



# Cavanaugh Macdonald

CONSULTING, LLC

*The experience and dedication you deserve*

April 19, 2018

Mr. James A. Potvin  
Executive Director  
Georgia Judicial Retirement System  
Two Northside 75, Suite 300  
Atlanta, GA 30318-7701

Dear Mr. Potvin:

Enclosed is the "Georgia Judicial Retirement System Report of the Actuary on the Valuation Prepared as of June 30, 2017".

The valuation indicates that employer contributions at the rate of 9.13% of compensation are sufficient to support the benefits of the System.

Please let us know if there are any questions concerning the report.

Sincerely yours,

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

Cathy Turcot  
Principal and Managing Director

Ben Mobley, ASA, FCA, MAAA  
Senior Actuary

Enclosure

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**Cavanaugh Macdonald**  
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**EMPLOYEES'**  
**RETIREMENT SYSTEM**  
OF GEORGIA

**GEORGIA JUDICIAL RETIREMENT SYSTEM**

**REPORT OF THE ACTUARY ON THE VALUATION  
PREPARED AS OF JUNE 30, 2017**





# Cavanaugh Macdonald

CONSULTING, LLC

*The experience and dedication you deserve*

April 19, 2018

Board of Trustees  
Georgia Judicial Retirement System  
Two Northside 75, Suite 300  
Atlanta, GA 30318-7701

Attention: Mr. James Potvin, Executive Director

Members of the Board:

Section 47-23-21 of the law governing the operation of the Georgia Judicial Retirement System provides that the actuary shall make annual valuations of the contingent assets and liabilities of the Retirement System on the basis of regular interest and the tables last adopted by the Board of Trustees. We have submitted the report giving the results of the actuarial valuation of the System prepared as of June 30, 2017. The report indicates that annual employer contributions at the rate of 9.13% of compensation for the fiscal year ending June 30, 2020 are sufficient to support the benefits of the System.

The results of the valuation reflect the 2% cost-of-living adjustment (COLA) granted to certain retirees and beneficiaries effective July 1, 2017.

Since the previous valuation, the Board has amended the funding policy to change the long-term assumed rate of return assumption. Effective with the June 30, 2017 valuation, the assumed rate of return will be reduced by 0.10% (10 basis points) from the immediate prior actuarial valuation, as long as the actual rate of return for the fiscal year ending with the current valuation date exceeds the assumed rate of return from the immediate prior actuarial valuation. The assumed rate of return may not decrease below 7.00% net of investment expenses. Since the actual rate of return for the year ending June 30, 2017 was greater than 7.50%, the assumed rate of return used in the current valuation was decreased from 7.50% to 7.40%.

In preparing the valuation, the actuary relied on data provided by the System. While not verifying data at the source, the actuary performed tests for consistency and reasonableness. Our firm, as actuary, is responsible for all of the actuarial trend data in the financial section of the annual report and the supporting schedules in the actuarial section of the annual report.

In our opinion, the valuation is complete and accurate, and the methodology and assumptions are reasonable as a basis for the valuation. The valuation takes into account the effect of all amendments to the System enacted through the 2017 session of the General Assembly.

The System is funded on an actuarial reserve basis. The actuarial assumptions recommended by the actuary and adopted by the Board are in the aggregate reasonably related to the experience under the System and to reasonable expectations of anticipated experience under the System. The assumptions and methods used for financial reporting purposes meet the parameters set by Actuarial Standards of Practice (ASOPs). The funding objective of the plan is that contribution rates over time will remain level as a percent of payroll. The valuation method used is the entry age normal cost method. The normal contribution rate to cover current cost has been determined as a level percent of payroll. Gains and losses are reflected in the total unfunded accrued liability which is negative and being amortized as a level percent of payroll in accordance with the funding policy adopted by the Board.

The Plan and the employers are required to comply with the financial reporting requirements of GASB Statements No. 67 and 68. The necessary disclosure information is provided in separate supplemental reports.



Board of Trustees  
April 19, 2018  
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We have provided the following information and supporting schedules for the Actuarial Section of the Comprehensive Annual Financial Report:

- Summary of Actuarial Assumptions
- Schedule of Active Members
- Schedule of Funding Progress
- Schedule of Retirees Added to and Removed from Rolls
- Analysis of Change in Unfunded Accrued Liability
- Solvency Test Results

The System is being funded in conformity with the minimum funding standard set forth in Code Section 47-20-10 of the Public Retirement Systems Standards Law and the funding policy adopted by the Board. In our opinion the System is operating on an actuarially sound basis. Assuming that contributions to the System are made by the employer from year to year in the future at the rates recommended on the basis of the successive actuarial valuations, the continued sufficiency of the retirement fund to provide the benefits called for under the System may be safely anticipated.

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 retirement system and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the System.

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.

The actuarial computations presented in this report are for purposes of determining the recommended funding amounts for the System. Use of these computations for purposes other than meeting these requirements may not be appropriate.

Sincerely yours,

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 "Cathy Turcot".

Cathy Turcot  
Principal and Managing Director

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

Ben Mobley, ASA, FCA, MAAA  
Senior Actuary



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## 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        |
|--|----------------------|----------------------|
| Number of active members                                   | 527                  | 526                  |
| Annual compensation  | \$ 59,695,102        | \$ 57,401,313        |
| Retired members and beneficiaries:                         |                      |                      |
| Number   | 347                  | 295                  |
| Annual allowances*   | \$ 23,847,923        | \$ 19,315,466        |
| Deferred Vested Members:                                   |                      |                      |
| Number   | 25                   | 25                   |
| Annual allowances  | \$ 1,023,978         | \$ 1,245,172         |
| Assets:  |                      |                      |
| Fair Value   | \$ 441,182,000       | \$ 403,011,000       |
| Actuarial Value  | 439,828,000          | 418,412,000          |
| <b>Valuation Interest Rate</b>                             | 7.40%                | 7.50%                |
| Unfunded actuarial accrued liability                       | \$ (32,220,567)      | \$ (41,672,350)      |
| Blended Amortization period (years)                        | 16.1                 | 17.8                 |
| Funded Ratio based on Actuarial Value of Assets            | 107.9%               | 111.1%               |
| <b>For Fiscal Year Ending</b>                              | <b>June 30, 2020</b> | <b>June 30, 2019</b> |
| Actuarially Determined Employer Contribution Rates (ADEC): |                      |                      |
| Normal**   | 13.76%               | 13.67%               |
| Accrued liability  | <u>(4.63)</u>        | <u>(5.84)</u>        |
| Total  | 9.13%                | 7.83%                |

\* Does not reflect the COLA granted by the Board on July 1, 2017.

\*\* The normal contribution rate includes administrative expenses.

2. The valuation takes into account the effect of amendments of the System enacted through the 2017 session of the General Assembly. The major benefit and contribution provisions of the System as reflected in the valuation are summarized in Schedule H.
3. The valuation reflects the 2% cost-of-living adjustment granted to certain retired members and beneficiaries effective July 1, 2017.





## Section I – Summary of Principal Results

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4. Schedule D of this report outlines the full set of actuarial assumptions and methods used to prepare the current valuation. Since the previous valuation, the Board has amended the funding policy to change the long-term assumed rate of return assumption. Effective with the June 30, 2017 valuation, the assumed rate of return will be reduced by 0.10% (10 basis points) from the immediate prior actuarial valuation, as long as the actual rate of return for the fiscal year ending with the current valuation date exceeds the assumed rate of return from the immediate prior actuarial valuation. The assumed rate of return may not decrease below 7.00% net of investment expenses. Since the actual rate of return for the year ending June 30, 2017 was greater than 7.50%, the assumed rate of return used in the current valuation was decreased from 7.50% to 7.40%. The Board Funding Policy is shown in Schedule F.
5. The entry age actuarial cost method was used to prepare the valuation. Schedule E contains a brief description of this method.
6. 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.
7. We have prepared the Solvency Test and the Schedule of Retirants Added to and Removed from Rolls for the System's Comprehensive Annual Financial Report. These tables are shown in Schedule J.
8. The funded ratio shown in the Summary of Principal Results is the ratio of the actuarial value of assets to the accrued liability and would be different if based on fair value of assets. The funded ratio is an indication of progress in funding the promised benefits. This funded ratio does not have any relationship to measuring sufficiency if the plan had to settle its liabilities.





## Section II – Membership

1. Data regarding the membership of the System for use as a basis of the valuation were furnished by the Retirement System office. The valuation included 527 active members, with annual compensation of \$59,695,102.
2. Data was provided by the Retirement System for inactive members who are eligible for deferred vested benefits. The valuation included 25 deferred vested members with annual allowances totaling \$1,023,978. In addition, there are 35 inactive non-vested members included in the valuation entitled to a refund of member contributions.
3. The following table shows the number of retired members and beneficiaries receiving a benefit as of June 30, 2017, together with the amount of their annual allowances payable under the System as of that date.

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

| GROUP                             | NUMBER    | ANNUAL<br>RETIREMENT<br>ALLOWANCES* |
|-----------------------------------|-----------|-------------------------------------|
| Service Retirements               | 272       | \$ 21,324,065                       |
| Disability Retirements            | 2         | 114,250                             |
| Beneficiaries of Deceased Members | <u>73</u> | <u>2,409,608</u>                    |
| Total                             | 347       | \$ 23,847,923                       |

\* Does not reflect the COLA granted by the Board on July 1, 2017.







## Section III – Assets

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1. As of June 30, 2017, the total fair value of assets amounted to \$441,182,000 as reported by the Auditor of the System. The actuarial value of assets as of June 30, 2017 was determined to be \$439,828,000 based on a five year smoothing of investment gains and losses. Schedule B shows the development of the actuarial value of assets as of June 30, 2017.
2. Schedule C shows receipts and disbursements of the System for the two years preceding the valuation date and a reconciliation of the fund balances at fair value.





## Section IV – Comments on Valuation

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1. Schedule A of this report contains the valuation balance sheet which shows the present and prospective assets and liabilities of the System as of June 30, 2017. The valuation was prepared in accordance with the actuarial assumptions and methods set forth in Schedule D and the actuarial cost method which is described in Schedule E.
2. The valuation balance sheet shows that the System has total prospective liabilities of \$501,465,388, of which \$220,737,877 is for the prospective benefits payable on account of present retired members, beneficiaries of deceased members, and members entitled to deferred vested benefits, and \$280,727,511 is for the prospective benefits payable on account of present active members. Against these liabilities, the System has total present assets for valuation purposes of \$439,828,000 as of June 30, 2017. The difference of \$61,637,388 between the total liabilities and the total present assets represents the present value of contributions to be made in the future. Of this amount, \$37,382,202 is the present value of future contributions expected to be made by or on behalf of members, and the balance of \$24,255,186 represents the present value of future contributions payable by the employers.
3. The employer's contributions to the System consist of normal contributions and accrued liability contributions. The valuation indicates that annual employer normal contributions at the rate of 11.89% of active members' compensation are required to provide the currently accruing benefits of the System.
4. Prospective normal contributions at the rate of 11.89% of active members' compensation have a present value of \$56,475,753. When this amount is subtracted from \$24,255,186, which is the present value of the total future contributions to be made by the employers, the result is a prospective unfunded actuarial accrued liability of (\$32,220,567).





## Section IV – Comments on Valuation

5. The funding policy adopted by the Board, as shown in Schedule F, provides that the unfunded actuarial accrued liability as of June 30, 2013 (Transitional UAAL) will be amortized over a closed 20-year period. 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 over a closed 20-year period from the date it is established. The UAAL will be amortized as a level dollar amount if the Funded Ratio is less than 100% or as a level percentage of payroll if the Funded Ratio is greater than 100%, over a period not to exceed 20 years.
6. The total UAAL contribution rate is (4.63)% of payroll, determined in accordance with the Board's funding policy. The UAAL contribution rate has been calculated on the assumption that the aggregate amount of the accrued liability contribution will increase by 3.25% each year.
7. Schedule G of this report shows the amortization schedules for the Transitional UAAL and New Incremental UAALs.
8. The following table shows the components of the total UAAL and the derivation of the UAAL contribution rate in accordance with the funding policy:

### TOTAL UAAL AND UAAL CONTRIBUTION RATE

|                                     | <b>Remaining<br/>Balance<br/>UAAL</b> | <b>Remaining<br/>Amortization<br/>Period (years)</b> | <b>Amortization<br/>Payment</b> |
|-------------------------------------|---------------------------------------|--|---------------------------------|
| Transitional                        | \$(15,806,046)                        | 16   | \$(1,402,562)                   |
| New Incremental 6/30/2014           | (13,868,788)                          | 17   | (1,178,813)                     |
| New Incremental 6/30/2015           | (15,875,735)                          | 18   | (1,296,874)                     |
| New Incremental 6/30/2016           | 4,213,205                             | 19   | 331,758                         |
| New Incremental 6/30/2017           | <u>9,116,797</u>                      | 20   | <u>693,820</u>                  |
| Total UAAL                          | \$(32,220,567)                        |  | \$(2,852,671)                   |
| Blended Amortization Period (years) |                                       |  | 16.1                            |
| Estimated payroll                   |                                       |  | \$61,635,192                    |
| UAAL Contribution Rate              |                                       |  | (4.63)%                         |





## Section V – Contributions Payable by Employers

1. The contributions of employers consist of a normal contribution and an accrued liability contribution as determined by actuarial valuation.
2. The normal contribution rate is calculated as the level percentage rate which, if applied to the compensation of the average 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. On the basis of the valuation, the normal contribution rate was determined to be 11.89% of active members' compensation.
3. An additional contribution of 1.87% of active members' compensation is required for administrative expenses for the fiscal year ending June 30, 2020.
4. The total normal contribution rate including administrative expenses is, therefore, 13.76% of active members' compensation.
5. The accrued liability contribution on the basis of the Board's funding policy is (4.63)% of active members' compensation and was determined assuming that the total payroll of active members will increase by 3.25% each year.
6. The following table summarizes the employer contribution rates, which were determined by the June 30, 2017 valuation and are recommended for use.

**ACTUARIALLY DETERMINED EMPLOYER CONTRIBUTION RATES (ADEC)  
FOR FISCAL YEAR ENDING JUNE 30, 2020**

| CONTRIBUTION      | PERCENTAGE OF ACTIVE<br>MEMBERS' COMPENSATION |
|-------------------|---|
| Normal            | 13.76%  |
| Accrued Liability | <u>(4.63)</u>                                 |
| Total             | 9.13%   |





## Section VI – Accounting Information

The information required under the Governmental Accounting Standards Board (GASB) Statements No. 67 and 68 will be issued in separate reports. The following information is provided for informational purposes only.

1. The following is a distribution of the number of employees by type of membership.

### NUMBER OF ACTIVE AND RETIRED MEMBERS AS OF JUNE 30, 2017

| GROUP  | NUMBER     |
|--|------------|
| Retirees and beneficiaries currently receiving benefits                  | 347        |
| Terminated employees entitled to benefits but not yet receiving benefits | 60         |
| Active plan members  | <u>527</u> |
| Total  | 934        |

2. The schedule of funding progress is 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) |
|--------------------------|-------------------------------|---|-----------------------------|----------------------|---------------------|---|
| 6/30/2012                | \$ 335,225                    | \$ 308,862  | \$ (26,363)                 | 108.5%               | \$ 51,898           | (50.8)%   |
| 6/30/2013                | 351,889                       | 335,792   | (16,097)                    | 104.8                | 52,807              | (30.5)  |
| 6/30/2014                | 373,560                       | 343,428   | (30,132)                    | 108.8                | 53,628              | (56.2)  |
| 6/30/2015                | 396,399                       | 350,298   | (46,101)                    | 113.2                | 54,272              | (84.9)  |
| 6/30/2016                | 418,412                       | 376,740   | (41,672)                    | 111.1                | 57,401              | (72.6)  |
| 6/30/2017*               | 439,828                       | 407,607   | (32,221)                    | 107.9                | 59,695              | (54.0)  |

\* Reflects change in assumed rate of return





## Section VI – Accounting Information

3. The following shows the schedule of employer and non-employer contributions (all dollar amounts are in thousands).

| <u>Year Ending</u> | <u>Annual Required Contribution</u> | <u>Percentage Contributed</u> |
|--------------------|-------------------------------------|-------------------------------|
| 6/30/2012          | \$ 2,083                            | 100%                          |
| 6/30/2013          | 2,279                               | 100                           |
| 6/30/2014          | 2,375                               | 100                           |
| 6/30/2015          | 4,260                               | 100                           |
| 6/30/2016          | 7,623                               | 100                           |
| 6/30/2017          | 6,684                               | 100                           |

4. The information presented in the required supplementary schedules was determined as part of the actuarial valuation at June 30, 2017. Additional information as of the latest actuarial valuation follows.

|                               |                              |
|-------------------------------|------------------------------|
| Valuation date                | 6/30/2017                    |
| Actuarial cost method         | Entry age                    |
| Amortization method           | Level percent of pay, closed |
| Remaining amortization period | 16.1 years                   |
| Asset valuation method        | 5-year smoothed fair         |
| Actuarial assumptions:        |                              |
| Investment rate of return*    | 7.40%                        |
| Projected salary increases*   | 4.50%                        |
| Cost-of-living adjustments    | None                         |

\* Includes inflation at 2.75%





## Section VII – Experience

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1. Section 47-2-26 of the act governing the operation of the System provides that as an aid to the Board in adopting service and mortality tables, the actuary will prepare an experience investigation as least once in each five-year period. The last experience investigation was prepared for the five-year period ending June 30, 2014, and based on the results of the investigation, various assumptions and methods were adopted by the Board on December 17, 2015. The next experience investigation will be prepared for the period July 1, 2014 through June 30, 2019.
2. The following table shows the estimated gain or loss from various factors that resulted in an increase of \$9,451,783 in the unfunded actuarial accrued liability (UAAL) from (\$41,672,350) to (\$32,220,567) during the fiscal year ending June 30, 2017.
3. One of the most significant items contributing to the \$9.5 million increase in the UAAL was a \$2.3 million loss due to greater than expected retirements. Additionally, there was a \$3.3 million loss due to the 2% cost-of-living adjustment granted to certain retirees and beneficiaries effective July 1, 2017, and a \$3.6 million loss due to the change in assumed interest rate. Although the fair value return for the fiscal year ending June 30, 2017 was significantly more than the assumed rate of 7.50%, the return on the actuarial value of assets was 7.87% due to the smoothing of investment gains and losses over a 5-year period. Therefore, there was only a small gain of \$1.5 million for valuation asset growth. In addition, there were small losses due to salary growth and other items.





## Section VII – Experience

### ANALYSIS OF THE CHANGE IN UNFUNDED ACTUARIAL ACCRUED LIABILITY (in thousands of dollars)

| ITEM                                    | AMOUNT OF INCREASE/ (DECREASE) |
|---|--------------------------------|
| Interest (7.40%) added to previous UAAL | \$ (3,125.4)                   |
| Accrued liability contribution          | 1,245.0                        |
| Experience:                             |                                |
| Valuation asset growth                  | (1,538.9)                      |
| Pensioners' mortality                   | (339.7)                        |
| Turnover and retirements                | 2,307.0                        |
| New entrants                            | 2,353.1                        |
| Salary increases                        | 187.7                          |
| Method changes                          | 0.0                            |
| Amendments                              | 3,345.4                        |
| Assumption changes                      | 3,615.6                        |
| Miscellaneous changes                   | <u>1,402.0</u>                 |
| Total                                   | \$ 9,451.8                     |







## Schedule A – Valuation Balance Sheet

**VALUATION BALANCE SHEET  
SHOWING THE PRESENT AND PROSPECTIVE ASSETS AND LIABILITIES OF  
THE GEORGIA JUDICIAL RETIREMENT SYSTEM  
AS OF JUNE 30, 2017**

| <b>ACTUARIAL LIABILITIES</b>          |  |                       |
|---------------------------------------|--|-----------------------|
| (1)                                   | Present value of prospective benefits payable on account of present retired members, beneficiaries of deceased members, and members entitled to deferred vested benefits |                       |
| -                                     | Service and disability benefits  | \$ 195,037,149        |
| -                                     | Death and survivor benefits  | 16,618,293            |
| -                                     | Deferred vested benefits   | <u>9,082,435</u>      |
|                                       | Total  | \$ 220,737,877        |
| (2)                                   | Present value of prospective benefits payable on account of present active members   | <u>280,727,511</u>    |
| (3)                                   | TOTAL ACTUARIAL LIABILITIES  | <u>\$ 501,465,388</u> |
| <b>PRESENT AND PROSPECTIVE ASSETS</b> |  |                       |
| (4)                                   | Actuarial value of assets  | \$ 439,828,000        |
| (5)                                   | Present value of total future contributions = (3)-(4)  | \$ 61,637,388         |
| (6)                                   | Present value of future member contributions   | 37,382,202            |
| (7)                                   | Present value of future employer contributions = (5)-(6)   | \$ 24,255,186         |
| (8)                                   | Employer normal contribution rate (net of expenses)  | 11.89%                |
| (9)                                   | Present value of future payroll  | \$ 474,985,298        |
| (10)                                  | Prospective normal contributions = (8) x (9)   | 56,475,753            |
| (11)                                  | Prospective unfunded accrued liability contributions = (7)-(10)  | <u>(32,220,567)</u>   |
| (12)                                  | TOTAL PRESENT AND PROSPECTIVE ASSETS   | <u>\$ 501,465,388</u> |





## Schedule B – Development of Actuarial Value of Assets

### DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS

|     |   |                 |
|-----|---|-----------------|
| (1) | Actuarial Value Beginning of Year   | \$ 418,412,000  |
| (2) | Fair Value End of Year  | \$ 441,182,000  |
| (3) | Fair Value Beginning of Year  | \$ 403,011,000  |
| (4) | Cash Flow   |                 |
|     | (a) Contributions   | \$ 11,590,000   |
|     | (b) Benefit Payments  | (21,950,000)    |
|     | (c) Administrative Expenses   | (728,000)       |
|     | (d) Investment Expenses   | (179,000)       |
|     | (e) Net: (4)(a) + (4)(b) + (4)(c) + (4)(d)  | \$ (11,267,000) |
| (5) | Investment Income   |                 |
|     | (a) Fair Total: (2) – (3) – (4)(e)  | \$ 49,438,000   |
|     | (b) Assumed Rate of Return for Current Year   | 7.40%           |
|     | (c) Amount for Immediate Recognition:<br>[(3) x (5)(b)] + [(4)(a) + (4)(b) + (4)(c)] x (5)(b) x 0.5] – (4)(d) | \$ 29,989,000   |
|     | (d) Amount for Phased-In Recognition: (5)(a) – (5)(c)   | 19,449,000      |
| (6) | Phased-In Recognition of Investment Income  |                 |
|     | (a) Current Year: (5)(d) / 5  | \$ 3,890,000    |
|     | (b) First Prior Year  | (5,010,000)     |
|     | (c) Second Prior Year   | (2,993,000)     |
|     | (d) Third Prior Year  | 6,807,000       |
|     | (e) Fourth Prior Year   | 0               |
|     | (f) Total Recognized Investment Gain  | \$ 2,694,000    |
| (7) | Actuarial Value End of Year: (1) + (4)(e) + (5)(c) + (6)(f)   | \$ 439,828,000  |
| (8) | Difference Between Fair & Actuarial Values: (2) – (7)   | \$ 1,354,000    |
| (9) | Rate of Return on Actuarial Value   | 7.87%           |





## Schedule C – Summary of Receipts and Disbursements

### SUMMARY OF RECEIPTS AND DISBURSEMENTS (Fair Value)

|  | YEAR ENDING       |                   |
|--|-------------------|-------------------|
|  | June 30, 2017     | June 30, 2016     |
|  | (\$1,000's)       | (\$1,000's)       |
| <u>Receipts for the Year</u>                 |                   |                   |
| Contributions:                               |                   |                   |
| Members                                      | \$ 4,906          | \$ 5,507          |
| Non-employer                                 | 2,603             | 2,869             |
| Employer                                     | <u>4,081</u>      | <u>4,754</u>      |
| Subtotal                                     | \$ 11,590         | \$ 13,130         |
| Investment Earnings                          | <u>49,259</u>     | <u>5,055</u>      |
| TOTAL  | \$ 60,849         | \$ 18,185         |
| <u>Disbursements for the Year</u>            |                   |                   |
| Benefit Payments                             | \$ 21,784         | \$ 19,011         |
| Refunds to Members                           | 166               | 261               |
| Administrative Expenses                      | <u>728</u>        | <u>754</u>        |
| TOTAL  | \$ 22,678         | \$ 20,026         |
| <u>Excess of Receipts over Disbursements</u> | \$ 38,171         | \$ (1,841)        |
| <u>Reconciliation of Asset Balances</u>      |                   |                   |
| Asset Balance as of the Beginning of Year    | \$ 403,011        | \$ 404,852        |
| Excess of Receipts over Disbursements        | <u>38,171</u>     | <u>(1,841)</u>    |
| Asset Balance as of the End of Year          | <u>\$ 441,182</u> | <u>\$ 403,011</u> |
| Rate of Return                               | 12.39%            | 1.26%             |





## Schedule D – Outline of Actuarial Assumptions and Methods

Actuarial assumptions and methods adopted by the Board December 17, 2015. Valuation interest rate adopted by the Board March 15, 2018.

**VALUATION INTEREST RATE:** 7.40% per annum, compounded annually, net of investment expenses, composed of a 2.75% inflation assumption and a 4.75% real rate of investment return assumption.

**SALARY INCREASES:** 4.50% annually

**SEPARATIONS BEFORE SERVICE RETIREMENT:** Representative values of the assumed annual rates of separation before service retirement are as follows:

| Age | Annual Rates of |       |       |            |
|-----|-----------------|-------|-------|------------|
|     | Withdrawal      | Death |       | Disability |
|     |                 | Men   | Women |            |
| 20  | 4.0%            | .032% | .018% | .03%       |
| 25  | 4.0             | .035  | .019  | .03        |
| 30  | 4.0             | .041  | .025  | .05        |
| 35  | 4.0             | .072  | .044  | .08        |
| 40  | 6.0             | .100  | .066  | .10        |
| 45  | 4.0             | .140  | .104  | .18        |
| 50  | 3.0             | .198  | .156  | .25        |
| 55  | 2.5             | .281  | .223  | .45        |
| 60  | 2.5             | .409  | .306  | .73        |
| 65  | 2.5             | .560  | .430  | 1.18       |

**RETIREMENT:** The assumed annual rates of retirement are shown below.

| Age     | Annual Rates of Retirement |
|---------|----------------------------|
| 60      | 15%                        |
| 61      | 10                         |
| 62      | 12                         |
| 63 – 64 | 10                         |
| 65 – 69 | 15                         |
| 70 – 74 | 25                         |
| 75      | 100                        |





## Schedule D – Outline of Actuarial Assumptions and Methods

**DEATHS AFTER RETIREMENT:** Since the System has minimal post-retirement mortality experience, the System uses the same mortality tables used for the Employees' Retirement System of Georgia. The RP-2000 Combined Mortality Table projected to 2025 with projection scale BB and set forward 2 years for both males and females is used for the period after retirement and for dependent beneficiaries. For the period after disability retirement, the RP-2000 Disabled Mortality Table projected to 2025 with projection scale BB and set back 7 years for males and set forward 3 years for females is used. There is a margin for future mortality improvement in the tables used by the System. Based on the results of the most recent experience study adopted by the Board on December 17, 2015, the numbers of expected future deaths are 9-12% less than the actual number of deaths that occurred during the study period for healthy retirees and disabled retirees. Representative values of the assumed annual rates of mortality for service retirements and beneficiaries are as follows:

| Age | Men    | Women  | Age | Men    | Women  |
|-----|--------|--------|-----|--------|--------|
| 40  | 0.113% | 0.079% | 65  | 1.130% | 0.899% |
| 45  | 0.161  | 0.123  | 70  | 1.870  | 1.528  |
| 50  | 0.247  | 0.187  | 75  | 3.215  | 2.522  |
| 55  | 0.425  | 0.292  | 80  | 5.516  | 4.163  |
| 60  | 0.699  | 0.492  | 85  | 9.563  | 7.124  |

**ADMINISTRATIVE EXPENSES:** Budgeted expenses for the fiscal year are added to the normal cost contribution.

**AMORTIZATION METHOD AND PAYROLL GROWTH ASSUMPTION:** Level percentage of payroll, assuming payroll will increase 3.25% per year.

**ASSET METHOD:** Actuarial Value, as developed in Schedule B. The actuarial value of assets recognizes a portion of the difference between the fair value of assets and the expected value of assets, based on the assumed valuation rate of return. The actuarial value was set equal to the fair value as of June 30, 2013. The amount recognized each year beginning June 30, 2014 is 20% of the difference between fair value and expected actuarial value.

**PERCENT MARRIED:** For members hired on and after July 1, 2012, 100% are assumed to be married. For these members and for members who have elected spouse coverage, husbands are assumed to be three years older than their wives.

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





## Schedule E – Actuarial Cost Method

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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 7.40%), 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. Future salary increases are also anticipated. 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, beneficiaries and members entitled to deferred vested benefits to obtain the present value of all expected benefits payable from the System on account of the present group of members and beneficiaries.
2. The employer contributions required to support the benefits of the System are determined following a level funding approach, and consist of a normal contribution and an unfunded actuarial 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 amount which, if applied for the average 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 contributions are determined by subtracting the present value of prospective employer normal contributions and member contributions, together with the current actuarial value of assets, from the present value of expected benefits to be paid from the System.





## Schedule F – Board Funding Policy

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### FUNDING POLICY OF THE JRS BOARD OF TRUSTEES

The purpose of this Funding Policy is to state the overall objectives for the Georgia Judicial Retirement System (System), the benchmarks that will be used to measure progress in achieving those goals, and the methods and assumptions that will be employed to develop the benchmarks. It is the intent of the JRS Board of Trustees that the Funding Policy outlined herein will remain unchanged until the objectives below are met.

#### I. Funding Objectives

The goal in requiring employer and member contributions to the System is to accumulate sufficient assets during a member's employment to fully finance the benefits the member is expected to receive throughout retirement. In meeting this objective, the System will strive to meet the following funding objectives:

- To develop a pattern of contribution rates expressed as a percentage of employer payroll and measured by valuations prepared in accordance with applicable State laws and the principles of practice prescribed by the Actuarial Standards Board.
- To maintain a stable funded ratio (ratio of actuarial value of assets to actuarial accrued liabilities) that reflects a trend of strong actuarial condition. The long-term objective is to maintain a 100% funded ratio; in the event that the funded ratio falls below 100%, the objective will be to obtain a 100% funded ratio over a reasonable period of future years.
- To maintain adequate asset levels to finance the benefits promised to members and monitor the future demand for liquidity.
- To promote intergenerational equity for taxpayers with respect to contributions required for the benefits provided by the System.

#### II. Measures of Funding Progress

To track progress in achieving the System's funding objectives, the following measures will be determined annually as of the actuarial valuation date (with due recognition that a single year's results may not be indicative of long-term trends):

- **Funded ratio** – The funded ratio, defined as the actuarial value of assets divided by the actuarial accrued liability, should remain reasonably stable over time, before adjustments for changes in benefits, actuarial methods, and/or actuarial adjustments. The target funded ratio will be 100 percent. In the event that the funded ratio falls below 100%, the targeted funded ratio will be 100% within 20 years of the date the funded ratio first falls below 100%.
- **Unfunded Actuarial Accrued Liability (UAAL)**
  - **Transitional UAAL** – The UAAL established as of the initial valuation date for which this funding policy is adopted shall be known as the Transitional UAAL.
  - **New Incremental UAAL** – Each subsequent valuation will produce a New Incremental UAAL consisting of all benefit changes, assumption and method changes and experience gains and/or losses that have occurred since the previous valuations.
- **UAAL Amortization Period**
  - The transitional UAAL will be amortized over a closed 20 year period beginning on the initial valuation date for which this funding policy is adopted.
  - Each New Incremental UAAL shall be amortized over a closed 20 year period beginning with the year it is incurred.





## Schedule F – Board Funding Policy

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- **Employer Contribution Rates**
  - **Employer Normal Contribution Rate** – the contribution rate determined as of the valuation date each year to fund the employer portion of the annual normal cost based on the assumptions and methods approved by the Board.
  - In each valuation subsequent to the adoption of this funding policy the required employer contribution rate will be determined as the summation of the employer Normal Contribution Rate, a contribution rate for administrative expenses, the amortization rate for the Transitional UAAL and the individual amortization rate for each of the New Incremental UAAL bases.
  - In no event shall the employer contribution rate be less than 0%.
  - The valuation methodology, including the amortization of the Unfunded Actuarial Accrued Liability (UAAL), would be expected to maintain reasonably stable contribution rates.

### III. Methods and Assumptions

The annual actuarial valuations providing the measures to assess funding progress will utilize the actuarial methods and assumptions last adopted by the Board based upon the advice and recommendations of the actuary. These include the following primary methods and assumptions:

- The actuarial cost method used to develop the benchmarks will be the Entry Age Normal (EAN) actuarial cost method.
- The long-term annual investment rate of return assumption will be:
  - Effective with the June 30, 2013 valuation date, 7.50% net of investment expenses.
  - Effective with the June 30, 2017 valuation date, reduced by 0.10% (10 basis points) from the immediate prior actuarial valuation, as long as the following conditions are met:
    - The actual rate of return for the fiscal year ending with the current valuation date exceeds the assumed rate of return from the immediate prior actuarial valuation, and
    - The assumed rate of return does not decrease below 7.00% net of investment expenses.
- The actuarial value of assets will be determined by recognizing the annual differences between actual and expected market value of assets over a five-year period, beginning with the June 30, 2013 actuarial valuation.
  - Prior to the June 30, 2013 valuation, the differences between actual and expected market value of assets were recognized over a seven-year period. For the June 30, 2013 valuation, all then-current deferred gains and losses will be recognized immediately, and the initial new five-year period will begin immediately thereafter.

The employer contribution rates determined in an annual actuarial valuation will be at least sufficient to satisfy the annual normal cost of the System and amortize any UAAL as a level dollar amount over a period not to exceed 20 years. However in no event shall the employer contribution rate be less than 0%.

The actuary shall conduct an investigation into the System's experience at least every five years and utilize the results of the investigation to form the basis for recommended assumptions and methods. Any changes to the recommended assumptions and methods that are approved by the Board will be reflected in this Policy.







## Schedule F – Board Funding Policy

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### IV. Funding Policy Progress

The Board will periodically have actuarial projections of the valuation results performed to assess the current and expected future progress towards the overall funding goals of the System. These periodic projections will provide the expected valuation results over at least a 30-year period. The projected measures of funding progress and the recent historical trend provided in valuations will provide important information for the Board's assessment of the System's funding progress.

Adopted: March 15, 2018





## Schedule G – Amortization of UAAL

### AMORTIZATION OF TRANSITIONAL UAAL

| Valuation Date   | Amortization Period | Balance of Transitional UAAL | Expected UAAL Contribution |
|------------------|---------------------|------------------------------|----------------------------|
| 6/30/2013        | 20                  | \$ (16,097,023)              | \$ (1,187,279)             |
| 6/30/2014        | 19                  | (16,117,020)                 | (1,231,802)                |
| 6/30/2015        | 18                  | (16,093,994)                 | (1,325,066)                |
| 6/30/2016        | 17                  | (15,975,978)                 | (1,368,130)                |
| <b>6/30/2017</b> | <b>16</b>           | <b>(15,806,046)</b>          | <b>(1,402,562)</b>         |
| 6/30/2018        | 15                  | (15,573,131)                 | (1,448,146)                |
| 6/30/2019        | 14                  | (15,277,397)                 | (1,495,210)                |
| 6/30/2020        | 13                  | (14,912,714)                 | (1,543,805)                |
| 6/30/2021        | 12                  | (14,472,450)                 | (1,593,978)                |
| 6/30/2022        | 11                  | (13,949,433)                 | (1,645,783)                |
| 6/30/2023        | 10                  | (13,335,909)                 | (1,699,271)                |
| 6/30/2024        | 9                   | (12,623,495)                 | (1,754,497)                |
| 6/30/2025        | 8                   | (11,803,137)                 | (1,811,518)                |
| 6/30/2026        | 7                   | (10,865,051)                 | (1,870,392)                |
| 6/30/2027        | 6                   | (9,798,673)                  | (1,931,180)                |
| 6/30/2028        | 5                   | (8,592,594)                  | (1,993,943)                |
| 6/30/2029        | 4                   | (7,234,503)                  | (2,058,747)                |
| 6/30/2030        | 3                   | (5,711,110)                  | (2,125,656)                |
| 6/30/2031        | 2                   | (4,008,076)                  | (2,194,740)                |
| 6/30/2032        | 1                   | (2,109,934)                  | (2,266,069)                |
| 6/30/2033        | 0                   | 0                            | 0                          |





## Schedule G – Amortization of UAAL

### AMORTIZATION OF 2014 INCREMENTAL UAAL

| Valuation Date   | Amortization Period | Balance of New Incremental UAAL 6/30/2014 | Expected UAAL Contribution |
|------------------|---------------------|---|----------------------------|
| 6/30/2014        | 20                  | \$ (14,015,447)                           | \$ (1,033,747)             |
| 6/30/2015        | 19                  | (14,032,859)                              | (1,114,085)                |
| 6/30/2016        | 18                  | (13,971,238)                              | (1,150,293)                |
| <b>6/30/2017</b> | <b>17</b>           | <b>(13,868,788)</b>                       | <b>(1,178,813)</b>         |
| 6/30/2018        | 16                  | (13,716,265)                              | (1,217,124)                |
| 6/30/2019        | 15                  | (13,514,145)                              | (1,256,680)                |
| 6/30/2020        | 14                  | (13,257,511)                              | (1,297,523)                |
| 6/30/2021        | 13                  | (12,941,044)                              | (1,339,692)                |
| 6/30/2022        | 12                  | (12,558,990)                              | (1,383,232)                |
| 6/30/2023        | 11                  | (12,105,123)                              | (1,428,187)                |
| 6/30/2024        | 10                  | (11,572,715)                              | (1,474,603)                |
| 6/30/2025        | 9                   | (10,954,492)                              | (1,522,528)                |
| 6/30/2026        | 8                   | (10,242,597)                              | (1,572,010)                |
| 6/30/2027        | 7                   | (9,428,539)                               | (1,623,100)                |
| 6/30/2028        | 6                   | (8,503,151)                               | (1,675,851)                |
| 6/30/2029        | 5                   | (7,456,533)                               | (1,730,316)                |
| 6/30/2030        | 4                   | (6,278,000)                               | (1,786,551)                |
| 6/30/2031        | 3                   | (4,956,021)                               | (1,844,614)                |
| 6/30/2032        | 2                   | (3,478,152)                               | (1,904,564)                |
| 6/30/2033        | 1                   | (1,830,971)                               | (1,966,463)                |
| 6/30/2034        | 0                   | 0   | 0                          |





## Schedule G – Amortization of UAAL

### AMORTIZATION OF 2015 INCREMENTAL UAAL

| Valuation Date   | Amortization Period | Balance of New Incremental UAAL 6/30/2015 | Expected UAAL Contribution |
|------------------|---------------------|---|----------------------------|
| 6/30/2015        | 20                  | \$ (15,973,823)                           | \$ (1,226,104)             |
| 6/30/2016        | 19                  | (15,945,755)                              | (1,265,952)                |
| <b>6/30/2017</b> | <b>18</b>           | <b>(15,875,735)</b>                       | <b>(1,296,874)</b>         |
| 6/30/2018        | 17                  | (15,753,665)                              | (1,339,022)                |
| 6/30/2019        | 16                  | (15,580,414)                              | (1,382,541)                |
| 6/30/2020        | 15                  | (15,350,824)                              | (1,427,473)                |
| 6/30/2021        | 14                  | (15,059,311)                              | (1,473,866)                |
| 6/30/2022        | 13                  | (14,699,834)                              | (1,521,767)                |
| 6/30/2023        | 12                  | (14,265,855)                              | (1,571,224)                |
| 6/30/2024        | 11                  | (13,750,304)                              | (1,622,289)                |
| 6/30/2025        | 10                  | (13,145,538)                              | (1,675,013)                |
| 6/30/2026        | 9                   | (12,443,294)                              | (1,729,451)                |
| 6/30/2027        | 8                   | (11,634,647)                              | (1,785,658)                |
| 6/30/2028        | 7                   | (10,709,952)                              | (1,843,692)                |
| 6/30/2029        | 6                   | (9,658,796)                               | (1,903,612)                |
| 6/30/2030        | 5                   | (8,469,935)                               | (1,965,480)                |
| 6/30/2031        | 4                   | (7,131,230)                               | (2,029,358)                |
| 6/30/2032        | 3                   | (5,629,583)                               | (2,095,312)                |
| 6/30/2033        | 2                   | (3,950,860)                               | (2,163,410)                |
| 6/30/2034        | 1                   | (2,079,814)                               | (2,233,720)                |
| 6/30/2035        | 0                   | 0   | 0                          |





## Schedule G – Amortization of UAAL

### AMORTIZATION OF 2016 INCREMENTAL UAAL

| Valuation Date   | Amortization Period | Balance of New Incremental UAAL 6/30/2016 | Expected UAAL Contribution |
|------------------|---------------------|---|----------------------------|
| 6/30/2016        | 20                  | \$ 4,220,621                              | \$ 323,963                 |
| <b>6/30/2017</b> | <b>19</b>           | <b>4,213,205</b>                          | <b>331,758</b>             |
| 6/30/2018        | 18                  | 4,193,224                                 | 342,541                    |
| 6/30/2019        | 17                  | 4,160,982                                 | 353,673                    |
| 6/30/2020        | 16                  | 4,115,222                                 | 365,168                    |
| 6/30/2021        | 15                  | 4,054,581                                 | 377,035                    |
| 6/30/2022        | 14                  | 3,977,584                                 | 389,289                    |
| 6/30/2023        | 13                  | 3,882,636                                 | 401,941                    |
| 6/30/2024        | 12                  | 3,768,010                                 | 415,004                    |
| 6/30/2025        | 11                  | 3,631,839                                 | 428,492                    |
| 6/30/2026        | 10                  | 3,472,103                                 | 442,418                    |
| 6/30/2027        | 9                   | 3,286,621                                 | 456,796                    |
| 6/30/2028        | 8                   | 3,073,035                                 | 471,642                    |
| 6/30/2029        | 7                   | 2,828,797                                 | 486,971                    |
| 6/30/2030        | 6                   | 2,551,157                                 | 502,797                    |
| 6/30/2031        | 5                   | 2,237,146                                 | 519,138                    |
| 6/30/2032        | 4                   | 1,883,557                                 | 536,010                    |
| 6/30/2033        | 3                   | 1,486,930                                 | 553,430                    |
| 6/30/2034        | 2                   | 1,043,532                                 | 571,417                    |
| 6/30/2035        | 1                   | 549,337                                   | 331,758                    |
| 6/30/2036        | 0                   | 0   | 0                          |





## Schedule G – Amortization of UAAL

### AMORTIZATION OF 2017 INCREMENTAL UAAL

| Valuation Date | Amortization Period | Balance of New Incremental UAAL 6/30/2017 | Expected UAAL Contribution |
|----------------|---------------------|---|----------------------------|
| 6/30/2017      | 20                  | \$ 9,116,797                              | \$ 693,820                 |
| 6/30/2018      | 19                  | 9,097,618                                 | 716,369                    |
| 6/30/2019      | 18                  | 9,054,472                                 | 739,651                    |
| 6/30/2020      | 17                  | 8,984,851                                 | 763,690                    |
| 6/30/2021      | 16                  | 8,886,040                                 | 788,510                    |
| 6/30/2022      | 15                  | 8,755,097                                 | 814,137                    |
| 6/30/2023      | 14                  | 8,588,838                                 | 840,596                    |
| 6/30/2024      | 13                  | 8,383,816                                 | 867,915                    |
| 6/30/2025      | 12                  | 8,136,303                                 | 896,123                    |
| 6/30/2026      | 11                  | 7,842,267                                 | 925,247                    |
| 6/30/2027      | 10                  | 7,497,348                                 | 955,317                    |
| 6/30/2028      | 9                   | 7,096,834                                 | 986,365                    |
| 6/30/2029      | 8                   | 6,635,635                                 | 1,018,422                  |
| 6/30/2030      | 7                   | 6,108,250                                 | 1,051,521                  |
| 6/30/2031      | 6                   | 5,508,740                                 | 1,085,695                  |
| 6/30/2032      | 5                   | 4,830,692                                 | 1,120,980                  |
| 6/30/2033      | 4                   | 4,067,183                                 | 1,157,412                  |
| 6/30/2034      | 3                   | 3,210,743                                 | 1,195,028                  |
| 6/30/2035      | 2                   | 2,253,310                                 | 1,233,866                  |
| 6/30/2036      | 1                   | 1,186,189                                 | 1,273,967                  |
| 6/30/2037      | 0                   | 0   | 0                          |





## Schedule H – Summary of Main System Provisions

### SUMMARY OF MAIN SYSTEM PROVISIONS AS INTERPRETED FOR VALUATION PURPOSES

The Georgia Judicial Retirement System (JRS) is a cost-sharing multiple employer defined benefit pension plan established by the Georgia General Assembly for the purpose of providing retirement allowances and other benefits for trial judges and solicitors of certain courts in Georgia, and their survivors and other beneficiaries, superior court judges of the state of Georgia, and district attorneys of the state of Georgia.

#### Normal Retirement Benefit

|             |   |
|-------------|---|
| Eligibility | Age 60 and 16 years of creditable service.  |
| Benefit     | Annual benefit is $66\frac{2}{3}\%$ of the annual salary plus 1% for each year of credited service over 16 years, not to exceed 24 years. |

#### Early Retirement Benefit

|             |   |
|-------------|---|
| Eligibility | Age 60 and 10 years of creditable service.  |
| Benefit     | A pro-rata portion of the normal retirement benefit, based on service not to exceed 16 years. |

#### Disability Retirement Benefit

|             |   |
|-------------|---|
| Eligibility | 4 years of creditable service.  |
| Benefit     | For members with less than 10 years of creditable service: 1/2 of projected normal retirement benefit. For members with 10 or more years of creditable service: 2/3 of projected normal retirement benefit. |

Involuntary Retirement Benefit N/A

#### Deferred Vested Retirement Benefit

|             |                                     |
|-------------|-------------------------------------|
| Eligibility | 10 years of creditable service.     |
| Benefit     | Accrued benefit deferred to age 60. |

#### Death Benefit

|                                   |   |
|-----------------------------------|---|
| Eligibility                       |   |
| Members prior to July 1, 2012     | 10 years of creditable service during which the member has contributed for spouse coverage. |
| Members on and after July 1, 2012 | 10 years of creditable service.   |





## Schedule H – Summary of Main System Provisions

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### Benefit

Members prior to July 1, 2012

50% of benefit which member was receiving if retired, or would have received had he retired on the date of his death. If under age 60, and the member was a member of a Predecessor Retirement System, an immediate benefit equal to 50% of the benefit which member would have received had he remained employed and retired at age 60. If under age 60 and not a member of a Predecessor Retirement System, an immediate benefit equal to 50% of the benefit which the member would have received if the member were age 60 on the date of death.

Members on and after July 1, 2012

Spouse receives a benefit as if member retired on his or her date of death and elected option three.

If less than 10 years of service or member rejects spouse coverage or dies before contributing for spouse's coverage for at least 10 years, death benefit is return of member's contributions with interest.

### Termination Benefit

Eligibility

Termination with less than 10 years of creditable service.

Benefit

Return of the member's accumulated contributions with interest.

### Payment Options

Members prior to July 1, 2012

Monthly Life Annuity with Death Benefit payable as described above with guaranteed payment of accumulated contributions.

Members on and after July 1, 2012

Monthly Life Annuity with guaranteed payment of accumulated contributions.

Option 1 – 100% Joint & Survivor

Option 2 – 66-2/3% Joint & Survivor

Option 3 – 50% Joint & Survivor

Pop-Up Option – Election of Options 1, 2, or 3 with added provision that if survivor predeceases the member the benefit reverts to the amount the member would have received had no option been chosen.







## Schedule H – Summary of Main System Provisions

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### Post-Retirement Adjustments

The Board may from time to time grant a Cost of Living Adjustment.

For members with retirement dates prior to July 1, 2013, a one time 1.75% increase on the first \$37,500 was made at the time of retirement.

### Contributions

#### By Members

Members prior to July 1, 2012 contribute 7-1/2% of salary, plus 2-1/2% of salary for up to 16 years if spouse benefit is not rejected.

Members on and after July 1, 2012 contribute 7-1/2% of salary.

#### By Employers

Employer contributions are actuarially determined and approved and certified by the Board.





## Schedule I – Tables of Membership Data

The Number and Average Annual Compensation of Active Members  
by Age and Service as of June 30, 2017

| Age      | Years of Service |         |         |          |          |          |          |          |         | Total   |
|----------|------------------|---------|---------|----------|----------|----------|----------|----------|---------|---------|
|          | Under 1          | 1 to 4  | 5 to 9  | 10 to 14 | 15 to 19 | 20 to 24 | 25 to 29 | 30 to 34 | 35 & Up |         |
| Under 25 | 0                | 0       | 0       | 0        | 0        | 0        | 0        | 0        | 0       | 0       |
| Avg. Pay | 0                | 0       | 0       | 0        | 0        | 0        | 0        | 0        | 0       | 0       |
| 25 to 29 | 0                | 0       | 0       | 0        | 0        | 0        | 0        | 0        | 0       | 0       |
| Avg. Pay | 0                | 0       | 0       | 0        | 0        | 0        | 0        | 0        | 0       | 0       |
| 30 to 34 | 5                | 1       | 0       | 0        | 0        | 0        | 0        | 0        | 0       | 6       |
| Avg. Pay | 106,285          | 21,250  | 0       | 0        | 0        | 0        | 0        | 0        | 0       | 92,113  |
| 35 to 39 | 4                | 7       | 2       | 0        | 0        | 0        | 0        | 0        | 0       | 13      |
| Avg. Pay | 75,848           | 88,300  | 75,632  | 0        | 0        | 0        | 0        | 0        | 0       | 82,520  |
| 40 to 44 | 20               | 15      | 16      | 5        | 0        | 0        | 0        | 0        | 0       | 56      |
| Avg. Pay | 114,484          | 100,717 | 107,391 | 119,874  | 0        | 0        | 0        | 0        | 0       | 109,251 |
| 45 to 49 | 9                | 20      | 25      | 12       | 10       | 0        | 0        | 0        | 0       | 76      |
| Avg. Pay | 105,341          | 101,997 | 110,896 | 105,485  | 110,887  | 0        | 0        | 0        | 0       | 107,041 |
| 50 to 54 | 6                | 15      | 13      | 20       | 6        | 3        | 0        | 0        | 0       | 63      |
| Avg. Pay | 119,284          | 121,506 | 124,630 | 114,970  | 107,968  | 96,828   | 0        | 0        | 0       | 117,400 |
| 55 to 59 | 6                | 10      | 18      | 18       | 18       | 16       | 6        | 1        | 0       | 93      |
| Avg. Pay | 108,666          | 111,496 | 110,180 | 110,381  | 125,188  | 122,821  | 122,345  | 132,265  | 0       | 116,365 |
| 60 to 64 | 4                | 12      | 16      | 15       | 24       | 22       | 7        | 11       | 1       | 112     |
| Avg. Pay | 116,199          | 102,246 | 116,462 | 107,485  | 125,716  | 126,181  | 122,895  | 128,392  | 132,265 | 119,334 |
| 65 to 69 | 1                | 9       | 9       | 15       | 15       | 14       | 4        | 6        | 1       | 74      |
| Avg. Pay | 115,387          | 100,079 | 102,958 | 123,233  | 108,238  | 121,696  | 122,875  | 114,897  | 132,265 | 113,941 |
| 70 & Up  | 0                | 3       | 7       | 4        | 6        | 6        | 3        | 2        | 3       | 34      |
| Avg. Pay | 0                | 88,869  | 116,067 | 132,265  | 119,593  | 115,705  | 64,832   | 132,265  | 107,456 | 111,804 |
| Total    | 55               | 92      | 106     | 89       | 79       | 61       | 20       | 20       | 5       | 527     |
| Avg. Pay | 109,463          | 103,499 | 111,772 | 113,947  | 118,587  | 121,796  | 114,017  | 124,925  | 117,380 | 113,273 |

Average Age: 56.1  
Average Service: 12.3





## Schedule I – Tables of Membership Data

### NUMBER OF RETIRED MEMBERS AND THEIR BENEFITS BY AGE

| Age       | Number of Members | Total Annual Benefits | Average Annual Benefits |
|-----------|-------------------|-----------------------|-------------------------|
| Under 50  | 0                 | \$ 0                  | \$ 0                    |
| 50 - 54   | 0                 | 0                     | 0                       |
| 55 - 59   | 0                 | 0                     | 0                       |
| 60 - 64   | 36                | 2,870,653             | 79,740                  |
| 65 - 69   | 67                | 5,226,043             | 78,001                  |
| 70 - 74   | 75                | 5,885,561             | 78,474                  |
| 75 - 79   | 54                | 4,286,823             | 79,386                  |
| 80 - 84   | 23                | 1,825,313             | 79,361                  |
| 85 - 89   | 13                | 976,487               | 75,114                  |
| 90 - 94   | 3                 | 175,256               | 58,419                  |
| 95 & Over | 1                 | 77,929                | 77,929                  |
| Total     | 272               | \$ 21,324,065         | \$ 78,397               |

### NUMBER OF BENEFICIARIES AND THEIR BENEFITS BY AGE

| Age       | Number of Members | Total Annual Benefits | Average Annual Benefits |
|-----------|-------------------|-----------------------|-------------------------|
| Under 50  | 1                 | \$ 5,820              | \$ 5,820                |
| 50 - 54   | 0                 | 0                     | 0                       |
| 55 - 59   | 1                 | 6,565                 | 6,565                   |
| 60 - 64   | 5                 | 90,648                | 18,130                  |
| 65 - 69   | 10                | 321,826               | 32,183                  |
| 70 - 74   | 8                 | 287,801               | 35,975                  |
| 75 - 79   | 11                | 449,084               | 40,826                  |
| 80 - 84   | 18                | 631,164               | 35,065                  |
| 85 - 89   | 9                 | 288,978               | 32,109                  |
| 90 - 94   | 10                | 327,722               | 32,772                  |
| 95 & Over | 0                 | 0                     | 0                       |
| Total     | 73                | \$ 2,409,608          | \$ 33,008               |





## Schedule I – Tables of Membership Data

### NUMBER OF DISABLED RETIREES AND THEIR BENEFITS BY AGE

| Age       | Number of Members | Total Annual Benefits | Average Annual Benefits |
|-----------|-------------------|-----------------------|-------------------------|
| Under 50  | 0                 | \$ 0                  | \$ 0                    |
| 50 - 54   | 0                 | 0                     | 0                       |
| 55 - 59   | 1                 | 57,482                | 57,482                  |
| 60 - 64   | 0                 | 0                     | 0                       |
| 65 - 69   | 0                 | 0                     | 0                       |
| 70 - 74   | 1                 | 56,768                | 56,768                  |
| 75 - 79   | 0                 | 0                     | 0                       |
| 80 - 84   | 0                 | 0                     | 0                       |
| 85 - 89   | 0                 | 0                     | 0                       |
| 90 - 94   | 0                 | 0                     | 0                       |
| 95 & Over | 0                 | 0                     | 0                       |
| Total     | 2                 | \$ 114,250            | \$ 57,125               |

### NUMBER OF DEFERRED VESTED MEMBERS AND THEIR BENEFITS BY AGE

| Age       | Number of Members | Total Annual Benefits | Average Annual Benefits |
|-----------|-------------------|-----------------------|-------------------------|
| Under 45  | 1                 | \$ 57,205             | \$ 57,205               |
| 45-49     | 4                 | 183,083               | 45,771                  |
| 50-54     | 3                 | 159,434               | 53,145                  |
| 55-59     | 11                | 509,029               | 46,275                  |
| 60-64     | 6                 | 115,227               | 19,204                  |
| 65 & Over | 0                 | 0                     | 0                       |
| Total     | 25                | \$ 1,023,978          | \$ 40,959               |





## Schedule J – CAFR Schedules

| GA JRS: Solvency Test            |                                    |                                  |   |                  |  |        |        |
|----------------------------------|------------------------------------|----------------------------------|---|------------------|--|--------|--------|
| Actuarial Accrued Liability for: |                                    |                                  |   |                  |  |        |        |
| Actuarial Valuation as of 6/30   | Active Member Contributions<br>(1) | Retirants & Beneficiaries<br>(2) | Active Members (Employer Funded Portion)<br>(3) | Valuation Assets | Portion of Aggregate Accrued Liabilities Covered by Assets |        |        |
|                                  |                                    |                                  |   |                  | (1)  | (2)    | (3)    |
| 2017                             | \$84,841                           | \$220,738                        | \$102,028                                       | \$439,828        | 100%   | 100.0% | 100.0% |
| 2016                             | 91,991                             | 180,107                          | 104,642   | 418,412          | 100%   | 100.0% | 100.0% |
| 2015                             | 84,170                             | 174,147                          | \$91,981  | 396,399          | 100%   | 100.0% | 100.0% |
| 2014                             | 80,007                             | 162,527                          | 100,894   | 373,560          | 100%   | 100.0% | 100.0% |
| 2013                             | 73,949                             | 162,364                          | 99,479  | 351,889          | 100%   | 100.0% | 100.0% |
| 2012                             | 73,998                             | 141,880                          | 92,984  | 335,225          | 100%   | 100.0% | 100.0% |
| 2011                             | 71,047                             | 128,991                          | 90,440  | 327,483          | 100%   | 100.0% | 100.0% |
| 2010                             | 67,293                             | 117,730                          | 96,473  | 320,050          | 100%   | 100.0% | 100.0% |
| 2009                             | 61,188                             | 108,923                          | 112,363   | 317,624          | 100%   | 100.0% | 100.0% |
| 2008                             | 59,838                             | 90,601                           | 118,077   | 313,315          | 100%   | 100.0% | 100.0% |

*All dollar amounts are in thousands.*

| GA JRS: Schedule of Retirants Added to and Removed from Rolls |                |                                  |                    |                                  |                  |                                  |                                 |                           |
|---|----------------|----------------------------------|--------------------|----------------------------------|------------------|----------------------------------|---------------------------------|---------------------------|
| Year Ended  | Added to Rolls |                                  | Removed from Rolls |                                  | Roll End of Year |                                  | % Increase in Annual Allowances | Average Annual Allowances |
|   | Number         | Annual Allowances (in thousands) | Number             | Annual Allowances (in thousands) | Number           | Annual Allowances (in thousands) |                                 |                           |
| June 30, 2017   | 62             | \$5,304                          | 10                 | \$771                            | 347              | \$23,848                         | 23.5%                           | \$68,726                  |
| June 30, 2016   | 13             | 919                              | 5                  | 269                              | 295              | 19,315                           | 3.5%                            | 65,475                    |
| June 30, 2015   | 21             | 1,416                            | 11                 | 561                              | 287              | 18,665                           | 4.8%                            | 65,035                    |
| June 30, 2014   | 23             | 1,175                            | 9                  | 326                              | 277              | 17,810                           | 5.0%                            | 64,296                    |
| June 30, 2013   | 42             | 2,763                            | 13                 | 629                              | 263              | 16,961                           | 14.4%                           | 64,490                    |
| June 30, 2012   | 22             | 1,732                            | 8                  | 405                              | 234              | 14,827                           | 9.8%                            | 63,363                    |
| June 30, 2011   | 15             | 1,168                            | 2                  | 105                              | 220              | 13,500                           | 8.5%                            | 61,364                    |
| June 30, 2010   | 16             | 933                              | 10                 | 508                              | 207              | 12,437                           | 3.5%                            | 60,082                    |
| June 30, 2009   | 29             | 2238                             | 6                  | 191                              | 201              | 12,012                           | 20.5%                           | 59,761                    |
| June 30, 2008   | 14             | 902                              | 7                  | 410                              | 178              | 9,965                            | 5.2%                            | 55,983                    |

