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## **STATE OF IOWA JUDICIAL RETIREMENT SYSTEM**

**Actuarial Valuation Report  
as of July 1, 2018**





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CONSULTING, LLC

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October 11, 2018

Mr. Todd Nuccio  
State Court Administrator  
1111 E. Court Ave.  
Des Moines, IA 50319

Dear Mr. Nuccio:

At your request, we have performed an actuarial valuation of the Iowa Judicial Retirement System as of July 1, 2018. The major findings are included in this report. The purpose of this report is to provide a summary of the funded status of the System as of July 1, 2018 and to evaluate the sufficiency of the current statutory contribution rates. There have been several changes to the actuarial assumptions used in this valuation as a result of the completion of an experience study in September 2018. All of the recommended changes from the experience study were adopted and are first used in this valuation. In addition, legislation in the 2017 session made changes to certain provisions of the Senior Judge program, effective January 1, 2018. This change is also first reflected in this valuation. The details of these changes, as well as the impact on the current valuation, are discussed in further detail in the Executive Summary of this report.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the State Court Administrator's office. This information includes, but is not limited to, statutory provisions, member data and financial information. While not verifying the data at its source, the actuary has performed tests for consistency and reasonability. We found this information to be reasonably consistent and comparable with information provided in prior years. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete, our results may be different and our calculations may need to be revised.

We further certify that all costs, liabilities, rates of interest and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer our best estimate of anticipated experience affecting the System. Nevertheless, the emerging costs will vary from those presented in this report to the extent actual experience differs from that anticipated by the actuarial assumptions.



Mr. Todd Nuccio  
October 11, 2018  
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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.

Actuarial computations presented in this report are for purposes of evaluating the statutory contribution rates for funding the System. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes. Actuarial computations for purposes of fulfilling financial accounting requirements for the System under Governmental Accounting Standards No. 67 and No. 68 are provided in separate reports.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

Respectfully submitted,

A handwritten signature in blue ink that reads 'Patrice Beckham'.

Patrice A. Beckham, FSA, EA, FCA, MAAA  
Principal and Consulting Actuary

A handwritten signature in blue ink that reads 'Bryan K. Hoge'.

Bryan K. Hoge, FSA, EA, FCA, MAAA  
Senior Actuary

PB:BH/kc



## SECTION I – EXECUTIVE SUMMARY

This report presents the results of the July 1, 2018 actuarial valuation for the State of Iowa Judicial Retirement System (System). The primary purposes of performing an actuarial valuation are to:

- measure and disclose asset and liability measures as of the valuation date;
- determine the actuarial contribution rate required to fund the System and evaluate the sufficiency of the statutory contribution rates;
- determine the experience of the System since the last valuation date; and
- analyze and report on trends in System contributions, assets, and liabilities over the past several years.

The valuation results provide a “snapshot” view of the System’s financial condition on the valuation date, July 1, 2018. The unfunded actuarial accrued liability (UAAL) increased from \$18.1 million on July 1, 2017 to \$38.4 million on July 1, 2018, primarily as a result of assumption changes since the prior valuation. An experience study covering the five-year period ending June 30, 2018 was completed and the report was issued on September 28, 2018. All of the recommended assumption changes were adopted and are first reflected in this valuation, including:

- price inflation assumption decreased from 3.00% to 2.60%,
- investment return assumption decreased from 7.50% to 6.75%,
- individual salary increase assumption decreased from 4.25% to 3.75%,
- Senior Judge benefit adjustment assumption decreased from 3.1875% to 3.00%,
- an explicit assumption of the annual administrative expenses was adopted, and
- the mortality assumption was updated to the RP-2014 White Collar Mortality Table for males and females, with a two-year age setback. Future mortality improvements are anticipated with Projection Scale MP-2017.

As a result of the assumption changes, the actuarial accrued liability increased by \$33.5 million and the actuarial required contribution rate increased by 13.84% of pay. The changes to the investment return and mortality assumptions had the most significant impact on the January 1, 2018 valuation results, as shown in the following table:

	Old Assumptions	New Assumptions	Difference
Actuarial Accrued Liability (AAL)	\$201,617,618	\$235,143,470	\$33,525,852
Actuarial Value of Assets (AVA)	<u>196,780,566</u>	<u>196,780,566</u>	<u>0</u>
Unfunded AAL (UAAL)	\$ 4,837,052	\$ 38,362,904	\$33,525,852
Funded Ratio (AVA/AAL)	97.6%	83.7%	(13.9%)
Normal Cost Rate	21.52%	25.57%	4.05%
UAAL Amortization Rate	<u>4.25%</u>	<u>14.04%</u>	<u>9.79%</u>
Total Actuarial Required Contribution	25.77%	39.61%	13.84%
Member Contribution Rate	(9.35%)	(9.35%)	0.00%
State Statutory Contribution Rate	<u>(30.60%)</u>	<u>(30.60%)</u>	<u>0.00%</u>
Contribution Margin	(14.18%)	(0.34%)	13.84%



## SECTION I – EXECUTIVE SUMMARY

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In addition to the assumption changes mentioned above, the change to the benefit provisions for Senior Judges is first reflected in this valuation. Effective January 1, 2018, Iowa statutes require a judge to be 62 years of age or older at the time the judge assumes senior status. Senior Judges may only serve for a total of six years and must cease holding office upon reaching age 78. These requirements do not apply to judges who have 20 years of service prior to January 1, 2018. As a result of these changes to the plan provisions, the actuarial accrued liability (AAL) decreased by \$1.2 million and the actuarial required contribution rate decreased by 0.84% of pay.

Actual experience on both the System's assets and liabilities impacts the System's funding and the actuarial contribution rate. Experience that is more favorable than anticipated, based on the actuarial assumptions, will generally lower the UAAL and the actuarial contribution rate and experience less favorable than expected will generally increase the UAAL and the actuarial contribution rate. The rate of return on the market value of assets was 14.1% which is higher than the expected return of 7.5% (for fiscal year ending June 30, 2018). However, because there was a small deferred investment loss in the prior valuation which offset part of the favorable experience in fiscal year 2018, the return on the actuarial value of assets was 10.2%. This return is still higher than the 7.5% expected return for fiscal year 2018, so it resulted in an actuarial gain of \$4.9 million. There was also an actuarial gain on liabilities of \$3.2 million, largely due to salary increases that were lower than expected, based on the actuarial assumption. Such experience also creates an actuarial gain on the liabilities for current Senior Judges as the actual benefit adjustment is lower than expected. The aggregate experience for the year was an actuarial gain of \$8.1 million. A more complete analysis of the change in the unfunded actuarial accrued liability from July 1, 2017 to July 1, 2018 is shown on page 7.

The actuarial contribution rate is determined as the sum of the normal cost rate plus a payment on the UAAL. The total actuarial contribution rate in this valuation was 39.61%, an increase of 9.79% from the actuarial contribution rate of 29.82% in the prior valuation. The System is funded by fixed contribution rates by both the members (9.35% of pay) and the state of Iowa (30.60% of pay) until the System is fully funded (actuarial assets equal actuarial accrued liability). Currently, the total contribution rate of 39.95% of payroll exceeds the actuarial contribution rate, indicating the UAAL will be funded more rapidly than the payment schedule reflected in the amortization policy if all actuarial assumptions are met in the future. In order for the financing of the System on a fixed contribution rate basis to be successful in the long-term, contributions above the actuarial contribution rate must be made to offset periods where the fixed contribution rate may be below the actuarial contribution rate. Therefore, we recommend the current provisions related to funding the System remain unchanged.

Detailed discussions on the assets, liabilities and contribution rates can be found in the following pages of this Executive Summary.



## SECTION I – EXECUTIVE SUMMARY

The highlights of the key measurements from the valuation are:

<b>Funded Status</b>	<b>Actuarial Valuation Date</b>	
	<b>July 1, 2018</b>	<b>July 1, 2017</b>
<b><u>Using Actuarial Value of Assets</u></b>		
Actuarial Accrued Liability	\$235,143,470	\$198,233,533
Actuarial Assets	196,780,566	180,147,471
Unfunded Actuarial Accrued Liability	\$38,362,904	\$18,086,062
Funded Ratio	83.7%	90.9%
<b><u>Using Market Value of Assets</u></b>		
Actuarial Accrued Liability	\$235,143,470	\$198,233,533
Market Assets	211,467,232	186,971,193
Unfunded Actuarial Accrued Liability	\$23,676,238	\$11,262,340
Funded Ratio	89.9%	94.3%

As discussed earlier, the actuarial required contribution rate in the 2018 valuation is higher than last year. The State's portion of the actuarial contribution rate increased from 20.47% in the 2017 valuation to 30.26% in the 2018 valuation, largely due to the change in the actuarial assumptions. The current statutory contribution rate is 30.60% of pay results in a small contribution margin of 0.34%:

<b>Required Contribution Rate</b>	<b>Actuarial Valuation Date</b>	
	<b>July 1, 2018</b>	<b>July 1, 2017</b>
1. Normal Cost	25.57%	21.92%
2. Amortization Payment	14.04%	7.90%
3. Total Contribution Rate (1) + (2)	39.61%	29.82%
4. Expected Member Contribution Rate	9.35%	9.35%
5. State Contribution Rate (3) - (4)	30.26%	20.47%
6. Statutory Contribution Rate	30.60%	30.60%
7. Contribution Shortfall/(Margin) (5) - (6)	(0.34%)	(10.13%)

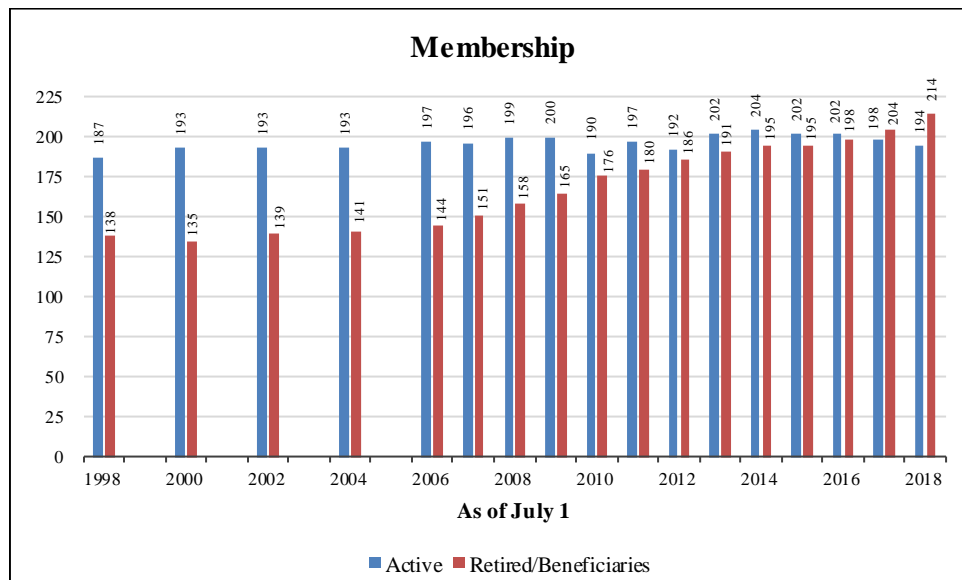
If all actuarial assumptions are met in future years and the current contribution rates remain in place, the funded ratio of the System is expected to increase over time and ultimately reach full funding around July 1, 2033. However, the volatility that exists with investment returns is likely to heavily impact the actual full funding date.



## SECTION I – EXECUTIVE SUMMARY

### MEMBERSHIP

The number of active members decreased slightly from 198 in the prior valuation to 194 in the current valuation. Given the nature of the active membership, the number of active members is expected to be relatively stable over time. However, due to the trend of improving mortality rates, the number of retirees and beneficiaries receiving benefits under the plan is expected to increase. As the following graph shows, the number of participants receiving a benefit is now greater than the number of active participants contributing to the System. This is not uncommon in a mature retirement system, but we would note that it does create additional contribution rate risk given the ratio of assets to covered payroll.



\*Note that actuarial valuations were only performed biennially prior to 2006.

### EXPERIENCE

#### July 1, 2017 to June 30, 2018

In many respects, an actuarial valuation can be thought of as an inventory process. The inventory is taken as of the actuarial valuation date, which for this valuation is July 1, 2018. On that date, the assets available for the payment of benefits are appraised. The assets are compared with the liabilities of the System, which are generally in excess of assets. The actuarial process leads to a method of determining the contributions needed by members and the employer in the future to balance the System assets and liabilities.

Changes in the System’s assets and liabilities impacted the change in the actuarial contribution rate between the July 1, 2017 and July 1, 2018 actuarial valuations. On the following pages each component is discussed.





## SECTION I – EXECUTIVE SUMMARY

### ASSETS

As of July 1, 2018, the System had total funds on a market value basis of \$211.5 million. This was an increase of \$24.5 million from the July 1, 2017 figure of \$187.0 million.

The market value of assets is not used directly in the calculation of contribution rates. An asset valuation method is used to smooth the impact of market value fluctuations. See page 13 for the detailed development of the actuarial value of assets as of July 1, 2018.

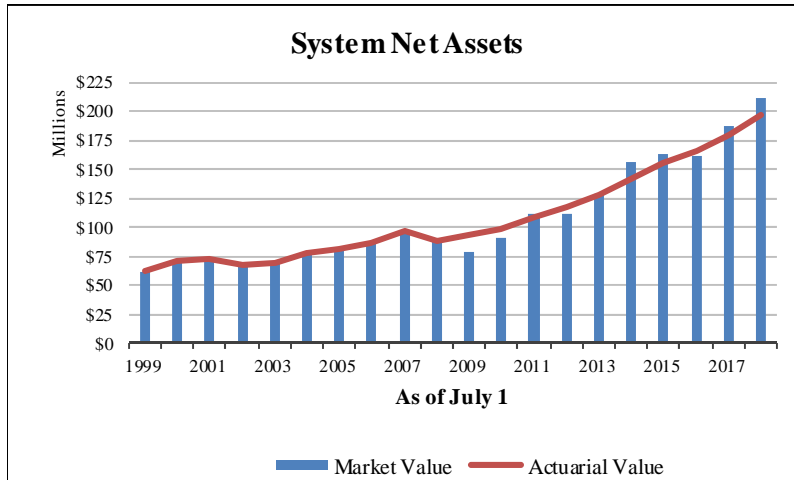
The actuarial value of assets as of July 1, 2018, was \$196.8 million. The annualized dollar-weighted rate of return for fiscal year 2018, measured on the actuarial value of assets, was 10.2%, and, measured on the market value of assets, was 14.1%, net of expenses. The components of the change in the market and actuarial value of assets for the System (in millions) are set forth below.

	\$(millions)	
	Market Value	Actuarial Value
Net Assets, July 1, 2017	\$187.0	\$180.1
• Employer and Member Contributions	11.1	11.1
• Benefit Payments	(12.8)	(12.8)
• Investment Income, Net of Expenses	<u>26.2</u>	<u>18.4</u>
Net Assets, July 1, 2018	\$211.5	\$196.8
Estimated Rate of Return, Net of Expenses	14.1%	10.2%

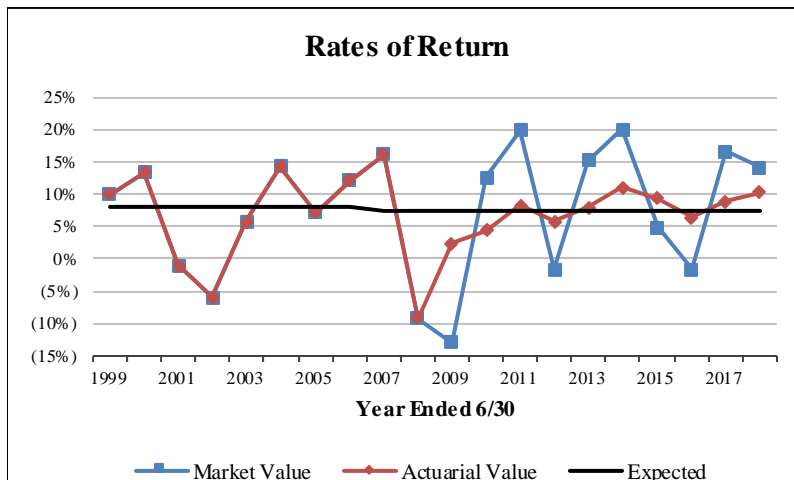
The rate of return on the actuarial value of assets was higher than the assumed rate of 7.5% (for fiscal year ending June 30, 2018), resulting in an actuarial gain on assets. As of July 1, 2018, there is \$14.7 million of net deferred investment gain that has not been recognized, an increase from the \$6.9 million net deferred investment gain in the 2017 valuation. Absent unfavorable investment experience in future years to offset the recognition of the deferred gain, it will flow through the asset smoothing method and future actuarial contribution rates are expected to decrease.



## SECTION I – EXECUTIVE SUMMARY



*Since the asset smoothing method was implemented in 2009, the actuarial value of assets has been both above and below the market value of assets, which is expected when using an asset smoothing method.*



*Rates of return on the market value of assets have been extremely volatile, while the return on the actuarial value of assets has been more stable. This illustrates the advantage of using an asset smoothing method.*

## LIABILITIES

The actuarial accrued liability is that portion of the present value of future benefits that will not be paid by future employer normal costs or member contributions. The difference between this liability and the actuarial value of assets as of the valuation date is referred to as the unfunded actuarial accrued liability (UAAL). The UAAL will be reduced if the employer's contributions exceed the employer's normal cost for the year, after allowing for interest on the previous balance of the unfunded actuarial accrued liability.

The UAAL as of July 1, 2018 is shown below:

Actuarial Accrued Liability	\$235,143,470
Actuarial Value of Assets	196,780,566
Unfunded Actuarial Accrued Liability	\$38,362,904



## SECTION I – EXECUTIVE SUMMARY

Factors influencing the UAAL from year to year include actual experience versus that expected based on the actuarial assumptions (both asset and liability), and if applicable, changes in actuarial assumptions, procedures or methods and changes in benefit provisions. The actual experience measured in this valuation is that which occurred during the prior plan year (fiscal year ending June 30, 2018).

The UAAL increased from \$18.1 million on July 1, 2017 to \$38.4 million on July 1, 2018. The System experienced a net actuarial gain (actual versus expected experience) of \$8.1 million for the year ending June 30, 2018. Actuarial experience (gain or loss) is measured by comparing the expected UAAL (developed using the actuarial assumptions in the prior valuation) and the actual UAAL. As discussed earlier, the return on the actuarial value of assets was 10.2% which resulted in an actuarial gain of \$4.9 million, decreasing the UAAL. The actuarial gain on the liabilities was \$3.2 million, which was largely due to salary increases that were lower than expected by the actuarial assumption. Actual contributions above the actuarial contribution rate also resulted in a decrease in the UAAL. Finally, the change in the provisions for Senior Judges also decreased the UAAL.

Between July 1, 2017 and July 1, 2018 the change in the unfunded actuarial accrued liability for the System was as follows (in millions):

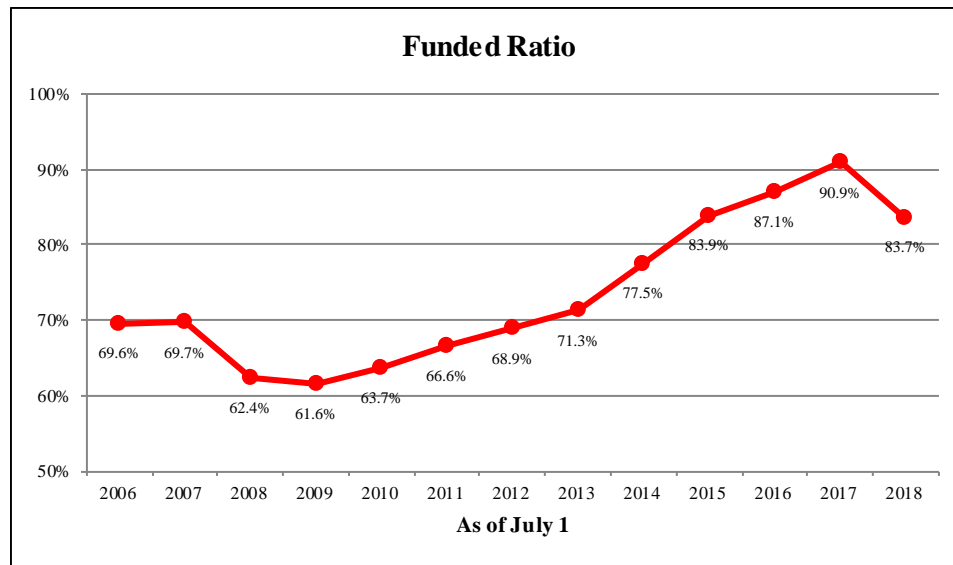
	<b><u>\$ millions</u></b>
Unfunded Actuarial Accrued Liability, July 1, 2017	18.1
• effect of contributions more than the actuarial rate	(2.9)
• expected decrease due to amortization method	(1.0)
• investment experience	(4.9)
• liability experience <sup>1</sup>	(3.2)
• assumption changes	33.5
• benefit provision changes	(1.2)
• other actuarial experience	<u>0.0</u>
Unfunded Actuarial Accrued Liability, July 1, 2018	38.4

<sup>1</sup> Liability gain was 1.37% of actuarial accrued liability

An evaluation of the unfunded actuarial accrued liability on a pure dollar basis may not provide a complete analysis since only the difference between the assets and liabilities (which are both large numbers) is reflected. Another way to evaluate the progress made in the System’s funding is to track the funded status, which is the ratio of the actuarial value of assets to the actuarial accrued liability. The funded status is shown in the following graph:



## SECTION I – EXECUTIVE SUMMARY



Note that the funded ratio would be different if it was calculated using the market value of assets. Furthermore, the funded ratio is not an indication of the ability of the System to settle its obligations and may not be sufficient as an indication of the need for future contributions.

### CONTRIBUTION RATES

The funding objective of the System is to pay the normal cost rate plus the amortization of each piece of the unfunded actuarial accrued liability, with level dollar payments, over a 25-year closed period commencing with the valuation date on which the base was created.

Under the Entry Age Normal cost method, the actuarial contribution rate consists of:

- a "normal cost", including administrative expenses, for the portion of projected liabilities allocated by the actuarial cost method to service of members during the year following the valuation date, and
- an "unfunded actuarial accrued liability contribution" for the excess of the portion of projected liabilities allocated to service to date over the actuarial value of assets.

The components that impacted the actuarial contribution rate from the prior to the current valuation are shown in the following table:

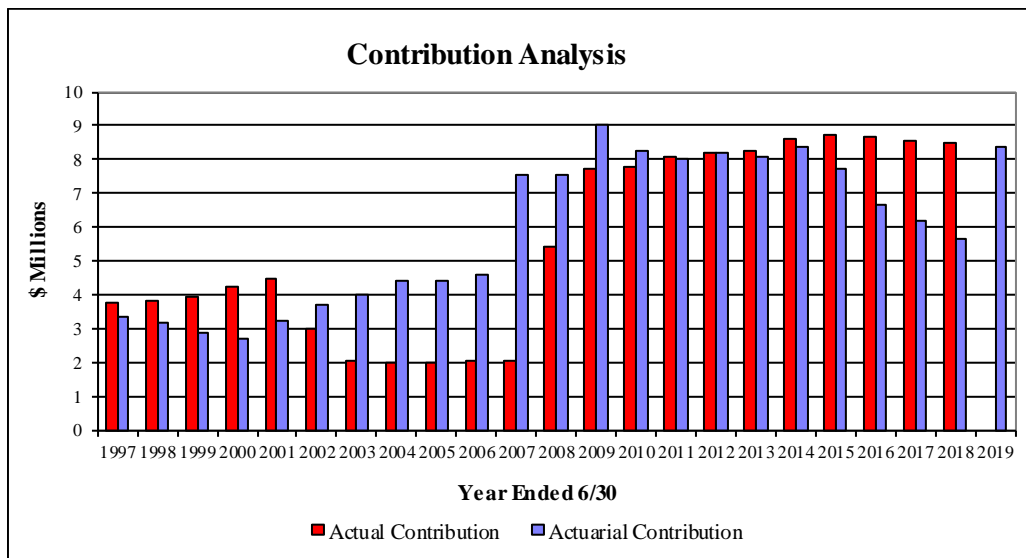


**SECTION I – EXECUTIVE SUMMARY**

	<b>Plan Year Beginning</b>	
	<b><u>July 1, 2018</u></b>	<b><u>July 1, 2017</u></b>
Prior year total contribution rate	29.82%	31.56%
• change in normal cost	0.06%	0.02%
• change due to amortization method	(0.32%)	(0.39%)
• change due to asset (gains)/losses	(1.53%)	(0.69%)
• change due to liability/other actuarial experience	(0.56%)	0.04%
• change due to new actuarial assumptions	13.84%	0.00%
• change due to new benefit provisions	(0.84%)	0.00%
• change due to contribution margin	<u>(0.86%)</u>	<u>(0.72%)</u>
Current year total actuarial contribution rate	39.61%	29.82%
Member's contribution rate	<u>(9.35%)</u>	<u>(9.35%)</u>
<b>State's actuarial contribution rate</b>	<b>30.26%</b>	<b>20.47%</b>

Contributions to the System, by the members and the State, are set in statute. Currently, the member contribution rate is 9.35% and the employer contribution rate is 30.60% of pay for a total statutory contribution rate of 39.95%. Once the System is fully funded, the employer and member contribution rates will be based on the actuarial contribution rate (employer: 60%, member: 40%).

The following graph summarizes the historical actual and actuarial employer contributions.





## SECTION I – EXECUTIVE SUMMARY

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### COMMENTS

There have been several changes to the actuarial assumptions used in this valuation as a result of the five-year experience study completed in September 2018, including a change to the most current published mortality table and a decrease in the investment return assumption from 7.50% to 6.75%. Both were significant changes to two of the key actuarial assumptions. The changes to the actuarial assumptions increased the actuarial accrued liability by \$33.5 million and the actuarial required contribution rate by 13.84% of pay. The changes to the provisions for Senior Judges' program, effective January 1, 2018, decreased the UAAL by \$1.2 million and the actuarial required contribution rate by 0.84% of pay.

In recent years, the funded status of the System has improved due to investment returns that have been higher than the assumed rate of return and liability gains, largely due to lower than expected salary increases. The net result of the recent experience has improved the System's funded status from 62% in the 2009 valuation to 84% in the current valuation (98% without the impact of the new assumptions). In addition to the favorable experience, the total contributions to the System have increased since 2008 which has also strengthened the System's long-term funding.

The statutory contribution rate continues to exceed the actuarial contribution rate in the current valuation. Although, the difference has decreased 0.34% in the 2018 valuation. In order for the financing of the System on a fixed contribution rate basis to be successful, contributions above the actuarial rate must be made to offset the periods where the fixed contribution rate may be below the actuarial contribution rate.

If all actuarial assumptions are met in future years, the funded ratio of the System is expected to increase over time and reach full funding around July 1, 2033. However, future investment experience is expected to vary from year to year, significantly at times given the asset allocation of the Fund. That volatility and how the actual returns unfold will heavily impact the funding of the System and the sufficiency of the current statutory contribution rates to eliminate the unfunded actuarial accrued liability.



**SECTION I – EXECUTIVE SUMMARY**

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**STATE OF IOWA  
JUDICIAL RETIREMENT SYSTEM**

**SUMMARY OF PRINCIPAL VALUATION RESULTS**

	<u>July 1, 2018</u>	<u>July 1, 2017</u>	<u>% Change</u>
<b>1. SUMMARY OF DATA</b>			
Active Judges	194	198	(2.0%)
Senior Judges and Retired Senior Judges	59	57	3.5%
Retired and Disabled Judges	107	97	10.3%
Beneficiaries	48	50	(4.0%)
Inactive Vested Judges	5	4	25.0%
Total Members	<u>413</u>	<u>406</u>	1.7%
<b>2. ACTIVE PARTICIPANT STATISTICS</b>			
Total Compensation for Plan Year	\$ 27,764,403	\$ 28,403,543	(2.3%)
Average Compensation	143,115	143,452	(0.2%)
Average Age	56.79	57.48	(1.2%)
Average Service	11.35	11.96	(5.1%)
<b>3. ASSET AND LIABILITY INFORMATION</b>			
Actuarial Accrued Liability	\$ 235,143,470	\$ 198,233,533	18.6%
Actuarial Value of Assets	196,780,566	180,147,471	9.2%
Unfunded Actuarial Accrued Liability (UAAL)	38,362,904	18,086,062	112.1%
Funded Ratio (Actuarial Value)	83.7%	90.9%	(7.9%)
Market Value of Assets	\$ 211,467,232	\$ 186,971,193	13.1%
Funded Ratio (Market Value)	89.9%	94.3%	(4.7%)
<b>4. CONTRIBUTION INFORMATION</b>			
Normal Cost	25.57%	21.92%	16.7%
UAAL Payment	<u>14.04%</u>	<u>7.90%</u>	77.7%
Total Actuarial Contribution	39.61%	29.82%	32.8%
Less Member Contribution	<u>(9.35%)</u>	<u>(9.35%)</u>	0.0%
State Actuarial Contribution	30.26%	20.47%	47.8%
Less State Statutory Contribution	<u>(30.60%)</u>	<u>(30.60%)</u>	0.0%
Contribution Shortfall/(Margin)	(0.34%)	(10.13%)	(96.6%)



**SECTION II – SUMMARY OF VALUATION RESULTS**

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**TABLE 1**  
**STATEMENT OF CHANGE IN FIDUCIARY NET POSITION**

	<b><u>Year End</u></b> <b><u>June 30, 2018</u></b>	<b><u>Year End</u></b> <b><u>June 30, 2017</u></b>
<b>Additions</b>		
1. Contributions		
a. State	\$ 8,503,024	\$ 8,544,064
b. Members	2,598,154	2,610,702
c. Total Contributions (a + b)	<u>11,101,178</u>	<u>11,154,766</u>
2. Investment Income		
a. Interest	\$ 2,190,083	\$ 2,082,140
b. Dividends	1,550,937	1,457,770
c. Gain on Sale of Investments	22,988,098	23,610,413
d. Net Appreciation	7,800	31,537
e. Investment Expenses	(509,802)	(549,739)
f. Total Investment Income	<u>\$ 26,227,116</u>	<u>\$ 26,632,121</u>
3. Total Additions (1c + 2f)	\$ 37,328,294	\$ 37,786,887
<b>Deductions</b>		
4. Deductions		
a. Benefit Payments	\$ 12,811,713	\$ 11,949,935
b. Administrative Expense	20,542	18,396
c. Total Deductions (a + b)	<u>12,832,255</u>	<u>11,968,331</u>
5. Net Increase (3 – 4c)	\$ 24,496,039	\$ 25,818,556
6. Net Assets Held in Trust for Pension Benefits		
a. Beginning of Year	\$ 186,971,193	\$ 161,152,637
b. End of Year	\$ 211,467,232	\$ 186,971,193





**SECTION II – SUMMARY OF VALUATION RESULTS**

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**TABLE 2**  
**DEVELOPMENT OF ACTUARIAL VALUE**  
**OF ASSETS**

**As of July 1, 2018**

To arrive at a suitable value for the actuarial valuation, a technique for determining the actuarial value of assets is used which dampens swings in the market value while still indirectly recognizing market values. This methodology smoothes the volatility of market experience by only recognizing 25% of the difference between the expected value of the actuarial value of assets (based on the actuarial assumptions) and the actual market value.

1. Actuarial Value of Assets as of July 1, 2017	\$	180,147,471
2. Actual Contribution/Disbursements		
a. Contributions	\$	11,101,178
b. Benefit Payments and Refunds		(12,811,713)
c. Net	\$	<u>(1,710,535)</u>
3. Expected Value of Assets as of July 1, 2018 [(1) x 1.075] + [(2c) x (1.075) <sup>1/2</sup> ]	\$	191,885,011
4. Market Value of Assets as of July 1, 2018	\$	211,467,232
5. Difference Between Market and Expected Values (4) - (3)	\$	19,582,221
6. Actuarial Value of Assets as of July 1, 2018 (3) + [(5) x 25%]	\$	196,780,566
7. Actuarial Value of Assets divided by Market Value of Assets (6) / (4)		93.1%
8. Market Value of Assets less Actuarial Value of Assets (4) - (6)	\$	14,686,666



**SECTION II – SUMMARY OF VALUATION RESULTS**

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**TABLE 3**  
**PRESENT VALUE OF FUTURE BENEFITS**  
**AS OF JULY 1, 2018**

1. Active employees	
a. Retirement Benefit	\$146,285,641
b. Withdrawal Benefit	61,506
c. Pre-Retirement Death Benefit	1,423,533
d. Total	<u>\$147,770,680</u>
2. Inactive Vested Members	1,559,930
3. Senior Judges	46,733,855
3. Retired Members	82,272,080
4. Disabled Members	382,900
5. Beneficiaries	<u>14,775,891</u>
6. Total Present Value of Future Benefits	<u>\$293,495,336</u>
(1d) + (2) + (3) + (4) + (5)	



**SECTION II – SUMMARY OF VALUATION RESULTS**

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**TABLE 4**  
**UNFUNDED ACTUARIAL ACCRUED LIABILITY**  
**as of July 1, 2018**

1. Present Value of Future Benefits	
a. Active Employees	\$147,770,680
b. Inactive Employees	<u>145,724,656</u>
c. Total	\$293,495,336
2. Present Value of Future Normal Costs	58,351,866
3. Total Actuarial Accrued Liability (1c) - (2)	235,143,470
4. Actuarial Value of Assets	196,780,566
5. Unfunded Actuarial Accrued Liability (3) - (4)	\$38,362,904



SECTION II – SUMMARY OF VALUATION RESULTS

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**TABLE 5**  
**ACTUARIAL BALANCE SHEET**  
**July 1, 2018**

**ASSETS**

Actuarial value of assets	\$ 196,780,566
Present value of future normal costs	58,351,866
Payments on Unfunded Actuarial Accrued Liability	<u>\$ 38,362,904</u>
<b>Total Net Assets</b>	<b>\$ 293,495,336</b>

**LIABILITIES**

Present Value of Projected Benefits:	
Active Members	
Retirement Benefits	\$ 146,285,641
Withdrawal Benefits	61,506
Pre-Retirement Death Benefits	1,423,533
Members with Deferred Benefits	1,559,930
Members Receiving Benefits	<u>\$ 144,164,726</u>
<b>Total Liabilities</b>	<b>\$ 293,495,336</b>



**SECTION II – SUMMARY OF VALUATION RESULTS**

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**TABLE 6**

**ACTUARIAL GAIN/(LOSS)  
Plan Year Ending June 30, 2018**

The actuarial gain/(loss) is comprised of both the liability and the actuarial asset gain/(loss). Each of these represents the difference between the expected and actual values as of July 1, 2018.

1. Expected actuarial accrued liability	
a. Actuarial accrued liability at July 1, 2017	\$ 198,233,533
b. Normal cost for fiscal year ending June 30, 2018	5,795,207
c. Benefit payments for fiscal year ending June 30, 2018	(12,811,713)
d. Interest at 7.5% on (a), (b), and (c)	14,830,402
e. Impact of new actuarial assumptions	33,525,852
f. Impact of plan changes	(1,208,066)
g. Expected actuarial accrued liability at July 1, 2018	\$ 238,365,215
2. Actuarial accrued liability at July 1, 2018	\$ 235,143,470
3. Actuarial accrued liability gain/(loss) (1g) - (2)	\$ 3,221,745
4. Expected actuarial value of assets	
a. Actuarial value of assets at July 1, 2017	\$ 180,147,471
b. Contributions for fiscal year ending June 30, 2018	11,101,178
c. Benefit payments for fiscal year ending June 30, 2018	(12,811,713)
d. Interest at 7.5% on (a), (b), and (c)	13,448,075
e. Expected actuarial value of assets at July 1, 2018	\$ 191,885,011
5. Actuarial value of assets at July 1, 2018	\$ 196,780,566
6. Actuarial value of assets gain/(loss) (5) - (4e)	\$ 4,895,555
7. Net actuarial gain/(loss) (3) + (6)	\$ 8,117,300



**SECTION II – SUMMARY OF VALUATION RESULTS**

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**EXHIBIT 7**

**ACTUARIAL GAIN/(LOSS) BY SOURCE**

The purpose of conducting an actuarial valuation of a retirement plan is to estimate the costs and liabilities for the benefits expected to be paid from the plan, to determine the annual level of contribution for the current plan year that should be made to support these benefits and, finally, to analyze the plan’s experience. The costs and liabilities of this retirement plan depend not only upon the benefit formula and plan provisions but also upon factors such as the investment return on the Fund, mortality rates among active and retired members, withdrawal and retirement rates among active members, rates at which salaries increase and the rate at which the cost of living increases.

The actuarial assumptions employed as to these and other contingencies in the current valuation are set forth in Appendix A of this report.

Since the overall results of the valuation will reflect the choice of assumptions made, periodic studies of the various components of the plan’s experience are conducted in which the experience for each component is analyzed in relation to the assumption used for that component (called an experience study). This summary is not intended to be an actual “experience study” but rather an analysis of sources of gain and loss in the past plan year.

**Gain/(Loss) By Source**

The System experienced a net actuarial gain on liabilities of \$3,222,000 during the plan year ended June 30, 2018, and an actuarial gain on assets of \$4,896,000. The net actuarial gain was \$8,118,000. The major components of this net actuarial experience gain are shown below:

<b>Liability Sources</b>	<b><u>Gain/(Loss)</u></b>
Salary Increases	\$ 3,214,000
Retirements	(1,770,000)
Terminations	112,000
Deaths	708,000
New Entrants/Rehires	(197,000)
Cost of Living Adjustment	1,134,000
Miscellaneous	21,000
<b>Total Liability Gain/(Loss)</b>	<b>\$ 3,222,000</b>
<b>Asset Gain/(Loss)</b>	<b>\$ 4,896,000</b>
<b>Net Actuarial Gain/(Loss)</b>	<b>\$ 8,118,000</b>



**SECTION II – SUMMARY OF VALUATION RESULTS**

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**TABLE 8**  
**SUMMARY OF AMORTIZATION BASES**  
**At July 1, 2018**

<u>Amortization Bases</u>	<u>Original Amount</u>	<u>Years Remaining</u>	<u>Amortization Payment*</u>	<u>Outstanding Balance</u>
2009 Legacy UAAL	\$57,984,095	16	\$4,791,624	\$47,552,209
2010 UAAL Base	(517,789)	17	(42,693)	(438,214)
2011 UAAL Base	(704,233)	18	(57,941)	(613,204)
2012 UAAL Base	(1,072,732)	19	(88,074)	(958,410)
2013 UAAL Base	(563,586)	20	(46,178)	(515,428)
2014 UAAL Base	(8,952,654)	21	(732,121)	(8,363,573)
2015 UAAL Base	(10,362,482)	22	(845,811)	(9,870,009)
2016 UAAL Base	(4,250,030)	23	(346,265)	(4,120,301)
2017 UAAL Base	(5,638,955)	24	(458,615)	(5,556,002)
2018 Assumption Change Base	33,525,852	25	2,722,012	33,525,852
2018 Plan Change Base	(1,208,066)	25	(98,085)	(1,208,066)
2018 Experience Base	(11,071,950)	25	<u>(898,948)</u>	<u>(11,071,950)</u>
			\$3,898,905	\$38,362,904

\* Each base is amortized as a level-dollar amount over 25 years. Amortization Payment reflects mid-year timing.

Total UAAL Amortization Payment	\$3,898,905
Projected Payroll for Fiscal Year	\$27,764,403
UAAL Amortization Payment Rate	14.04%



**SECTION II – SUMMARY OF VALUATION RESULTS**

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**TABLE 9**

**DETERMINATION OF ACTUARIAL  
REQUIRED CONTRIBUTION RATE**

<b>1. Normal Cost</b>	
a. Retirement Benefits	25.14%
b. Pre-Retirement Death Benefits	0.32%
c. Withdrawal Benefits	0.05%
d. Administrative Expenses	0.06%
e. Total	<hr/> 25.57%
<b>2. UAAL Amortization Payment (See Table 8)</b>	14.04%
<b>3. Total Actuarial Contribution Rate</b> (1e) + (2)	39.61%
<b>4. Member Contribution Rate</b>	9.35%
<b>5. State Actuarial Contribution Rate</b> (3) - (4)	30.26%
<b>6. State Statutory Contribution Rate</b>	30.60%
<b>7. Contribution Rate Shortfall/(Margin)</b> (5) - (6)	(0.34%)





SECTION III – OTHER INFORMATION

TABLE 10  
SCHEDULE OF FUNDING PROGRESS  
(In Thousands)

Actuarial Valuation Date	Actuarial Value of Assets <sup>1</sup> (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL/ Covered Payroll ((b-a)/c)
July 1, 2005	\$81,605	\$105,472	\$23,867	77%	\$20,684	115%
July 1, 2006	86,110	123,670	37,560	70%	24,094	156%
July 1, 2007	96,619	138,662	42,043	70%	24,426	172%
July 1, 2008	88,198	141,364	53,166	62%	26,663	199%
July 1, 2009	93,045	151,029	57,984	62%	26,811	216%
July 1, 2010	99,416	156,029	56,613	64%	25,480	222%
July 1, 2011	109,512	164,511	54,999	67%	26,403	208%
July 1, 2012	117,272	170,232	52,960	69%	25,760	206%
July 1, 2013	127,353	178,725	51,372	71%	28,278	182%
July 1, 2014	142,589	183,916	41,327	78%	28,534	145%
July 1, 2015	156,347	186,269	29,922	84%	28,270	106%
July 1, 2016	166,230	190,934	24,704	87%	28,254	87%
July 1, 2017	180,147	198,234	18,087	91%	28,404	64%
July 1, 2018	196,781	235,143	38,362	84%	27,764	138%

<sup>1</sup> The actuarial value of assets was changed from pure market value to the expected value plus 25% of the difference between actual and expected value effective with the July 1, 2009 valuation.

Note: Results before July 1, 2010 were calculated by the prior actuary



**SECTION III – OTHER INFORMATION**

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**TABLE 11**  
**SCHEDULE OF EMPLOYER CONTRIBUTIONS**

<u>Fiscal Year Ended</u>	<u>Actuarial Required Contribution</u>	<u>Actual Employer Contribution</u>	<u>Percentage of ARC Contributed</u>
June 30, 2005	\$4,418,900	\$2,039,664	46%
June 30, 2006	4,966,452	2,039,664	41%
June 30, 2007	7,597,352	2,039,664	27%
June 30, 2008	7,705,698	5,450,963	71%
June 30, 2009	8,539,188	7,720,271	90%
June 30, 2010	7,857,421	7,806,398	99%
June 30, 2011	8,307,680	8,101,876	98%
June 30, 2012	8,364,471	8,215,668	98%
June 30, 2013	8,444,509	8,232,461	97%
June 30, 2014	8,376,176	8,630,064	103%
June 30, 2015	7,709,058	8,724,008	113%
June 30, 2016	6,667,006	8,666,541	130%
June 30, 2017	6,201,427	8,544,064	138%
June 30, 2018	5,688,134	8,503,024	149%



**APPENDIX A**  
**ACTUARIAL ASSUMPTIONS AND METHODS**



## APPENDIX A – ACTUARIAL ASSUMPTIONS AND METHODS

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### Actuarial Assumptions

<i>Interest</i>	6.75% per annum.	
<i>Mortality</i>	RP-2014 White Collar Mortality Tables with a two year age set back and generational improvements using MP-2017.	
<i>Turnover</i>	1.00% per year for all participants under age 45.	
<i>Rate of Disablement; Disabled Life Mortality</i>	No incidence of disability was assumed.	
<i>Salary Increases</i>	Salaries will increase 3.75% per year.	
<i>Incidence of Retirement</i>	The following table indicates the assumed rate of retirement at each age.	
	<u>Age</u>	<u>Rate</u>
	50 - 59	3%
	60 - 64	12%
	65 - 71	20%
	72	100%
	Inactive vested members are assumed to begin receiving benefits at age 65.	
<i>Spouse's Benefit</i>	85% of employees were assumed married, with the female spouse four years younger.	
<i>Internal Revenue Service Limits on Recognized Pay</i>	The limit is assumed to increase based on cost of living increases of 2.60% per year.	
<i>Retiring Judges Electing Senior Judge Status</i>	80%, with 60% relinquishing after 6 years if before 78. Senior Judges who had less than 20 years of service as of January 1, 2018 must relinquish after six years.	
<i>Adjustment to Benefit for Senior Judges</i>	<u>Became Senior Judge</u>	<u>Adjustment</u>
	Before 1/1/93	3.75% for life
	1/1/93 to 7/1/94	3.75% to age 78
	7/1/94 and later	3.00% to age 78
<i>Decrement Timing</i>	Middle of year	
<i>Administrative Expense Load</i>	0.06% of covered payroll	



## APPENDIX A – ACTUARIAL ASSUMPTIONS AND METHODS

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### Asset Valuation Method

The market value of assets, representing a fair value of System assets, may not necessarily be the best measure of the System's ongoing ability to meet its obligations.

To arrive at a suitable value for the actuarial valuation, a technique for determining the actuarial value of assets is used which dampens volatility in the market value while still indirectly recognizing market value. The specific technique follows:

- Step 1:** Determine the expected value of plan assets at the current valuation date using the actuarial value of assets from the prior valuation, the actuarial assumption for investment return and the actual receipts and disbursements of the fund for the previous 12 months.
- Step 2:** Subtract the expected value determined in Step 1 from the total market value of the Fund at the current valuation date.
- Step 3:** Multiply the difference between market and expected values determined in Step 2 by 25%.
- Step 4:** Add the expected value of Step 1 and the product of Step 3 to determine the actuarial value of assets.

### Actuarial Cost Method

Liabilities and contributions shown in this report are computed using the Individual Entry Age Normal method of funding.

Sometimes called the “funding method”, this is a particular technique used by actuaries for establishing the amount of the annual actuarial cost of pension benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily the annual contribution to the System is comprised of (1) the normal cost and (2) an amortization payment on the unfunded actuarial accrued liability.

Under the Entry Age Actuarial Cost Method, the **Normal Cost** is computed as the level percentage of pay which, if paid from the earliest time each member would have been eligible to join the System if it then existed (thus, entry age) until his retirement or termination, would accumulate with interest at the rate assumed in the valuation to a fund sufficient to pay all benefits under the System.

The **Actuarial Accrued Liability** under this method at any point in time is the theoretical amount of the fund that would have accumulated had annual contributions equal to the normal cost been made in prior years (it does not represent the liability for benefits accrued to the valuation date). The **Unfunded Actuarial Accrued Liability** is the excess of the actuarial accrued liability over the actuarial value of System assets on the valuation date.

Under this method experience gains or losses, i.e. decreases or increases in accrued liabilities attributable to deviations in experience from the actuarial assumptions, adjust the unfunded actuarial accrued liability.



## **APPENDIX A – ACTUARIAL ASSUMPTIONS AND METHODS**

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### **Amortization Method**

#### **Level-Dollar Amortization Method**

The amount to be amortized is divided into equal dollar amounts to be paid over a given number of years; part of each payment is interest and part is principal (similar to a mortgage payment). Because payroll can be expected to increase as a result of inflation, level-dollar payments generally represent a decreasing percentage of payroll.

#### **Amortization Period**

The amortization period on the existing UAAL at July 1, 2009 was set to a closed 25-year period. A new amortization base is established each year, reflecting the difference in actual and expected experience. Each base established after 2009, is amortized over a new closed 25-year period.



**APPENDIX B**  
**SUMMARY OF PLAN PROVISIONS**



## APPENDIX B – SUMMARY OF PLAN PROVISIONS

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### STATE OF IOWA JUDICIAL RETIREMENT SYSTEM

#### Summary of Plan Provisions

An actuarial valuation involves the projection of the amount and timing of future benefit payments. Summarized below are the principal provisions of the plan which were used to estimate future benefit payments.

<i>Credited Service</i>	All years of service as a judge are credited.
<i>Average Monthly Salary</i>	Average monthly basic salary for highest three years as a judge. Each year's pay is limited to the compensation limit in Section 401(a)(17) of the Internal Revenue Code.
<i>Accrued Benefit</i>	The benefit payable at Normal Retirement Date which the judge has earned based on average salary and credited service to date.
<i>Normal Form</i>	The normal form of payment is an annuity payable for the life of the judge with one-half such amount payable to an eligible surviving spouse with a guarantee that payments totaling at least the amount of the judge's contributions will be made.
<i>Eligible Spouse</i>	A spouse is eligible if married to the judge for at least the one year preceding death.
<i>Retirement Eligibility</i>	Age 65 with a minimum of four years of service or 20 years of service and age 50.
<i>Mandatory Retirement Date</i>	Age 72 for active judges. Age 78 for judges participating in the Senior Judge Program, unless reappointed at the discretion of the Supreme Court.
<i>Monthly Retirement Benefit</i>	Effective July 1, 2006, 3.25% of Average Monthly Salary times years of credited service subject to a maximum of 65% of final earnings. Prior to 2006 the formula was 3% of average monthly salary times years of service subject to a maximum of 50% until July 1, 1998, 52% from July 1, 1998 until June 30, 2000, 56% from July 1, 2000 to June 30, 2001, 60% effective July 1, 2001. Commencing July 1, 1992, a judge or a survivor of a judge who retired before June 1, 1977, shall receive a minimum monthly annuity payment of \$500.
<i>Disability Retirement</i>	Upon total and permanent disability with a minimum of four years of credited service, the Judge receives the accrued benefit.
<i>Vesting</i>	100% vesting for voluntary terminations after 4 years of credited service (6 years prior to July 1, 2006). 100% vesting for Judges' contributions at all times.





## APPENDIX B – SUMMARY OF PLAN PROVISIONS

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<b><i>Pre-Retirement Death Benefit</i></b>	Four years of service required. The death benefit payable to an eligible spouse is one-half the accrued benefit at the date of death. The death benefit shall commence on the later of the date of death or the date the spouse reaches age 60.
<b><i>Judge's Required Contribution Rate</i></b>	July 1, 2008, 7.7% of pay. Effective July 1, 2009, 8.7% of pay. Effective July 1, 2010 and for each subsequent fiscal year until the System attains fully funded status, 9.35% of pay. Thereafter, the member contribution rate is 40% of the actuarially required contribution rate.
<b><i>State's Required Contribution Rate</i></b>	For the fiscal year beginning July 1, 2008, and for each subsequent fiscal year until the system attains fully funded status, 30.6% of pay. Commencing with the first fiscal year in which the system attains fully funded status, and for each subsequent fiscal year, the percentage rate equal to 60% of the actuarially required contribution rate.
<b><i>Senior Judge Program</i></b>	<p>Upon retirement, a judge may elect to work as a Senior Judge for 13 weeks per year with an annual salary set by the legislature and a monthly annuity. In addition to an annual salary, Senior Judges receive an increase in retirement benefit when active judges receive salary increases.</p> <p>Effective January 1, 2018, a judge must be 62 years of age or older at the time the judge assumes senior status. Senior Judges may only serve for a total of six years and shall cease holding office upon reaching 78 years of age. These requirements do not apply to judges who had 20 years of service prior to January 1, 2018.</p>
<b><i>Annuity for Senior Judges and Retired Senior Judges</i></b>	<p>(a) Judges retiring and becoming Senior Judges before January 1, 1993:</p> <p>The annuity for all Senior Judges or retired Senior Judges will be equal to 3% of the current base salary of the office in which the judge last served before retirement as a judge or Senior Judge, multiplied by the judge's years of service prior to retirement as a judge, subject to a maximum of 50% of such current base salary.</p> <p>(b) Judges retiring and becoming Senior Judges on or after January 1, 1993 and before July 1, 1994:</p> <p>The annuity is the same as (a) above, except that the annuity will increase only until the year in which the judge attains age 78. At that point, it will remain the same until the judges' death.</p>



## APPENDIX B – SUMMARY OF PLAN PROVISIONS

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- (c) Judges retiring and becoming Senior Judges on or after July 1, 1994:

The annuity is the same as (b) above, except that the percentage increase of the annuity each year is only 75% of the amount that it would have been under (b).

- (d) Judges retiring and becoming Senior Judges on or after July 1, 1998:

The annuity is the same as (c) above, except that the maximum benefit is 52% of the current base salary.

- (e) Judges retiring and becoming Senior Judges on or after July 1, 2000:

The annuity is the same as (d) above, except that the maximum benefit is 56% of the current base salary.

- (f) Judges retiring and becoming Senior Judges on or after July 1, 2001:

The annuity is the same as (e) above, except that the maximum benefit is 60% of the current base salary.

- (g) Judges retiring and becoming Senior Judges on or after July 1, 2006: The percentage multiplier is 3.25% per year of service and the maximum benefit is 65% of the current base salary.



**APPENDIX C**  
**SYSTEM MEMBERSHIP INFORMATION**



APPENDIX C – SYSTEM MEMBERSHIP INFORMATION

RECONCILIATION OF MEMBER STATUS

From July 1, 2017 to July 1, 2018

	<u>Active Members</u>	<u>Inactive Vested</u>	<u>Senior Judge*</u>	<u>Retired Members</u>	<u>Disabled Members</u>	<u>Beneficiaries</u>	<u>Total</u>
<b>Members as of July 1, 2017</b>	<b>198</b>	<b>4</b>	<b>57</b>	<b>94</b>	<b>3</b>	<b>50</b>	<b>406</b>
New Entrants	16	0	0	0	0	7	23
Non-vested Terminations	0	0	0	0	0	0	0
Vested Terminations	(2)	2	0	0	0	0	0
Senior Judge Status	(11)	0	11	0	0	0	0
Relinquished Senior Judge Status	0	0	(6)	6	0	0	0
Retirement	(6)	(1)	0	7	0	0	0
Deceased	(1)	0	(3)	(2)	(1)	(8)	(15)
Benefit Ended	0	0	0	0	0	(1)	(1)
Data Adjustments	0	0	0	0	0	0	0
<b>Members as of July 1, 2018</b>	<b>194</b>	<b>5</b>	<b>59</b>	<b>105</b>	<b>2</b>	<b>48</b>	<b>413</b>

\*Senior Judges include both those serving as Senior Judges as well as those still entitled to future benefit increases.



**APPENDIX C – SYSTEM MEMBERSHIP INFORMATION**

**ACTIVE MEMBERS AS OF JULY 1, 2018**

Age	Number of Employees			Compensation for Plan Year		
	Male	Female	Total	Male	Female	Total
under 30	0	0	0	\$ 0	\$ 0	\$ 0
30-34	0	0	0	0	0	0
35-39	5	4	9	704,694	557,200	1,261,894
40-44	8	1	9	1,092,550	131,106	1,223,656
45-49	13	10	23	1,851,870	1,376,612	3,228,482
50-54	24	14	38	3,392,364	1,972,051	5,364,415
55-59	28	11	39	3,960,491	1,562,346	5,522,837
60-64	30	10	40	4,383,851	1,420,314	5,804,165
65-69	25	5	30	3,780,220	715,620	4,495,840
70 & up	5	1	6	704,694	158,420	863,114
<b>Totals</b>	<b>138</b>	<b>56</b>	<b>194</b>	<b>\$19,870,734</b>	<b>\$7,893,669</b>	<b>\$27,764,403</b>

**ACTIVE AGE / SERVICE DISTRIBUTION AS OF JULY 1, 2018**

Age	Years of Service								Total Count
	0-4 Count	5-9 Count	10-14 Count	15-19 Count	20-24 Count	25-29 Count	30-34 Count	35+ Count	
under 30	0	0	0	0	0	0	0	0	<b>0</b>
30-34	0	0	0	0	0	0	0	0	<b>0</b>
35-39	9	0	0	0	0	0	0	0	<b>9</b>
40-44	6	2	1	0	0	0	0	0	<b>9</b>
45-49	12	8	3	0	0	0	0	0	<b>23</b>
50-54	11	15	11	1	0	0	0	0	<b>38</b>
55-59	5	12	6	8	6	1	1	0	<b>39</b>
60-64	2	12	10	5	7	2	2	0	<b>40</b>
65-69	0	3	4	11	3	2	5	2	<b>30</b>
70 & up	0	0	1	2	1	1	1	0	<b>6</b>
<b>Totals</b>	<b>45</b>	<b>52</b>	<b>36</b>	<b>27</b>	<b>17</b>	<b>6</b>	<b>9</b>	<b>2</b>	<b>194</b>



**APPENDIX C – SYSTEM MEMBERSHIP INFORMATION**

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**INACTIVE VESTED MEMBERS  
as of July 1, 2018**

Age	Number of Members			Annual Benefit		
	Male	Female	Total	Male	Female	Total
under 30	0	0	0	\$ 0	\$ 0	\$ 0
30-34	0	0	0	0	0	0
35-39	0	0	0	0	0	0
40-44	0	0	0	0	0	0
45-49	0	0	0	0	0	0
50-54	1	0	1	17,606	0	17,606
55-59	0	1	1	0	25,950	25,950
60-64	1	2	3	35,739	74,347	110,086
65-69	0	0	0	0	0	0
70 & up	0	0	0	0	0	0
<b>Totals</b>	<b>2</b>	<b>3</b>	<b>5</b>	<b>\$53,345</b>	<b>\$100,297</b>	<b>\$153,642</b>



**APPENDIX C – SYSTEM MEMBERSHIP INFORMATION**

**RETIREES AND BENEFICIARIES  
as of July 1, 2018**

Age	Number of Members				Annual Benefit			
	Retired*	Senior	Beneficiaries	Total	Retired	Senior	Beneficiaries	Total
under 55	0	0	0	0	\$ 0	\$ 0	\$ 0	\$ 0
55 to 59	1	0	2	3	87,150	0	34,499	121,649
60 to 64	4	6	7	17	332,090	511,040	273,881	1,117,011
65 to 69	23	23	4	50	1,626,452	1,784,999	163,903	3,575,354
70 to 74	29	12	5	46	2,056,090	1,011,347	196,568	3,264,005
75 to 79	21	4	10	35	1,473,293	330,346	401,319	2,204,958
80 to 84	8	4	6	18	327,966	315,224	331,717	974,907
85 to 89	15	7	8	30	608,805	442,200	373,388	1,424,393
90 to 94	6	3	4	13	192,377	167,030	94,751	454,158
95 to 99	0	0	0	0	0	0	0	0
100 & over	0	0	2	2	0	0	17,953	17,953
<b>Totals</b>	<b>107</b>	<b>59</b>	<b>48</b>	<b>214</b>	<b>\$6,704,223</b>	<b>\$4,562,186</b>	<b>\$1,887,979</b>	<b>\$13,154,388</b>

\* Includes disabled members.



**ADDENDUM – STATUTORY REPORTING**

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**IOWA JUDICIAL RETIREMENT SYSTEM  
CERTIFICATION**

We have prepared an actuarial valuation of the Iowa Judicial Retirement System as of July 1, 2018, for the fiscal year ending June 30, 2019. The results of the valuation are set forth in this addendum, which reflects the benefit provisions in effect on July 1, 2018.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System’s staff. This information includes, but is not limited to, statutory provisions, employee data, and financial information. In our examination of these data, we have found them to be reasonably consistent and comparable with data used for other purposes. Since the valuation results are dependent on the integrity of the data supplied, the results can be expected to differ if the underlying data is incomplete, or missing. It should be noted that if any data or other information is inaccurate or incomplete, our calculations may need to be revised.

The results in this Addendum have been prepared for the sole purpose of providing the information required under Chapter 97 D.5 of the Iowa code. Calculations are based on the following prescribed methods:

- Actuarial cost method: Entry Age Normal
- Amortization method: Level percent of payroll
- Amortization period: 30 years, open period

All other assumptions, methodologies, and System provisions used are consistent with those used in the regular July 1, 2018 valuation for the Iowa Judicial Retirement System.

The results shown in this Addendum are not consistent with those in the regular July 1, 2018 valuation. The July 1, 2018 valuation results were determined in accordance with generally accepted actuarial principles and practices that are consistent with the Actuarial Standards of Practice promulgated by the Actuarial Standards Board and the applicable Guides to Professional Conduct, amplifying opinion and supporting recommendations of the American Academy of Actuaries. The results shown in this Addendum are not necessarily based on the methodologies adopted by the System.

We are available to answer any questions on the material contained in this report, or to provide explanations or further details as may be appropriate.

The undersigned credentialed actuaries meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this report.

  
\_\_\_\_\_  
Patrice A. Beckham, F.S.A.

October 11, 2018  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Bryan K. Hoge, F.S.A.

October 11, 2018  
\_\_\_\_\_  
Date





**ADDENDUM – STATUTORY REPORTING**

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**IOWA JUDICIAL RETIREMENT SYSTEM  
SUMMARY OF VALUATION RESULTS UNDER PRESCRIBED METHODOLOGY**

This addendum report has been prepared to present the results of a valuation of the State of Iowa Judicial Retirement System as of July 1, 2018, based on the prescribed methodology under current statutes and regulations issued there under.

The unfunded actuarial accrued liability has been amortized as a level percent of payroll over 30 years. The payroll growth assumption used was 3.75% for 2018 and 4.25% for 2017.

A summary of principal valuation results from the current and the prior valuation follows:

	<b>Actuarial Valuation as of</b>	
	<b>July 1, 2018</b>	<b>July 1, 2017</b>
<b>Summary of Costs</b>		
Normal cost	25.57%	21.92%
UAAL amortization	<u>6.98%</u>	<u>3.32%</u>
Total	32.55%	25.24%
Less Employee Contribution Rate	<u>(9.35%)</u>	<u>(9.35%)</u>
State Required Contribution	23.20%	15.89%
<b>Funded Status</b>		
Actuarial accrued liability	\$235,143,470	\$198,233,533
Actuarial value of assets	196,780,566	180,147,471
Unfunded actuarial accrued liability	\$38,362,904	\$18,086,062
Funded Ratio	83.69%	90.88%
<b>Asset Values</b>		
Market value of assets (MVA)	\$211,467,232	\$186,971,193
Actuarial value of assets (AVA)	196,780,566	180,147,471
MVA/AVA	107.46%	103.79%