expected (7.84% vs. 7.50%). There were additional gains due to salary increases being lower than expected as well as fewer retirements than expected. These gains were largely offset due to losses from fewer deaths and disabilities than expected. See Schedule H for a complete breakdown of the experience of the Plan.



8. Per the Plan's funding policy, the unfunded actuarial accrued liability as of June 30, 2016 (Transitional UAAL) will be amortized as a level percentage of payroll over a closed 25-year period, on the assumption that payroll will increase by 4.25% annually. In each subsequent valuation, all benefit changes, assumption and method changes, and experience gains and/or losses that have occurred since the previous valuation will determine a New Incremental UAAL. Each New Incremental UAAL will be amortized from the date it is established as a level percentage of payroll over a closed 25-year period, on the assumption that payroll will increase by 4.25% annually.

9. The following table shows the components of the total UAAL:

Date Established	Description	Initial Amortization Period	Remaining Period 6/30/2017	Initial Amount	Remaining UAAL Amount on 6/30/2017	Amortization Payment/ (Credit)
6/30/2016	Transitional UAAL	25	24	\$ 67,795,068	\$ 68,767,580	\$ 4,112,119
6/30/2017	New Incremental	25	25	(414,473)	<u>(414,473)</u>	<u>(24,115)</u>
					\$ 68,353,107	\$ 4,088,004
Blended Amortization Period (years)						24.0



SECTION V – CONTRIBUTIONS PAYABLE

The following table summarizes the employer contributions which were determined by the June 30, 2017 valuation and are recommended for use in the fiscal year ending June 30, 2019.

**ACTUARIALLY DETERMINED EMPLOYER CONTRIBUTIONS (ADEC)
FOR FISCAL YEAR ENDING JUNE 30, 2019**

CONTRIBUTION	PERCENTAGE OF ACTIVE MEMBERS' COMPENSATION
Normal	7.18%
Accrued Liability	<u>10.20</u>
Total	17.38%

SECTION VI – ACCOUNTING INFORMATION

Governmental Accounting Standards Board Statements (GASB) has issued Statements No. 67 and 68 which replaces Statement No. 25 and 27 for plan years beginning after June 15, 2013. The information required under the new GASB Statements will be issued in separate reports. The following information is provided for informational purposes only.

- The following is a distribution of the number of employees by type of membership:

**NUMBER OF ACTIVE AND RETIRED PARTICIPANTS
AS OF JUNE 30, 2017**

GROUP	GENERAL	LAW ENFORCEMENT	TOTAL
Retired participants and beneficiaries currently receiving benefits	337	162	499
Terminated participants and beneficiaries entitled to benefits but not yet receiving benefits	55	15	70
Active Participants	<u>739</u>	<u>271</u>	<u>1,010</u>
Total	1,131	448	1,579



2. Another such item is the schedule of funding progress as shown below.

SCHEDULE OF FUNDING PROGRESS
Dollar Amounts in Thousands

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b - a) / c)
7/01/2012	\$94,348	\$131,193	\$36,845	71.9%	\$28,432	129.6%
12/31/2013	101,961	143,964	42,003	70.8	29,187	143.9
6/30/2014	105,245	146,431	41,186	71.9	31,127	132.3
6/30/2015	111,618	158,534	46,916	70.4	33,574	139.7
6/30/2016	113,224	181,019	67,795	62.5	34,655	195.6
6/30/2017	115,851	184,204	68,353	62.9	38,440	177.8

3. Additional information as of June 30, 2017 follows:

Valuation date	6/30/2017
Actuarial cost method	Entry age
Amortization period	Level percent closed
Remaining amortization period	24.0 years
Asset valuation method	Five-year smoothed market value
Actuarial assumptions:	
Investment rate of return (includes inflation)	7.50%
Projected salary increases (includes inflation)	4.25%
Inflation	4.00%
Cost-of-living adjustments	1.50%



SECTION VII – EXPERIENCE

Actual experience will never (except by coincidence) coincide exactly with assumed experience. It is assumed that gains and losses will be in balance over a period of years, but sizable year to year fluctuations are common. Detail on the derivation of the experience gain/(loss) for the year ended June 30, 2017 is shown below. A detailed breakdown of the gain/(loss) is provided in Schedule H.

	<u>\$ Thousands</u>
(1) UAAL* as of June 30, 2016	\$ 67,795.1
(2) Expected Accrued Liability Contribution	<u>4,112.1</u>
(3) Expected UAAL before changes: [(1) * 1.075] – (2)	\$ 68,767.6
(4) Change due to plan amendments	0.0
(5) Change due to actuarial assumptions or methods	<u>0.0</u>
(6) Expected UAAL after changes: (3) + (4) + (5)	\$ 68,767.6
(7) Actual UAAL as of June 30, 2017	<u>\$ 68,353.1</u>
(8) Gain/(loss): (6) – (7)	\$ 414.5
(9) Gain/(loss) as percent of actuarial accrued liabilities as of last year (\$181,018.9)	0.2%

*Unfunded actuarial accrued liability.

Valuation Date	Actuarial Gain/(Loss) as a % of Beginning Accrued Liabilities
June 30, 2015	1.6%
June 30, 2016	(0.1)%
June 30, 2017	0.2%



SCHEDULE A

**DEVELOPMENT OF THE UNFUNDED ACTUARIAL ACCRUED LIABILITY
AS OF JUNE 30, 2017**

(1)	Present value of prospective benefits:	
(a)	Present active members	\$ 77,721,195
(b)	Present retired members, beneficiaries and former members entitled to deferred vested benefits	<u>125,480,137</u>
(c)	Total	\$ 203,201,332
(2)	Present value of future contributions	<u>18,997,173</u>
(3)	Actuarial accrued liabilities: 1(c) – (2)	\$ 184,204,159
(4)	Actuarial value of assets	<u>115,851,052</u>
(5)	Unfunded actuarial accrued liability (UAAL): (3) – (4)	\$ 68,353,107
(6)	Amortization of UAAL over 24.0 years	\$ 3,920,923
(7)	Contribution Rate as a % of Payroll	
(a)	Normal Cost	7.18%
(b)	UAAL	<u>10.20%</u>
(c)	Total	17.38%



SCHEDULE B

DEVELOPMENT OF THE ACTUARIAL VALUE OF ASSETS

		Period Ending June 30, 2017
(1)	Actuarial Value of Assets at Beginning of Period	\$ 113,223,803
(2)	Market Value of Assets at End of Period	\$ 114,812,917
(3)	Market Value of Assets at Beginning of Period*	\$ 109,459,402
(4)	Net Cash Flow During Plan Year	
	(a) Contributions	\$ 6,298,643
	(b) Benefit Payments	12,268,985
	(c) Administrative Expenses	<u>43,558</u>
	(d) Net Cash Flow: (a) – (b) – (c)	\$ (6,013,900)
(5)	Investment Income	
	(a) Market Total: (2) – (3) – (4)d	\$ 11,367,415
	(b) Assumed Rate	7.50%
	(c) Amount for Immediate Recognition [(3) x (5)b] + [(4)d x (5)b x 0.5]	\$ 7,983,934
	(d) Amount for Phased-In Recognition: (5)a – (5)c	\$ 3,383,481
(6)	Recognized Amounts for Plan Year	
	(a) Current Year: 0.20 x (5)d	\$ 676,696
	(b) First Prior Year	(1,415,849)
	(c) Second Prior Year	(452,006)
	(d) Third Prior Year	1,406,644
	(e) Fourth Prior Year	<u>441,730</u>
	(f) Total Recognized Investment Gain/(Loss)	\$ 657,215
(7)	Actuarial Value of Assets at End of Period (1) + (4)d + (5)c + (6)f	\$ 115,851,052
(8)	Rate of Return on Actuarial Value	7.84%

* Reflects small correction to previously stated amount.



SCHEDULE C

**ASSET INFORMATION FOR THE YEAR
ENDING JUNE 30, 2017**

<i>Receipts</i>	
(1) Employer Contributions	\$ 6,298,643
(2) Investment Income	
• Interest and Dividends	\$ 2,701,679
• Net Appreciation (Depreciation) in Fair Value of Investments	9,426,755
• Other Investment Earnings	450
• Investment Expenses	<u>(761,469)</u>
Total Investment Income	<u>\$ 11,367,415</u>
(3) Total Receipts	\$ 17,666,058
<i>Disbursements</i>	
(4) Benefits Paid	\$ 12,268,985
(5) Administrative Expenses	<u>43,558</u>
(6) Total Disbursements	\$ 12,312,543
(7) Excess of Receipts Over Disbursements: (3) - (6)	\$ 5,353,515
<i>Reconciliation of Asset Balances</i>	
(8) Market Value at June 30, 2016*	\$ 109,459,402
(9) Excess of Receipts Over Disbursements	<u>5,353,515</u>
(10) Market Value at June 30, 2017	\$ 114,812,917
(11) Estimated Rate of Return on Market Value of Assets	10.68%

* Reflects small correction to previously stated amount.



SCHEDULE D

OUTLINE OF ACTUARIAL ASSUMPTIONS AND METHODS

INVESTMENT RATE OF RETURN: 7.50% per year.

SALARY INCREASES: 4.25% per year.

INFLATION INDEX: 4.00% per year.

SEPARATIONS FROM ACTIVE SERVICE: For death rates, the 1994 Group Annuity Mortality Table set forward two years was used. Representative values of the assumed annual rates of separation from active service are as follows:

Age	Annual Rate of			
	Withdrawal	Disability*	Male	Female
20	21.2%	0.05%	.056%	.029%
25	15.8	0.06	.073	.030
30	11.6	0.08	.084	.040
35	8.4	0.11	.089	.055
40	6.2	0.17	.125	.083
45	4.2	0.27	.190	.111
50	3.0	0.46	.321	.173
55	3.0	0.76	.558	.292

*20% of disabilities for law enforcement officers are assumed to be in the line of duty.

RETIREMENT: *General:* 7.5% per year upon reaching early retirement eligibility but before reaching normal retirement eligibility, 15% per year upon reaching normal retirement eligibility and 100% per year upon reaching age 68. *Law Enforcement:* 5% per year upon reaching early retirement eligibility but before reaching normal retirement eligibility, 15% per year upon reaching normal retirement eligibility and 100% per year upon reaching age 65.

DEATHS AFTER RETIREMENT: The 1994 Group Annuity Mortality Table set forward two years is used for the period after retirement and for dependent beneficiaries. The RP-2000 Disability Mortality Table set forward three years is used for the period after disability.

UNUSED VACATION TIME: There is a small load applied to salaries for unused vacation time in calculating liabilities for members hired prior to June 15, 2005.

EXPENSES: Estimated budgeted administrative expenses of 0.10% of payroll are added to the normal cost rate.



PERCENT MARRIED: 80% of active members are assumed to be married with the male three years older than his spouse.

COST-OF-LIVING ADJUSTMENTS: 1.5% annual COLAs effective beginning January 1, 2017.

ASSETS: Actuarial value, as developed in Schedule B. The actuarial value of assets recognizes a portion of the difference between the market value of assets and the expected market 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 market value.

VALUATION METHOD: Entry age actuarial cost method. See Schedule E for a brief description of this method.



SCHEDULE E

ACTUARIAL COST METHOD

1. The valuation is prepared on the projected benefit basis, under which the present value, at the interest rate assumed to be earned in the future (currently 7.50%), of each member's expected benefits at retirement or death is determined, based on age, service and sex. The calculations take into account the probability of a member's death or termination of employment prior to becoming eligible for a benefit, as well as the possibility of his terminating with a service, disability or survivor's benefit. The present value of the expected benefits payable on account of the active members is added to the present value of the expected future payments to retired members and beneficiaries to obtain the present value of all expected benefits payable from the Plan on account of the present group of members and beneficiaries.
2. The employer contributions required to support the benefits of the Plan are determined following a level funding approach, and consist of a normal contribution and an accrued liability contribution.
3. The normal contribution is determined using the entry age actuarial cost method. Under this method, a calculation is made to determine the level percentage of payroll which, if applied for the average new member during the entire period of his anticipated covered service, would be required in addition to the contributions of the member to meet the cost of all benefits payable on his behalf.
4. The unfunded actuarial accrued liability is determined by subtracting the present value of prospective employer normal contributions and member contributions, together with the current actuarial value of assets held, from the present value of expected benefits to be paid from the Plan.



SCHEDULE F

SUMMARY OF MAIN PLAN PROVISIONS AS INTERPRETED FOR VALUATION PURPOSES

Eligibility	<p>All persons actively employed in the service of Macon-Bibb County and paid by Macon-Bibb County including</p> <ul style="list-style-type: none">• Employees of officers of the Macon-Bibb County Planning and Zoning Commission who were elected or appointed to an initial term after June 22, 2004;• Employees of the Macon-Bibb County Industrial Authority;• Tax commissioners first elected on and after July 1, 2012;• Tax commissioner's employees hired or rehired on and after July 1, 2012;• Judges of the Macon-Bibb County Magistrate Court;• Judges of the Macon-Bibb County Superior Court;• Judges of the Macon-Bibb County State Court.
Years of Service	Years or fractional years of service rendered to the plan sponsor.
Base Earnings	Gross salary or wages paid by the Employer to the Employee during a specified twelve month period. For employees hired on and after June 15, 2005, Base Earnings excludes vacation pay.
Final Average Monthly Base Earnings	The total base earnings received by a participant from the County during the three highest base compensation calendar years of service, divided by 36, except for Disability Retirement which shall be calculated using the highest 36 months of base earnings.
Accrued Benefit	The monthly amount of retirement benefits earned by a member as of any date computed on his final average monthly base earnings and years of service at that date.
Normal Retirement Benefit	
Eligibility	<p><i>General:</i> For members hired prior to May 1, 2011: 30 years of service or age 60 with 10 years of service.</p> <p>For members hired on and after May 1, 2011 or transfers from the City of Macon Plan as of July 1, 2012: age 65 with 10 years of service.</p>



Law Enforcement: For members hired prior to January 1, 2014: 25 years of service or age 55 with 10 years of service.

For members hired on and after January 1, 2014: 30 years of service or age 60 with 10 years of service.

Benefit

For members hired prior to May 1, 2011, monthly benefit is 2% of final average monthly base earnings multiplied by years of service.

For members hired on and after May 1, 2011 but before January 1, 2014 or transfers from the City of Macon Plan as of July 1, 2012, monthly benefit is 1.5% of final average monthly base earnings multiplied by years of service.

For members hired on and after January 1, 2014, monthly benefit is 1.5% of final average monthly base earnings multiplied by years of service with a maximum benefit of 50% of final average monthly base earnings.

For Superior Court Judges, 2/3 of amount paid as a local supplement to active Superior Court Judges by Macon-Bibb County.

For State Court Judges, 2/3 of amount paid to active State Court Judges by Macon-Bibb County in excess of the pensionable salary used by the Georgia Judicial Retirement System for retirement benefits under that retirement system.

Early Retirement Benefit

Eligibility

For members hired prior to January 1, 2014: age 50 and 20 years of service.

For members hired on and after January 1, 2014: age 55 and 20 years of service.

Benefit

Accrued benefit reduced by 2% per year for each year the early retirement date precedes the normal retirement date.



In the Line of Duty Disability
Retirement Benefit for
Law Enforcement Officers

Eligibility	No requirements.
Benefit	2/3 of final average monthly base earnings less actual Social Security payments.

Not in the Line of Duty Disability
Retirement Benefit

Eligibility	5 years of service. For employees hired on or after July 1, 2003, 10 years of service.
Benefit	Accrued benefit based on final average monthly earnings and years of service at disability date, reduced by the amount of workers compensation or social security disability benefit received.

Deferred Vested
Retirement Benefit

Eligibility	10 years of service.
Benefit	Accrued benefit beginning at normal retirement age.

Preretirement Death Benefit

Eligibility	10 years of service.
Benefit	The surviving spouse is entitled to 50% of the accrued benefit the deceased employee would have received at normal retirement date had he lived to that date. If a participant works beyond normal retirement date but dies prior to actual retirement, he is assumed to have retired immediately prior to his date of death and his spouse is entitled to the 100% Joint & Survivor benefit.

Optional Forms of Benefit

- (1) 10 or 5 year certain and life annuity.
- (2) 100%, 75%, 66-2/3% or 50% joint and survivorship annuity.



2015 Early Retirement Incentive Program

Eligibility

General: Assuming member worked through December 31, 2105, member attained age 58 and at least 8 years of service, or attained at least 28 years of service, or attained age 48 and at least 18 years of service.

Law Enforcement: Assuming member worked through December 31, 2105, member attained age 53 and at least 8 years of service, or attained at least 23 years of service, or attained age 48 and at least 18 years of service.

Members were required to elect to participate in the ERIP by July 31, 2015 and retire no later than September 30, 2015.

Benefit

Members electing to participate in the ERIP shall receive a monthly retirement benefit which is 2.25% of final average monthly base earnings multiplied by years of service assuming member worked through December 31, 2015. Early retirement reductions shall apply.

In addition, participating members shall receive a supplemental benefit of \$200 per month until member attains age 65.



SCHEDULE G

TABLE 1

RECONCILIATION OF DATA

	<u>Actives</u>	<u>Retirees</u>	<u>Disabled</u>	<u>Beneficiaries</u>	<u>Vested Terms</u>	<u>Total</u>
1. Headcounts as of June 30, 2016	921	429	24	47	70	1,491
2. Change in status during the year:						
a. Death with Beneficiary		(4)		5	(1)	
b. Death with no Beneficiary		(6)		(3)		(9)
c. Disabled	(2)		2			
d. Retired	(2)	5			(3)	
e. Terminated Vested	(4)				4	
f. Terminated Not Vested	(83)					(83)
g. Benefits Expired						
h. Elected State Pension						
3. New member due to:						
a. New Hires	174					174
b. Transfers						
c. Rehires	6					6
d. Adjustments						
4. Headcounts as of June 30, 2017	1,010	424	26	49	70	1,579



TABLE 2
SCHEDULE OF ACTIVE MEMBERS BY AGE AND SERVICE
AS OF JUNE 30, 2017

Attained Age	Completed 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	23	67									90
Avg. Pay	30,307	31,128									30,918
25 to 29	17	120	10	1							148
Avg. Pay	32,712	32,991	31,705	31,970							32,865
30 to 34	11	81	29	8							129
Avg. Pay	31,005	33,683	36,012	34,614							34,036
35 to 39	11	39	24	19	4						97
Avg. Pay	32,707	33,958	39,505	33,873	33,103						35,137
40 to 44	6	49	16	23	14	7					115
Avg. Pay	32,723	38,004	41,547	35,109	41,659	45,644					38,552
45 to 49	5	36	15	12	22	19	7				116
Avg. Pay	35,485	38,654	33,941	44,862	44,258	62,877	64,242				45,125
50 to 54	5	43	17	18	18	17	15				133
Avg. Pay	28,608	34,000	39,662	40,800	37,707	47,455	54,981				40,029
55 to 59	6	30	22	5	13	9	13	6	2		106
Avg. Pay	31,581	39,746	34,779	31,562	44,157	54,283	58,491	57,148	70,595		43,508
60 to 64	2	11	13	7	6	4	2	1	1		47
Avg. Pay	24,305	37,646	39,058	48,081	36,799	51,958	60,684	53,269	64,813		42,024
65 to 69		1	7	4	3	2	1			1	19
Avg. Pay		25,251	31,357	41,158	47,417	79,872	34,590			124,134	45,795
70 & up		3	2	1	4						10
Avg. Pay		28,281	38,131	31,970	88,186						54,582
Total	86	480	155	98	84	58	38	7	3	1	1,010
Avg. Pay	31,499	34,437	36,944	37,997	43,546	54,777	57,652	56,594	68,668	124,134	38,060

Average Age 41.4

Average Service 7.2



TABLE 3
SCHEDULE OF RETIRED MEMBERS AND BENEFICIARIES
AS OF JUNE 30, 2017

<u>Attained Age</u>	<u>Number of Members</u>	<u>Total Annual Benefits</u>	<u>Average Annual Benefit</u>
49 & Under	10	\$ 112,255	\$ 11,226
50 – 54	20	623,598	31,180
55 – 59	57	1,496,220	26,249
60 – 64	94	2,626,669	27,943
65 – 69	122	3,009,059	24,664
70 – 74	94	2,372,118	25,235
75 – 79	48	981,078	20,439
80 & Over	<u>54</u>	<u>1,047,023</u>	<u>19,389</u>
Total	499	\$ 12,268,020	\$ 24,585

In addition, there are 70 deferred vested employees and beneficiaries entitled to deferred annual benefits totaling \$703,931.



SCHEDULE H

ANALYSIS OF FINANCIAL EXPERIENCE

**Gains & Losses in Accrued Liabilities Resulting from Difference Between
Assumed Experience & Actual Experience
(\$ Thousands)**

Type of Activity	\$ Gain (or Loss) For Period Ending 6/30/2017	\$ Gain (or Loss) For Year Ending 6/30/2016
Age & Service Retirements. If members retire at older ages, there is a gain. If younger ages, a loss.	\$ 582.4	\$ (1,275.3)
Disability Retirements. If disability claims are less than assumed, there is a gain. If more claims, a loss.	(330.5)	(154.9)
Death-in-Service Benefits. If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	(110.5)	(95.0)
Withdrawal From Employment. If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	(118.9)	293.1
Pay Increases. If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.	691.1	1,351.1
New Members. Additional unfunded accrued liability will produce a loss.	(15.1)	(52.6)
Investment Income. If there is a greater investment income than assumed, there is a gain. If less income, a loss.	370.8	(415.5)
Death After Retirement. If retirants live longer than assumed, there is a loss. If not as long, a gain.	(402.1)	(247.4)
Other. Miscellaneous gains and losses resulting from changes in valuation software, data adjustments, timing of financial transactions, etc.	<u>(252.7)</u>	<u>428.3</u>
Gain (or Loss) During Year From Financial Experience	<u>\$ 414.5</u>	<u>\$ (168.2)</u>
Non-Recurring Items. Adjustments for plan amendments, assumption changes, or method changes.	<u>0.0</u>	<u>(20,947.2)</u>
Composite Gain (or Loss) During Year	<u>\$ 414.5</u>	<u>\$ (21,115.4)</u>