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STATE OF IOWA
JUDICIAL RETIREMENT SYSTEM

Actuarial Valuation Report
as of July 1, 2020

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October 1, 2020

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, 2020. The major findings of that valuation 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, 2020 and to evaluate the sufficiency of the current statutory contribution rates. There have been no changes to the plan provisions or actuarial assumptions and methods since the prior valuation.

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.

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.

As this report is being prepared, the world is in the midst of a pandemic. We have considered available information, but do not believe that there is yet sufficient data to warrant the modification of any of our assumptions. We will continue to monitor the situation and we believe that any adjustments would be appropriate, we will advise you at that time.

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,

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

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

This report presents the results of the July 1, 2020 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;
- assess and disclose the key risks associated with funding the System;
- 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, 2020. The unfunded actuarial accrued liability (UAAL) decreased from $33.7 million on July 1, 2019 to $21.4 million on July 1, 2020, indicating overall favorable experience for fiscal year 2020. A more complete analysis of the change in the unfunded actuarial accrued liability from July 1, 2019 to July 1, 2020 is shown on page 6.

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, while 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 8.3% for fiscal year ending June 30, 2020, as reported by the Iowa Treasurer's office. However, due to the use of an asset valuation method that recognizes actual experience that is different than expected over time, the return on the actuarial (smoothed) value of assets was 8.0%. Because this return is higher than the expected return of 6.75%, it resulted in an actuarial gain of $2.6 million. There was also a net actuarial gain on liabilities of $7.3 million, largely due to actual salary increases that were lower than expected and more deaths than expected, based on the actuarial assumptions. The lower than expected salary increases for active members also resulted in an actuarial gain on the liabilities for current Senior Judges as the benefit adjustment for that group is linked to active salary increases. The total actuarial experience for the year was an actuarial gain of $9.9 million.

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 34.93%, a decrease of 2.88% from the actuarial contribution rate of 37.81% 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 statutory contribution rate of 39.95% of payroll exceeds the actuarial contribution rate by 5.02%, 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 occur 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.

The key measurements from the current actuarial valuation are compared to those of the prior valuation in the following table:

	Actuarial Valuation Date	
Funded Status	**July 1, 2020**	**July 1, 2019**
Using Actuarial Value of Assets		
Actuarial Accrued Liability	$245,233,479	$243,632,678
Actuarial Assets	223,840,969	209,887,841
Unfunded Actuarial Accrued Liability	$21,392,510	$33,744,837
Funded Ratio	91.3%	86.1%
Using Market Value of Assets		
Actuarial Accrued Liability	$245,233,479	$243,632,678
Market Assets	231,485,500	216,405,241
Unfunded Actuarial Accrued Liability	$13,747,979	$27,227,437
Funded Ratio	94.4%	88.8%

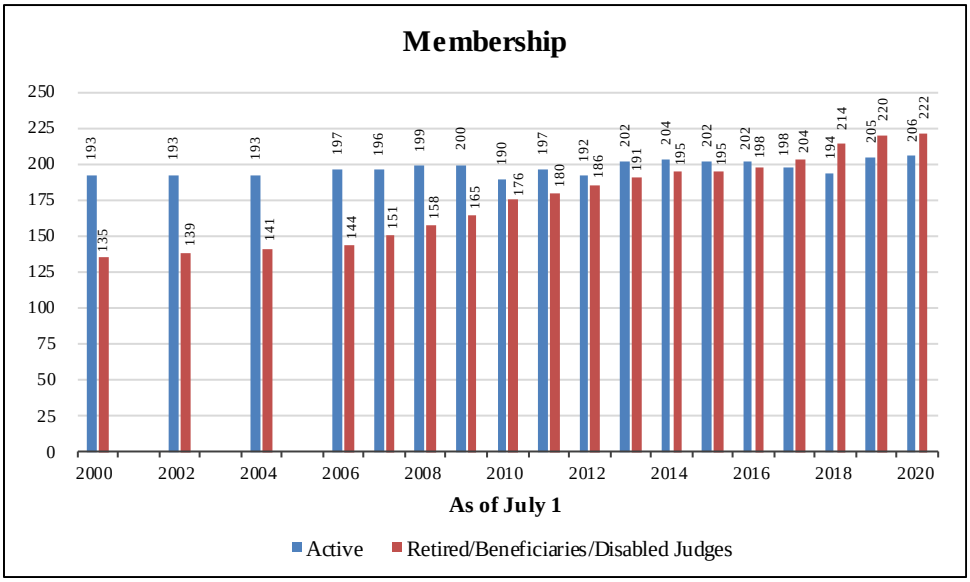
As discussed earlier, the actuarial required contribution rate in the 2020 valuation is lower than last year. The State's portion of the actuarial contribution rate decreased from 28.46% in the 2019 valuation to 25.58% in the 2020 valuation. The current statutory contribution rate, 30.60% of pay, results in a contribution margin of 5.02%:

	Actuarial Valuation Date	
Required Contribution Rate	**July 1, 2020**	**July 1, 2019**
1. Normal Cost	25.77%	25.66%
2. Amortization Payment	9.16%	12.15%
3. Total Contribution Rate (1) + (2)	34.93%	37.81%
4. Expected Member Contribution Rate	9.35%	9.35%
5. State Contribution Rate (3) - (4)	25.58%	28.46%
6. Statutory Contribution Rate	30.60%	30.60%
7. Contribution Shortfall/(Margin) (5) - (6)	(5.02%)	(2.14%)

There is currently $7.6 million of unrecognized investment gains (difference between the market and actuarial value of assets). If all actuarial assumptions are met in future, the deferred investment gains will flow through the asset smoothing method and, assuming 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, 2024. However, the volatility that exists with actual investment returns is likely to heavily impact the actual full funding date. For example, if the investment return for FY 2021 is 10% lower than expected (-3.25% instead of 6.75%), the projected full funding date is extended to July 1, 2029.

MEMBERSHIP

The number of active members remained steady, 206 in the current valuation compared to 205 in the prior valuation. Given the nature of the active membership for a judicial retirement system, 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 funding risk and contribution volatility, given the ratio of assets to covered payroll.



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

EXPERIENCE

July 1, 2019 to June 30, 2020

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, 2020. 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 both the System's assets and liabilities impacted the change in the actuarial contribution rate between the July 1, 2019 and July 1, 2020 actuarial valuations. On the following pages each component is discussed.

ASSETS

As of July 1, 2020, the System had total funds on a market value basis of $231.5 million. This was an increase of $15.1 million from the July 1, 2019 figure of $216.4 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 12 for the detailed development of the actuarial value of assets as of July 1, 2020.

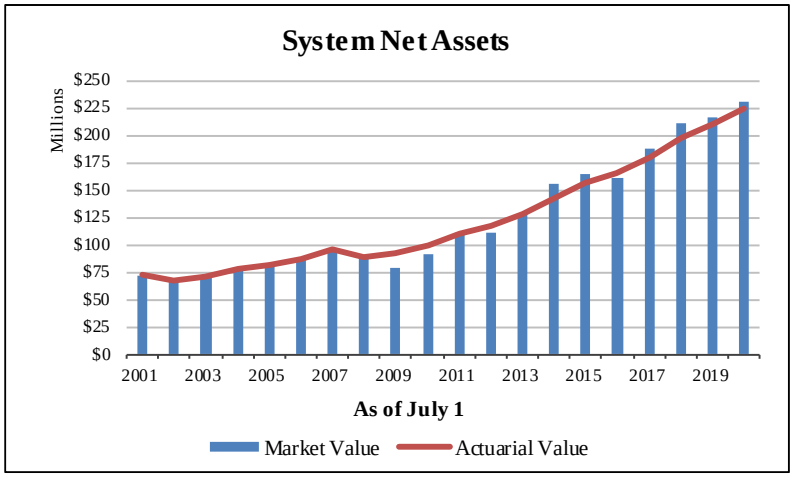
The actuarial value of assets as of July 1, 2020, was $223.8 million. The annualized dollar-weighted rate of return for fiscal year 2020, measured on the actuarial value of assets, was 8.0%, and, measured on the market value of assets, was 8.3%, net of expenses. The components of the change in the market and actuarial value of assets for the System (in millions) are set forth below.

	$(millions)	
	Market Value	**Actuarial Value**
Net Assets, July 1, 2019	$216.4	$209.9
· Employer and Member Contributions	12.0	12.0
· Benefit Payments	(14.7)	(14.7)
· Investment Income, Net of Expenses	17.8	16.6
Net Assets, July 1, 2020	$231.5	$223.8
Rate of Return, Net of Expenses*	8.3%	8.0%

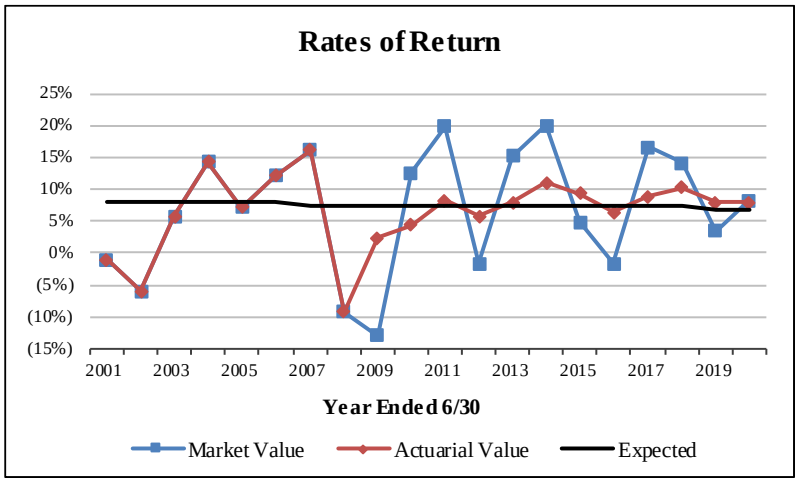
*The annual money-weighted rate of return, net of investment expense, on the market value of assets is reported by the Iowa Treasurer's office.

The rate of return on the actuarial value of assets was higher than the assumed rate of 6.75%, resulting in an actuarial gain on assets. As of July 1, 2020, there is $7.6 million of net deferred investment gain that has not yet been recognized, an increase from the $6.5 million net deferred investment gain in the 2019 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.



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. Prior to 2009, an asset smoothing method was not used.

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, 2020 is shown below:

Actuarial Accrued Liability	$245,233,479
Actuarial Value of Assets	223,840,969
Unfunded Actuarial Accrued Liability	$21,392,510

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, 2020).

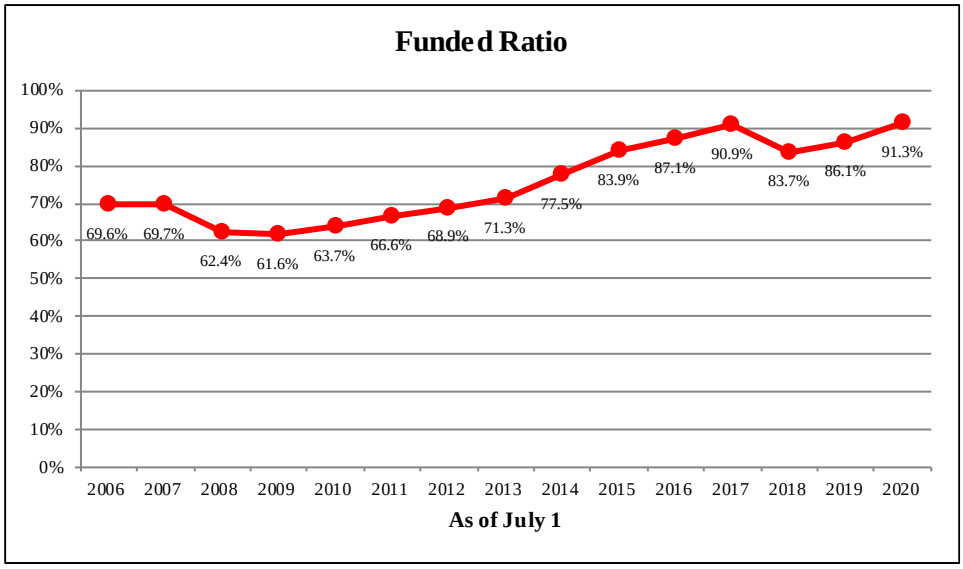
The UAAL decreased from $33.7 million on July 1, 2019 to $21.4 million on July 1, 2020. The System experienced an aggregate actuarial gain (actual versus expected experience) of $9.9 million for the year ending June 30, 2020. Actuarial experience (gain or loss) is measured by comparing the expected UAAL (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 8.0% which resulted in an actuarial gain of $2.6 million, decreasing the UAAL. The actuarial gain on the liabilities was $7.3 million, which was largely due to salary increases that were lower than expected and more deaths than expected, based on the actuarial assumptions. The salary experience also resulted in an actuarial gain on the liabilities for current Senior Judges as the actual benefit adjustment for that group was lower than expected. Actual contributions above the actuarial contribution rate also resulted in a small decrease in the UAAL.

Between July 1, 2019 and July 1, 2020, the change in the unfunded actuarial accrued liability for the System was as follows (in millions):

	$ millions
Unfunded Actuarial Accrued Liability, July 1, 2019	33.7
• effect of contributions more than the actuarial rate	(0.7)
• expected decrease due to UAAL amortization	(1.5)
• investment experience	(2.6)
• liability experience[1]	(7.3)
• other actuarial experience	(0.2)
Unfunded Actuarial Accrued Liability, July 1, 2020	21.4

[1] Liability gain was 2.99% 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:



The drop in the funded ratio in 2018 was the result of changes in the actuarial assumptions, including a reduction in the investment return assumption from 7.50% to 6.75% and adoption of a more recent mortality table.

It is important to 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 and amortize each piece of the unfunded actuarial accrued liability, using level-dollar payments, over a 25-year closed period commencing with the valuation date on which the base was created (called layered amortization).

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

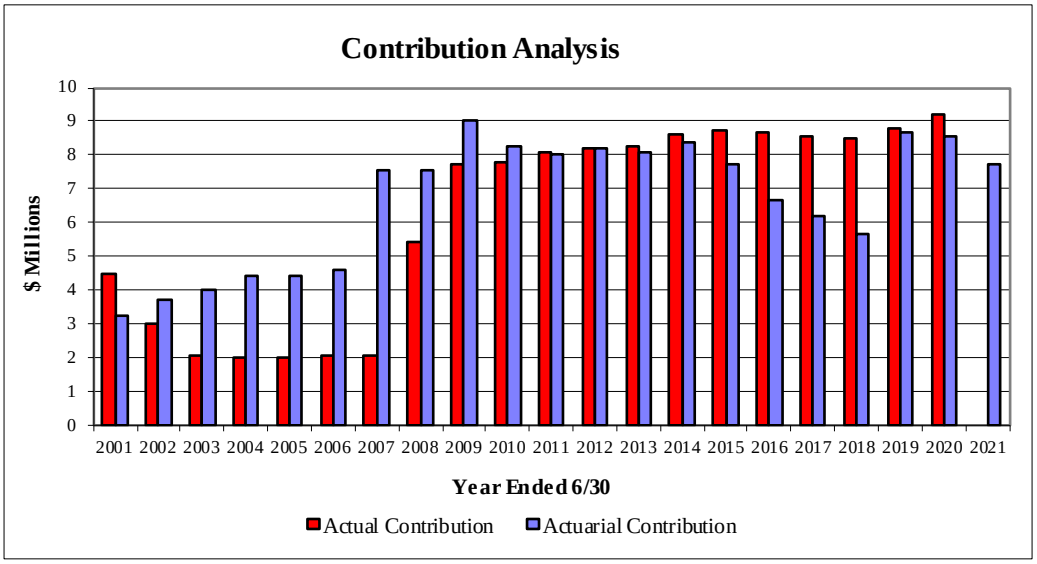
- a "normal cost", including administrative expenses, for the portion of projected liabilities allocated by the actuarial cost method to service of members during the year following the valuation date, and
- an "unfunded actuarial accrued liability contribution" for the excess of the portion of projected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

	Plan Year Beginning	
	July 1, 2020	July 1, 2019
Prior year total contribution rate	37.81%	39.61%
· change in normal cost	0.11%	0.09%
· change due to amortization method	(0.44%)	(0.51%)
· change due to asset (gains)/losses	(0.69%)	(0.60%)
· change due to liability/other actuarial experience	(1.69%)	(0.75%)
· change due to new actuarial assumptions	0.00%	0.00%
· change due to new benefit provisions	0.00%	0.00%
· change due to contribution margin	(0.17%)	(0.03%)
Current year total actuarial contribution rate	34.93%	37.81%
Member's contribution rate	(9.35%)	(9.35%)
State's actuarial contribution rate	25.58%	28.46%

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.

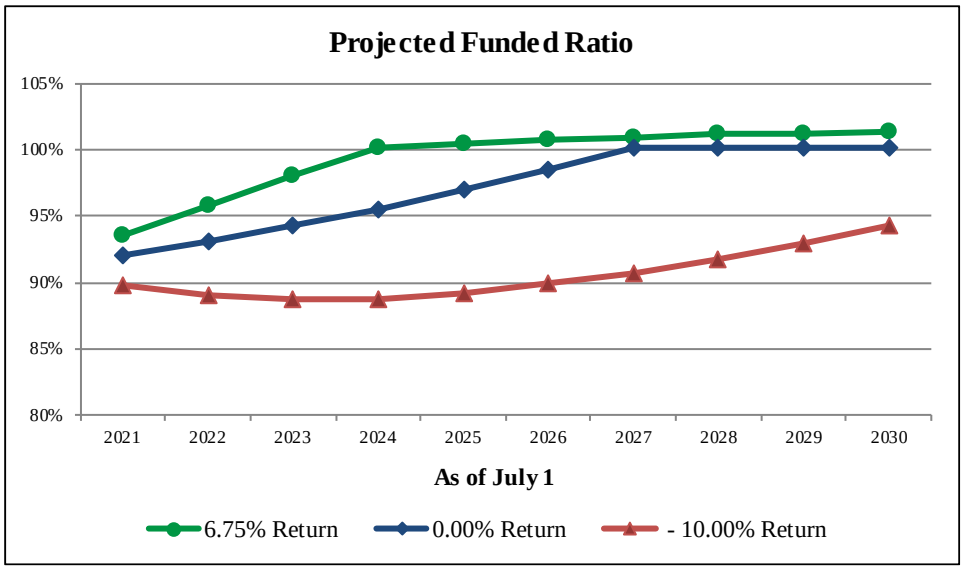


COMMENTS

In recent years, the funded status of the System has improved due to actuarial gains on assets (investment returns higher than the assumed rate of return) and liability gains (lower than expected liabilities), largely due to lower than expected salary increases. The rate of return on the market value of assets has been nearly 10% on the market value of assets since the 2009 valuation. The combined impact of this experience has improved the System's funded status from 62% in the 2009 valuation to 91% in the current valuation. 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. The contribution margin increased from 2.14% in the 2019 valuation to 5.02% in the 2020 valuation as the result of actuarial gains on both assets and liabilities. For the financing of the System on a fixed contribution rate basis to be successful, there will be periods where the statutory contributions are above the actuarial contribution rate and periods where the fixed contribution rate are below the actuarial contribution rate.

If all actuarial assumptions are met in future years, the deferred investment experience will be recognized in the actuarial value of assets and, together with future contributions, will increase the funded ratio of the System, reaching full funding around July 1, 2024. 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. The following graph compares the potential impact of various investment returns in the short term on the funded ratio. The three alternate investment return scenarios include: (1) baseline: all assumptions met, (2) return of 0% for 2020 and 6.75% thereafter, and (3) -10% return in 2020 and 6.75% return thereafter.



A typical retirement plan faces many different risks. The term "risk" is most commonly associated with an outcome with undesirable results. However, in the actuarial world risk can be translated as uncertainty. The actuarial valuation process uses many actuarial assumptions to project how future contributions and investment returns will meet the cash flow needs for future benefit payments. Of course, we know that actual experience will not unfold exactly as anticipated by the assumptions each year and that uncertainty, whether favorable or unfavorable, creates risk. Actuarial Standard of Practice Number 51 defines risk as the potential of actual future measurements to deviate from expected results due to actual experience that is different than the actuarial assumptions. Risk evaluation is an important part of managing a defined benefit plan. Please see Section III of this report for an in-depth discussion of the specific risks facing the State of Iowa Judicial Retirement System.

We note that as we prepare this report, the world is in the midst of a pandemic. We have considered available information, but do not believe that there is yet sufficient data to warrant the modification of any of our assumptions. We will continue to monitor the situation and advise of any adjustments that we believe would be appropriate.

STATE OF IOWA
JUDICIAL RETIREMENT SYSTEM

SUMMARY OF PRINCIPAL VALUATION RESULTS

	July 1, 2020	July 1, 2019	% Change
1. SUMMARY OF DATA			
Active Judges	206	205	0.5%
Senior Judges and Retired Senior Judges	61	61	0.0%
Retired and Disabled Judges	112	110	1.8%
Beneficiaries	49	49	0.0%
Inactive Vested Judges	3	4	(25.0%)
Total Members	431	429	0.5%
2. PARTICIPANT STATISTICS			
Total Compensation for Plan Year	$ 30,108,301	$ 29,957,857	0.5%
Average Compensation	146,157	146,136	0.0%
Average Active Age	55.38	55.63	(0.4%)
Average Active Service	9.65	9.94	(2.9%)
Average Annual Benefit in Receipt	$ 65,972	$ 64,371	2.5%
3. ASSET AND LIABILITY INFORMATION			
Actuarial Accrued Liability	$ 245,233,479	$ 243,632,678	0.7%
Actuarial Value of Assets	223,840,969	209,887,841	6.6%
Unfunded Actuarial Accrued Liability (UAAL)	21,392,510	33,744,837	(36.6%)
Funded Ratio (Actuarial Value)	91.3%	86.1%	6.0%
Market Value of Assets	$ 231,485,500	$ 216,405,241	7.0%
Funded Ratio (Market Value)	94.4%	88.8%	6.3%
4. CONTRIBUTION INFORMATION			
Normal Cost	25.77%	25.66%	0.4%
UAAL Payment	9.16%	12.15%	(24.6%)
Total Actuarial Contribution	34.93%	37.81%	(7.6%)
Less Member Contribution	(9.35%)	(9.35%)	0.0%
State Actuarial Contribution	25.58%	28.46%	(10.1%)
Less State Statutory Contribution	(30.60%)	(30.60%)	0.0%
Contribution Shortfall/(Margin)	(5.02%)	(2.14%)	134.6%

TABLE 1

STATEMENT OF CHANGE IN FIDUCIARY NET POSITION

	Year End June 30, 2020	Year End June 30, 2019
Additions		
1. Contributions		
a. State	$ 9,210,720	$ 8,771,171
b. Members	2,814,399	2,680,087
c. Total Contributions (a + b)	12,025,119	11,451,258
2. Net Investment Income	$ 17,776,168	$ 7,236,697
3. Total Additions (1c + 2)	$ 29,801,287	$ 18,687,955
Deductions		
4. Deductions		
a. Benefit Payments	$ 14,698,833	$ 13,723,696
b. Administrative Expense	22,195	26,250
c. Total Deductions (a + b)	14,721,028	13,749,946
5. Net Increase (3 – 4c)	$ 15,080,259	$ 4,938,009
6. Net Assets Held in Trust for Pension Benefits		
a. Beginning of Year	$ 216,405,241	$ 211,467,232
b. End of Year	$ 231,485,500	$ 216,405,241

TABLE 2

DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS

As of July 1, 2020

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, 2019	$	209,887,841
2. Actual Contribution/Disbursements		
a. Contributions	$	12,025,119
b. Benefit Payments and Refunds		(14,698,833)
c. Net	$	(2,673,714)
3. Expected Value of Assets as of July 1, 2020 [(1) x 1.0675] + [(2c) x $(1.0675)^{1/2}$]	$	221,292,792
4. Market Value of Assets as of July 1, 2020	$	231,485,500
5. Difference Between Market and Expected Values (4) - (3)	$	10,192,708
6. Actuarial Value of Assets as of July 1, 2020 (3) + [(5) x 25%]	$	223,840,969
7. Actuarial Value of Assets divided by Market Value of Assets (6) / (4)		96.7%
8. Market Value of Assets less Actuarial Value of Assets (4) - (6)	$	7,644,531

TABLE 3

PRESENT VALUE OF FUTURE BENEFITS
AS OF JULY 1, 2020

1. Active employees	
a. Retirement Benefit	$152,096,403
b. Withdrawal Benefit	104,899
c. Pre-Retirement Death Benefit	1,497,615
d. Total	$153,698,917
2. Inactive Vested Members	601,769
3. Senior Judges	61,621,477
3. Retired Members	82,348,132
4. Disabled Members	0
5. Beneficiaries	16,704,236
6. Total Present Value of Future Benefits (1d) + (2) + (3) + (4) + (5)	$314,974,531

TABLE 4

UNFUNDED ACTUARIAL ACCRUED LIABLITY
as of July 1, 2020

1. Present Value of Future Benefits	
a. Active Employees	$153,698,917
b. Inactive Employees	161,275,614
c. Total	$314,974,531
2. Present Value of Future Normal Costs	69,741,052
3. Total Actuarial Accrued Liability (1c) - (2)	245,233,479
4. Actuarial Value of Assets	223,840,969
5. Unfunded Actuarial Accrued Liability (3) - (4)	$21,392,510

TABLE 5

ACTUARIAL BALANCE SHEET
July 1, 2020

ASSETS

Actuarial value of assets	$	223,840,969
Present value of future normal costs		69,741,052
Payments on Unfunded Actuarial Accrued Liability	$	21,392,510
Total Net Assets	$	314,974,531

LIABILITIES

Present Value of Projected Benefits:		
Active Members		
Retirement Benefits	$	152,096,403
Withdrawal Benefits		104,899
Pre-Retirement Death Benefits		1,497,615
Members with Deferred Benefits		601,769
Members Receiving Benefits	$	160,673,845
Total Liabilities	$	314,974,531

TABLE 6

ACTUARIAL GAIN/(LOSS)
Plan Year Ending June 30, 2020

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, 2020.

1.	Expected actuarial accrued liability		
	a. Actuarial accrued liability at July 1, 2019	$	243,632,678
	b. Normal cost for fiscal year ending June 30, 2020		7,181,062
	c. Benefit payments for fiscal year ending June 30, 2020		(14,698,833)
	d. Interest at 6.75% on (a), (b), and (c)		16,441,942
	e. Expected actuarial accrued liability at July 1, 2020	$	252,556,849
2.	Actuarial accrued liability at July 1, 2020	$	245,233,479
3.	Actuarial accrued liability gain/(loss) (1e) - (2)	$	7,323,370
4.	Expected actuarial value of assets		
	a. Actuarial value of assets at July 1, 2019	$	209,887,841
	b. Contributions for fiscal year ending June 30, 2020		12,025,119
	c. Benefit payments and expenses for fiscal year ending June 30, 2020		(14,721,028)
	d. Interest at 6.75% on (a), (b), and (c)		14,077,928
	e. Expected actuarial value of assets at July 1, 2020	$	221,269,860
5.	Actuarial value of assets at July 1, 2020	$	223,840,969
6.	Actuarial value of assets gain/(loss) (5) - (4e)	$	2,571,109
7.	Net actuarial gain/(loss) (3) + (6)	$	9,894,479

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 $7,323,000 during the plan year ended June 30, 2020, and an actuarial gain on assets of $2,571,000. The net actuarial gain was $9,894,000. The major components of this net actuarial experience gain are shown below:

Liability Sources		**Gain/(Loss)**
Salary Increases	$	2,982,000
Retirements		(359,000)
Terminations		(13,000)
Deaths		3,328,000
New Entrants/Rehires		(238,000)
Senior Judges' Benefit Adjustment		1,614,000
Miscellaneous		9,000
Total Liability Gain/(Loss)	$	7,323,000
Asset Gain/(Loss)	$	2,571,000
Net Actuarial Gain/(Loss)	$	9,894,000

TABLE 8

SUMMARY OF AMORTIZATION BASES
At July 1, 2020

Amortization Bases	Original Amount	Years Remaining	Outstanding Balance	Amortization Payment*
2009 Legacy UAAL	$57,984,095	14	$43,952,843	$4,791,624
2010 UAAL Base	(517,789)	15	(408,171)	(42,693)
2011 UAAL Base	(704,233)	16	(575,011)	(57,941)
2012 UAAL Base	(1,072,732)	17	(904,024)	(88,074)
2013 UAAL Base	(563,586)	18	(488,716)	(46,178)
2014 UAAL Base	(8,952,654)	19	(7,966,850)	(732,121)
2015 UAAL Base	(10,362,482)	20	(9,440,661)	(845,811)
2016 UAAL Base	(4,250,030)	21	(3,955,645)	(346,265)
2017 UAAL Base	(5,638,955)	22	(5,351,712)	(458,615)
2018 Assumption Change Base	33,525,852	23	32,389,999	2,722,012
2018 Plan Change Base	(1,208,066)	23	(1,167,136)	(98,085)
2018 Experience Base	(11,071,950)	23	(10,696,833)	(898,948)
2019 Experience Base	(3,179,216)	24	(3,127,119)	(258,125)
2020 Experience Base	(10,868,454)	25	(10,868,454)	(882,425)
			$21,392,510	$2,758,355

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

Total UAAL Amortization Payment	$2,758,355
Projected Payroll for Fiscal Year	$30,108,301
UAAL Amortization Payment Rate	9.16%

TABLE 9

DETERMINATION OF ACTUARIAL REQUIRED CONTRIBUTION RATE

1. Normal Cost	
a. Retirement Benefits	25.35%
b. Pre-Retirement Death Benefits	0.31%
c. Withdrawal Benefits	0.05%
d. Administrative Expenses	0.06%
e. Total	25.77%
2. UAAL Amortization Payment (See Table 8)	9.16%
3. Total Actuarial Contribution Rate (1e) + (2)	34.93%
4. Member Contribution Rate	9.35%
5. State Actuarial Contribution Rate (3) - (4)	25.58%
6. State Statutory Contribution Rate	30.60%
7. Contribution Rate Shortfall/(Margin) (5) - (6)	(5.02%)

Actuarial Standards of Practice are issued by the Actuarial Standards Board and are binding on credentialed actuaries practicing in the United States. These standards generally identify what the actuary should consider, document and disclose when performing an actuarial assignment. In September, 2017, Actuarial Standard of Practice Number 51, *Assessment and Disclosure of Risk in Measuring Pension Obligations*, (ASOP 51) was issued as final with application to measurement dates on or after November 1, 2018. This ASOP, which applies to funding valuations, actuarial projections, and actuarial cost studies of proposed plan changes, was first applicable for the July 1, 2019 actuarial valuation for the State of Iowa Judicial Retirement System (System).

A typical retirement plan faces many different risks, but the greatest risk is the inability to make benefit payments when due. If plan assets are depleted, benefits may not be paid which could create legal and litigation risk or the plan could become "pay as you go". The term "risk" is most commonly associated with an outcome with undesirable results. However, in the actuarial world, risk can be translated as uncertainty. The actuarial valuation process uses many actuarial assumptions to project how future contributions and investment returns will meet the cash flow needs for future benefit payments. Of course, we know that actual experience will not unfold exactly as anticipated by the assumptions and that uncertainty, whether favorable or unfavorable, creates risk. ASOP 51 defines risk as the potential of actual future measurements to deviate from expected results due to actual experience that is different than the actuarial assumptions.

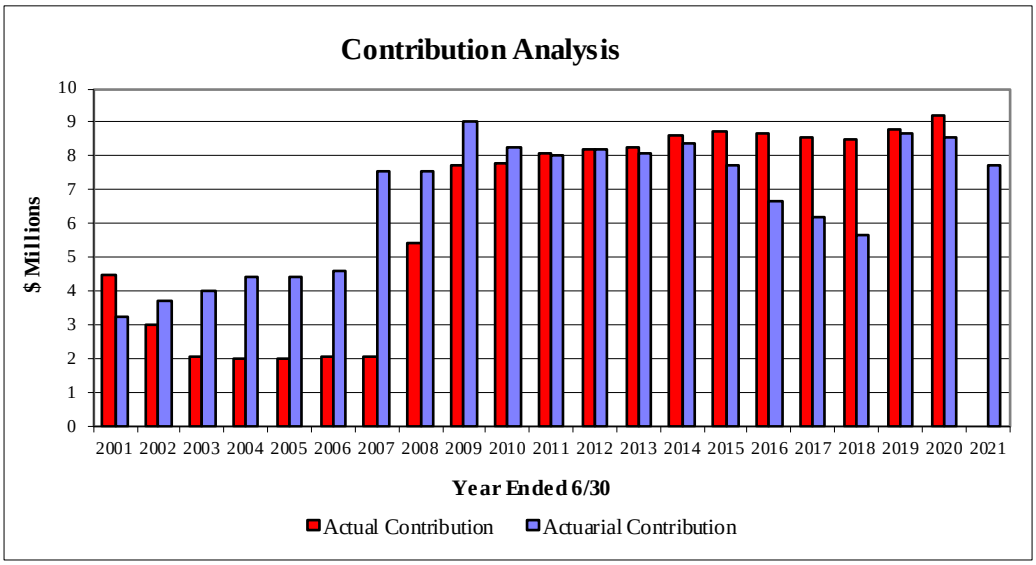
The various risk factors for a given plan can have a significant impact – positive or negative – on the actuarial projection of liability and contribution rates.

There are a number of risks inherent in the funding of a defined benefit plan. These include:

- economic risks, such as investment return and price inflation;
- demographic risks such as mortality, payroll growth, aging population including impact of baby boomers, and retirement ages;
- contribution risk, i.e., the potential for contribution rates to be too high for the plan sponsor/employer to pay and
- external risks such as the regulatory and political environment.

Although the last two are risks to the System, ASOP 51 does not require the actuary to opine on these particular risks so no discussion is included here.

There is a direct correlation between healthy, well-funded retirement plans and consistent contributions equal to the full actuarial contribution rate each year. Fixed contribution rates to the Judicial Retirement System are made by both the members and the State which tends to create more risk than a system whose funding policy requires that the actuarial contribution rate be made each year. The State's current statutory fixed contribution rate is 30.60% and member contribute 9.35% of payroll. As the following graph illustrates, the statutory state contribution amount has met or exceeded the actuarial required contribution over the last ten years. The current contribution margin (statutory rate minus actuarial rate) improves the likelihood that the actuarial contribution rate will be made in the future, but investment returns can be quite volatile from year to year so it is also possible the statutory rate may be less than the actuarial rate over the short term.



The most significant risk factor for the State of Iowa Judicial Retirement System is investment return because of the volatility of returns and the size of plan assets compared to payroll (see Table 10). The impact of investment risk is exacerbated by the Systems' funding policy that includes fixed contribution rates until the System is fully funded. The risk exists because it takes time to determine whether an adjustment is necessary and then legislation is required to modify the contribution rates. To add to the complexity, decisions may be delayed by the political process.

A key demographic risk for all retirement systems, including the State of Iowa Judicial Retirement System, is improvements in mortality (longevity) greater than anticipated. While the actuarial assumptions reflect small, continuous improvements in mortality experience over time and these assumptions are refined every experience study, the risk arises because there is a possibility of some sudden shift, perhaps from a significant medical breakthrough that could quickly increase liabilities. Likewise, there is some possibility of a significant public health crisis that could result in a significant number of additional deaths in a short time period, which would also be significant, although more easily absorbed. While either of these events could happen, it represents a small probability and thus represents much less risk than the volatility associated with investment returns.

The following exhibits summarize some historical information that helps indicate how certain key risk metrics have changed over time. Many are due to the natural maturing of the retirement system over time.

TABLE 10

HISTORICAL ASSET VOLATILITY RATIOS

As a retirement system matures, the size of the market value of assets typically increases relative to the covered payroll of active members, on which the System is funded. The size of the plan assets relative to covered payroll, sometimes referred to as the asset volatility ratio, is an important indicator of the contribution risk for the System. The higher this ratio, the more sensitive a plan's contribution rate is to investment return volatility. In other words, it will be harder to recover from investment losses with increased contributions.

Actuarial Valuation Date	Market Value of Assets	Estimated Plan Year Payroll	Asset Volatility Ratio	Increase in ACR with a Return 10% Lower than Assumed*
7/1/2006	$86,109,848	$24,093,810	3.57	2.90%
7/1/2007	96,618,857	24,425,621	3.96	3.22%
7/1/2008	88,197,551	26,662,800	3.31	2.69%
7/1/2009	79,331,934	26,810,700	2.96	2.40%
7/1/2010	91,321,799	25,479,600	3.58	2.91%
7/1/2011	111,571,876	26,402,700	4.23	3.43%
7/1/2012	111,224,878	25,760,100	4.32	3.51%
7/1/2013	128,928,834	28,278,385	4.56	3.70%
7/1/2014	155,974,313	28,534,201	5.47	4.44%
7/1/2015	163,990,416	28,270,390	5.80	4.71%
7/1/2016	161,152,637	28,254,401	5.70	4.63%
7/1/2017	186,971,193	28,403,543	6.58	5.34%
7/1/2018	211,467,232	27,764,403	7.62	6.19%
7/1/2019	216,405,241	29,957,857	7.22	5.86%
7/1/2020	231,485,500	30,108,301	7.69	6.24%

Note: Years prior to the 7/1/2010 were provided by the prior actuary.

*The impact of asset smoothing is not reflected in the impact on the Actuarial Contribution Rate (ACR). Current year assumptions are used for all years shown.

The amount of assets at July 1, 2020 is 7.69 times the covered payroll so underperforming the investment return assumption by 10.00% (i.e., earn -3.25% for one year) is equivalent to an actuarial loss of $23.1 million or 76.9% of payroll. While the actual impact in the first year is mitigated by the asset smoothing method and amortization of the UAAL, the magnitude of the ultimate contribution increase illustrates the contribution risk associated with volatile investment returns.

TABLE 11

HISTORICAL CASH FLOWS

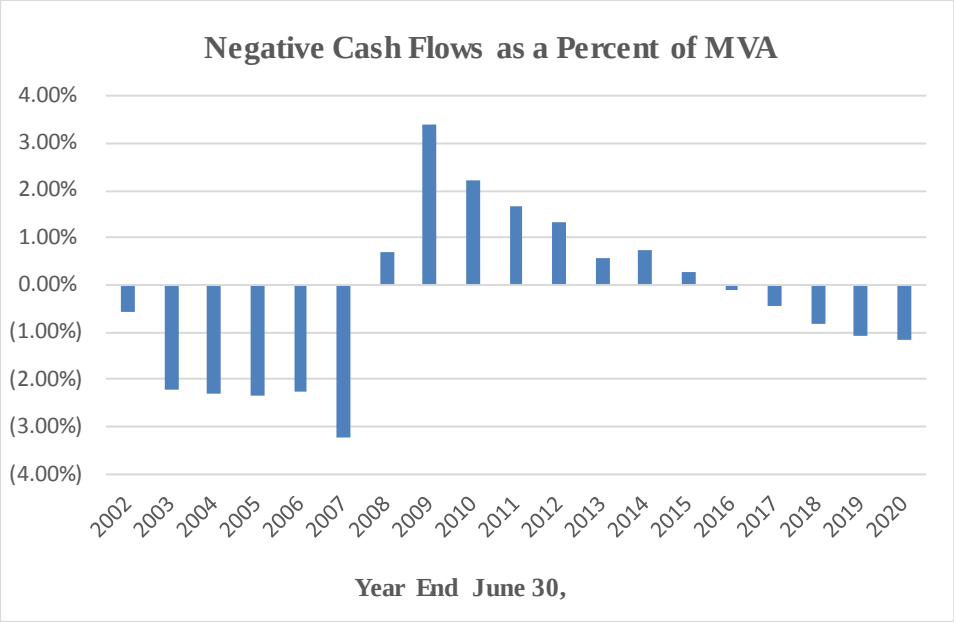
Plans with negative cash flows tend to experience increased sensitivity to investment return volatility. Cash flows, for this purpose, are measured as contributions less benefit payments and the difference must be funded with investment income. Typically a negative cash flow of more than 5% of market value may cause significant concerns. Furthermore, if the System has negative cash flows and then experiences returns below the assumed rate, there are fewer assets to be reinvested to earn the higher returns that typically follow.

Year End	Market Value of Assets (MVA)	Contributions	Benefit Payments and Expenses	Net Cash Flow	Net Cash Flow as a Percent of MVA
6/30/2002	$67,707,616	$4,032,862	$4,405,923	($373,061)	(0.55%)
6/30/2003	70,017,875	3,054,742	4,608,714	(1,553,972)	(2.22%)
6/30/2004	78,023,055	3,083,336	4,884,825	(1,801,489)	(2.31%)
6/30/2005	81,605,499	3,081,863	5,000,157	(1,918,294)	(2.35%)
6/30/2006	86,109,848	3,143,508	5,088,523	(1,945,015)	(2.26%)
6/30/2007	96,618,857	2,648,842	5,769,593	(3,120,751)	(3.23%)
6/30/2008	88,197,551	6,875,062	6,271,941	603,121	0.68%
6/30/2009	79,331,934	9,798,356	7,106,038	2,692,318	3.39%
6/30/2010	91,321,799	10,028,413	8,012,509	2,015,904	2.21%
6/30/2011	111,571,876	10,577,454	8,693,772	1,883,682	1.69%
6/30/2012	111,224,878	10,726,016	9,227,546	1,498,470	1.35%
6/30/2013	128,928,834	10,747,940	10,024,506	723,434	0.56%
6/30/2014	155,974,313	11,555,867	10,394,091	1,161,776	0.74%
6/30/2015	163,990,416	11,389,693	10,906,494	483,199	0.29%
6/30/2016	161,152,637	11,314,666	11,479,902	(165,236)	(0.10%)
6/30/2017	186,971,193	11,154,766	11,968,331	(813,565)	(0.44%)
6/30/2018	211,467,232	11,101,178	12,832,255	(1,731,077)	(0.82%)
6/30/2019	216,405,241	11,451,258	13,749,946	(2,298,688)	(1.06%)
6/30/2020	231,485,500	12,025,119	14,721,028	(2,695,909)	(1.16%)

Note: Years prior to 6/30/2010 were provided by the prior actuary.

TABLE 11

HISTORICAL CASH FLOWS
(continued)



The change from negative to positive cash flows in the middle of this period coincide with increases in the member and State contribution rates. The member contribution rate increased to 7.7% of pay effective July 1, 2008, 8.7% effective July 1, 2009, and 9.35% effective July 1, 2010 and remains there until the System attains fully funded status. Thereafter, the member contribution rate is 40% of the actuarially required contribution rate. The State's required contribution rate was 23.7% of pay, but beginning July 1, 2008 was increased to 30.6% of pay until the System attains fully funded status. Thereafter, the State contribution rate will be 60% of the actuarially required contribution rate. Given the significant combined contribution rate, there is a small negative cash flow at the current time.

TABLE 12

LIABILITY MATURITY MEASUREMENTS

Most public sector retirement systems have been in operation for many years. As a result, they have aging plan populations, and in some cases declining active populations, resulting in an increasing ratio of retirees to active members and a growing percentage of retiree liability. With more of the total liability residing with retirees, investment volatility has a greater impact on the funding of the system because it is more difficult to restore the system financially after losses occur when there is comparatively less payroll over which to spread costs.

Year End	Retiree Liability (a)	Total Actuarial Accrued Liability (b)	Retiree Percentage (a) / (b)
6/30/2006	$46,206,683	$123,670,177	37.4%
6/30/2007	55,989,010	138,662,253	40.4%
6/30/2008	60,487,993	141,364,072	42.8%
6/30/2009	69,225,049	151,029,371	45.8%
6/30/2010	80,531,008	156,029,125	51.6%
6/30/2011	86,757,124	164,511,490	52.7%
6/30/2012	94,627,210	170,232,283	55.6%
6/30/2013	96,676,981	178,725,295	54.1%
6/30/2014	99,174,350	183,915,864	53.9%
6/30/2015	102,063,335	186,269,470	54.8%
6/30/2016	107,719,863	190,933,661	56.4%
6/30/2017	113,167,558	198,233,533	57.1%
6/30/2018	144,164,726	235,143,470	61.3%
6/30/2019	156,028,897	243,632,678	64.0%
6/30/2020	160,673,845	245,233,479	65.5%

Note: Years prior to the 6/30/2010 were provided by the prior actuary.

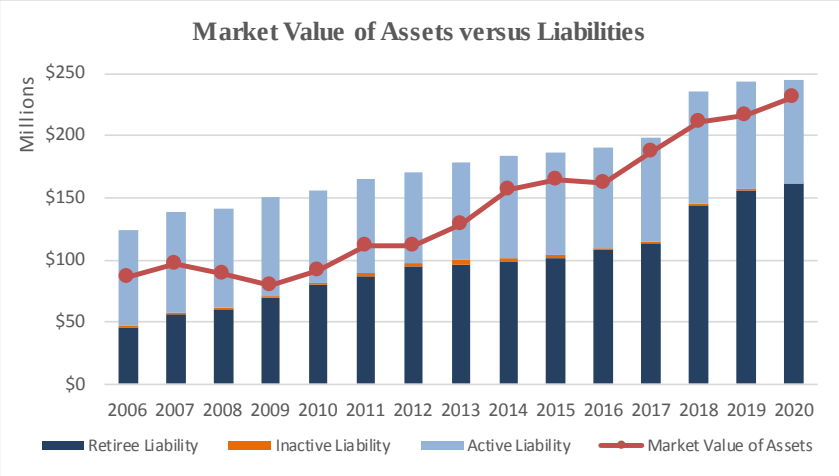


TABLE 13

HISTORICAL MEMBER STATISTICS

Valuation Date July, 1	Active Members	Payroll	Payroll Increase	Retired Members*	Active/ Retired
2006	197	$24,093,810		144	1.37
2007	196	24,425,621	1.38%	151	1.30
2008	199	26,662,800	9.16%	158	1.26
2009	200	26,810,700	0.55%	165	1.21
2010	190	25,479,600	(4.96%)	176	1.08
2011	197	26,402,700	3.62%	176	1.12
2012	192	25,760,100	(2.43%)	186	1.03
2013	202	28,278,385	9.78%	191	1.06
2014	204	28,534,201	0.90%	195	1.05
2015	202	28,270,390	(0.92%)	195	1.04
2016	202	28,254,401	(0.06%)	198	1.02
2017	198	28,403,543	0.53%	204	0.97
2018	194	27,764,403	(2.25%)	214	0.91
2019	205	29,957,857	7.90%	220	0.93
2020	206	30,108,301	0.50%	222	0.93

*Includes Senior Judges

Note: Years prior to 7/1/2010 were provided by prior actuary.

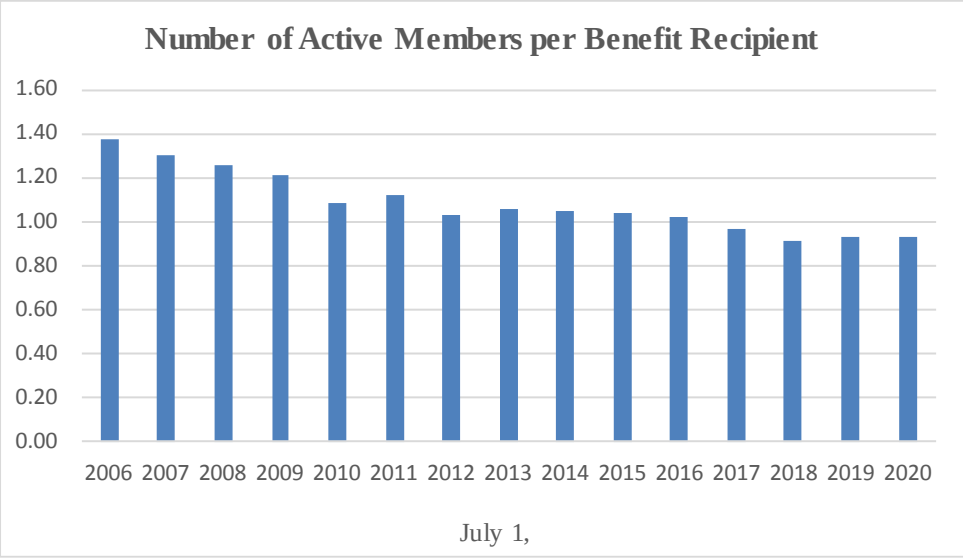


TABLE 14

COMPARISON OF VALUATION RESULTS UNDER ALTERNATE INVESTMENT RETURN ASSUMPTIONS ($ In Thousands)

This exhibit compares the key July 1, 2020 valuation results under five (5) different investment return assumptions to illustrate the impact of different assumptions on the funding of the System. Note that only the investment return assumption is changed, as identified in the heading below. All other assumptions are unchanged for purposes of this analysis.

Investment Return Assumption	**6.25%**	**6.50%**	**6.75%**	**7.00%**	**7.25%**
Contributions					
Total Normal Cost	28.46%	27.08%	25.77%	24.54%	23.37%
Unfunded Actuarial Accrued Liability	12.24%	10.70%	9.16%	7.62%	6.07%
Total Actuarial Contribution	40.70%	37.78%	34.93%	32.16%	29.44%
Member Contributions	(9.35%)	(9.35%)	(9.35%)	(9.35%)	(9.35%)
State Statutory Contributions	(30.60%)	(30.60%)	(30.60%)	(30.60%)	(30.60%)
Contribution Shortfall/(Margin)	0.75%	(2.17%)	(5.02%)	(7.79%)	(10.51%)
Actuarial Accrued Liability	$257,914	$251,444	$245,233	$239,268	$233,536
Actuarial Value of Assets	223,841	223,841	223,841	223,841	223,841
Unfunded Actuarial Accrued Liability	$34,073	$27,603	$21,393	$15,427	$9,695
Funded Ratio	86.8%	89.0%	91.3%	93.6%	95.8%

Note: All other assumptions are unchanged for purposes of this sensitivity analysis.
Numbers may not add due to rounding.

TABLE 15

SCHEDULE OF FUNDING PROGRESS
(In Thousands)

Actuarial Valuation Date	Actuarial Value of Assets[1] (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%
July 1, 2019	209,888	243,633	33,745	86%	29,958	113%
July 1, 2020	223,841	245,233	21,392	91%	30,108	71%

[1] 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
Numbers may not add due to rounding.

TABLE 16

SCHEDULE OF EMPLOYER CONTRIBUTIONS

Fiscal Year Ended	Actuarial Required Contribution	Actual Employer Contribution	Percentage of ARC Contributed
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%
June 30, 2019	8,673,714	8,771,171	101%
June 30, 2020	8,566,572	9,210,720	108%

APPENDIX A

ACTUARIAL ASSUMPTIONS AND METHODS

Actuarial Assumptions

Interest

6.75% per annum.

Mortality

RP-2014 White Collar Mortality Tables with a two year age set back and generational improvements using MP-2017.

Turnover

1.00% per year for all participants under age 45.

Rate of Disablement; Disabled Life Mortality

No incidence of disability was assumed.

Salary Increases

Salaries will increase 3.75% per year.

Incidence of Retirement

The following table indicates the assumed rate of retirement at each age.

Age	Rate
50 - 59	3%
60 - 64	12%
65 - 71	20%
72	100%

Inactive vested members are assumed to begin receiving benefits at age 65.

Spouse's Benefit

85% of employees were assumed married, with the female spouse four years younger.

Internal Revenue Service Limits on Recognized Pay

The limit is assumed to increase based on cost of living increases of 2.60% per year.

Retiring Judges Electing Senior Judge Status

80%, with 60% relinquishing after 6 years if before 78. Senior Judges must relinquish after 6 years (does not apply to judges with more than 20 years of service at January 1, 2018).

Adjustment to Benefit for Senior Judges

Became Senior Judge	Adjustment
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

Decrement Timing

Middle of year

Administrative Expense Load

0.06% of covered payroll

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.

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

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.

Credited Service	All years of service as a judge are credited.
Average Monthly Salary	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.
Accrued Benefit	The benefit payable at Normal Retirement Date which the judge has earned based on average salary and credited service to date.
Normal Form	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.
Eligible Spouse	A spouse is eligible if married to the judge for at least the one year preceding death.
Retirement Eligibility	Age 65 with a minimum of four years of service or 20 years of service and age 50.
Mandatory Retirement Date	Age 72 for active judges. Age 78 for judges participating in the Senior Judge Program.
Monthly Retirement Benefit	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.
Disability Retirement	Upon total and permanent disability with a minimum of four years of credited service, the Judge receives the accrued benefit.
Vesting	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.

Pre-Retirement Death Benefit

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.

Judge's Required Contribution Rate

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.

State's Required Contribution Rate

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.

Senior Judge Program

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.

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.

Annuity for Senior Judges and Retired Senior Judges

(a) Judges retiring and becoming Senior Judges before January 1, 1993:

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.

(b) Judges retiring and becoming Senior Judges on or after January 1, 1993 and before July 1, 1994:

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.

(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

RECONCILIATION OF MEMBER STATUS

From July 1, 2019 to July 1, 2020

	Active Members	Inactive Vesteds	Senior Judge*	Retired Members	Disabled Members	Beneficiaries	Total
Members as of July 1, 2019	**205**	**4**	**61**	**110**	**0**	**49**	**429**
New Entrants	13	0	0	0	0	7	20
Non-vested Terminations	0	0	0	0	0	0	0
Vested Terminations	0	0	0	0	0	0	0
Senior Judge Status	(7)	0	7	0	0	0	0
Relinquished Senior Judge Status	0	0	(6)	6	0	0	0
Retirement	(3)	(1)	0	4	0	0	0
Deceased	(2)	0	(1)	(8)	0	(7)	(18)
Benefit Ended	0	0	0	0	0	0	0
Data Adjustments	0	0	0	0	0	0	0
Members as of July 1, 2020	**206**	**3**	**61**	**112**	**0**	**49**	**431**

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

ACTIVE MEMBERS AS OF JULY 1, 2020

	Number of Employees			Compensation for Plan Year		
Age	Male	Female	Total	Male	Female	Total
under 30	0	0	0	$ 0	$ 0	$ 0
30-34	0	0	0	0	0	0
35-39	7	4	11	1,002,960	568,344	1,571,304
40-44	12	9	21	1,716,176	1,320,564	3,036,740
45-49	14	7	21	2,061,640	969,528	3,031,168
50-54	26	18	44	3,805,676	2,652,272	6,457,948
55-59	24	10	34	3,482,500	1,468,221	4,950,721
60-64	32	12	44	4,713,912	1,732,892	6,446,804
65-69	20	5	25	2,969,876	724,360	3,694,236
70 & up	6	0	6	919,380	0	919,380
Totals	141	65	206	$20,672,120	$9,436,181	$30,108,301

ACTIVE AGE / SERVICE DISTRIBUTION AS OF JULY 1, 2020

	Years of Service								
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35+	Total
Age	Count	Count	Count	Count	Count	Count	Count	Count	Count
under 30	0	0	0	0	0	0	0	0	**0**
30-34	0	0	0	0	0	0	0	0	**0**
35-39	11	0	0	0	0	0	0	0	**11**
40-44	17	4	0	0	0	0	0	0	**21**
45-49	14	5	2	0	0	0	0	0	**21**
50-54	13	19	10	2	0	0	0	0	**44**
55-59	6	8	11	3	4	2	0	0	**34**
60-64	3	12	11	6	9	2	1	0	**44**
65-69	0	5	9	6	2	2	0	1	**25**
70 & up	0	0	1	1	2	1	0	1	**6**
Totals	**64**	**53**	**44**	**18**	**17**	**7**	**1**	**2**	**206**

INACTIVE VESTED MEMBERS
as of July 1, 2020

	Number of Members			Annual Benefit		
Age	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	0	1	1	0	23,834	23,834
65-69	0	0	0	0	0	0
70 & up	0	0	0	0	0	0
Totals	1	2	3	$17,606	$49,784	$67,390

RETIREES AND BENEFICIARIES
as of July 1, 2020

	Number of Members				Annual Benefit			
Age	Retired*	Senior	Beneficiaries	Total	Retired	Senior	Beneficiaries	Total
under 55	0	0	1	1	$ 0	$ 0	$54,226	$54,226
55 to 59	1	1	0	2	87,150	90,593	0	177,743
60 to 64	4	4	5	13	364,854	349,998	136,507	851,359
65 to 69	19	18	9	46	1,350,957	1,573,445	459,321	3,383,723
70 to 74	33	24	5	62	2,602,231	1,999,381	243,518	4,845,130
75 to 79	31	1	7	39	2,036,912	72,953	237,830	2,347,695
80 to 84	9	7	7	23	481,772	550,283	282,015	1,314,070
85 to 89	9	2	10	21	452,934	122,769	478,203	1,053,906
90 to 94	6	4	5	15	209,064	236,703	172,227	617,994
95 to 99	0	0	0	0	0	0	0	0
100 & over	0	0	0	0	0	0	0	0
Totals	112	61	49	222	$7,585,874	$4,996,125	$2,063,847	$14,645,846

* Includes disabled members.

IOWA JUDICIAL RETIREMENT SYSTEM
CERTIFICATION

We have prepared an actuarial valuation of the Iowa Judicial Retirement System as of July 1, 2020, for the fiscal year ending June 30, 2021. The results of the valuation are set forth in this addendum, which reflects the benefit provisions in effect on July 1, 2020.

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, 2020 valuation for the Iowa Judicial Retirement System.

The results shown in this Addendum are not consistent with those in the regular July 1, 2020 valuation. The July 1, 2020 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 Beckham — October 1, 2020

Patrice A. Beckham, F.S.A. — Date

October 1, 2020

Bryan K. Hoge, F.S.A. — Date

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, 2020, 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%.

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

	Actuarial Valuation as of	
	July 1, 2020	**July 1, 2019**
Summary of Costs		
Normal cost	25.77%	25.66%
UAAL amortization	3.59%	5.69%
Total	29.36%	31.35%
Less Employee Contribution Rate	(9.35%)	(9.35%)
State Required Contribution	20.01%	22.00%
Funded Status		
Actuarial accrued liability	$245,233,479	$243,632,678
Actuarial value of assets	223,840,969	209,887,841
Unfunded actuarial accrued liability	$21,392,510	$33,744,837
Funded Ratio	91.28%	86.15%
Asset Values		
Market value of assets (MVA)	$231,485,500	$216,405,241
Actuarial value of assets (AVA)	223,840,969	209,887,841
MVA/AVA	103.42%	103.11%