Missouri State Employees' Retirement System - Judges

Actuarial Valuation Report as of June 30, 2025

Contribution Rate for Fiscal Year Ending June 30, 2027

Submitted September 10, 2025

CavMac
Actuarial Consulting Services

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CavMac
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September 10, 2025

Board of Trustees
Missouri State Employees' Retirement System
907 Wildewood Drive
Jefferson City, MO 65102

Dear Members of the Board:

At your request, we performed an actuarial valuation of the Missouri State Employees' Retirement System (MOSERS) as of June 30, 2025 for the purpose of determining the employer required contribution rate for the fiscal year ending June 30, 2027. This report provides valuation results for the Missouri State Employees' Retirement System - Judges (Judges). The major findings of the valuation are contained in this report, which reflects the benefit provisions in place on June 30, 2025. There have been no changes to the plan provisions, actuarial assumptions or funding policy since the prior valuation.

In preparing our 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, member data and financial information. We found this information to be reasonably consistent and comparable with the information received in the prior year. 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 Judges have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of each Plan and reasonable expectations); and which, in combination, offer the best estimate of anticipated experience affecting Judges. Nevertheless, the emerging costs will vary from those presented in this report to the extent actual experience differs from that projected by the actuarial assumptions. The MOSERS Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in Appendix C.

In order to prepare the results in this report, we have utilized actuarial models that were developed to measure liabilities and develop actuarial costs. These models include tools that we have produced and tested, along with commercially available valuation software that we have reviewed to confirm the appropriateness and accuracy of the output. In utilizing these models, we develop

and use input parameters and assumptions about future contingent events along with recognized actuarial approaches to develop the needed results. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the 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. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements.

The actuarial computations presented in this report are for purposes of determining the funding amounts for Judges as set out in the Missouri state statutes. The calculations in the enclosed report have been made on a basis consistent with our understanding of MOSERS' funding policy. 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. For example, actuarial computations for purposes of fulfilling financial accounting requirements for the System under Governmental Accounting Standards No. 67 and No. 68 will be presented in separate reports.

The consultants who worked on this assignment are pension actuaries with substantive experience valuing public retirement systems. CavMac's advice is not intended to be a substitute for qualified legal or accounting counsel.

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

We respectfully submit the following report and look forward to discussing it with you.

Sincerely,

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

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

SECTION 1 – EXECUTIVE SUMMARY

This report presents the results of the June 30, 2025 actuarial valuation of the Missouri State Employees' System – Judges (Judges). The primary purposes of performing the actuarial valuation are to:

- Determine the employer contribution rate in accordance with Missouri state statutes and the Board's funding policy for the fiscal year ending June 30, 2027;
- Disclose asset and liability measurements as well as the current funded status of Judges on the valuation date;
- Compare the actual and expected experience of Judges during the plan year ended June 30, 2025;
- Assess and disclose the key risks associated with funding the System; and
- Analyze and report on trends in Judges' contributions, assets and liabilities over the past several years.

The actuarial valuation results provide a "snapshot" view of the System's financial condition on June 30, 2025. A summary of the key results compared to the prior valuation is shown in the following table.

	June 30, 2025	June 30, 2024
Unfunded Actuarial Accrued Liability ($M)	$480.3	$465.9
Funded Ratio (Actuarial Assets)	31.1%	31.0%
Normal Cost Rate	19.46%	19.58%
UAAL Amortization Rate	44.00%	44.06%
Total Actuarial Required Contribution Rate	63.46%	63.64%
Member Contribution Rate	(3.30%)	(3.10%)
Actuarial Employer Contribution Rate	60.16%	60.54%
Required Employer Contribution Rate*	60.16%	60.54%
Employer Contribution Amount ($M)	$46.0	$43.9

* The minimum employer contribution rate in the Funding Policy is 58.45% of pay until the System reaches an 80% funded ratio. The minimum employer contribution rate did not impact the current or prior valuation results.

Experience Impacting the June 30, 2025 Valuation

The key factors impacting the 2025 valuation results include:

- The net rate of return on the market value of assets for fiscal year 2025 was 9.8%, as reported by MOSERS. However, due to the use of an asset smoothing method and the scheduled recognition of the deferred investment loss from prior years, the rate of return on the actuarial value of assets was 6.1%. This is lower than the assumed return of 6.95%,

so there was an actuarial loss on assets of $1.8 million. This increased the unfunded actuarial accrued liability as well as the actuarial required contribution rate (by 0.17%).

- There was a net liability loss of $14.6 million for fiscal year 2025, i.e., the actuarial accrued liability was greater than expected. The largest sources of loss were due to larger cost-of-living adjustments (COLAs) than expected and unfavorable retirement experience, based on the actuarial assumptions. The net liability loss increased the UAAL and increased the employer contribution rate (by 1.38%).

- There was an increase of 0.7% in the number of active members in the 2025 valuation (427 compared to 424 in the prior valuation). The increase in the number of active members, coupled with salary increases that were higher than expected, resulted in an increase in covered payroll of 5.5% from the prior valuation, significantly greater than the assumed increase of 2.25%. As a result, the UAAL contribution rate decreased by 1.48% of pay which then decreased the actuarial required contribution rate.

- Because the benefit structure is different for judges hired after January 1, 2011, including an employee contribution rate of 4%, the ongoing cost of the System (normal cost) declines as a larger percentage of active members are covered by the 2011 benefit structure. The number of active members covered by the 2011 Plan increased from 326 in the 2024 valuation to 352 in the 2025 valuation, and the percentage of total active members in 2011 Plan increased from 77% to 82%. As a result, the normal cost rate decreased by 0.12% and the effective member contribution rate increased by 0.20%, which both served to reduce the employer contribution rate.

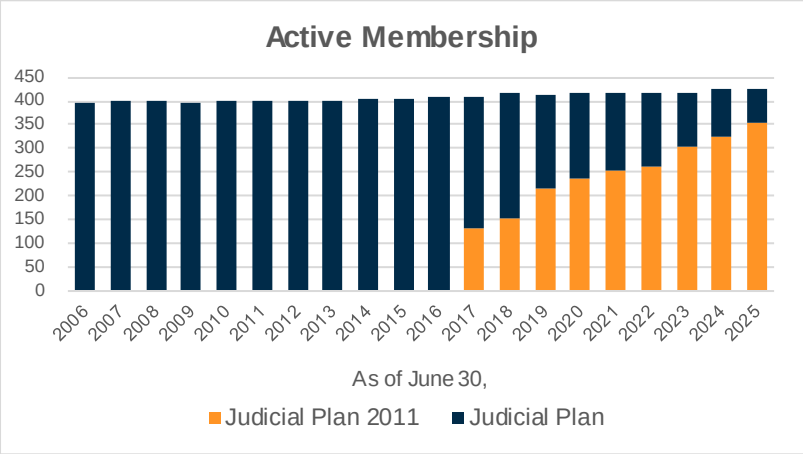
Further detail on the changes and actuarial experience affecting the valuation results can be found in the following sections of this Executive Summary.

Actual Experience for the Last Plan Year

Numerous factors contributed to the change in the Judges assets, liabilities, and actuarial required contribution rate between June 30, 2024 and June 30, 2025. The components are examined in the following discussion.

Membership

The number of active members increased from 424 in the prior valuation to 427 in the current valuation. As shown in the following graph, the active population has remained steady over the past 20 years, which is typical for a statewide retirement system covering judges.



Note: Split between MSEP and MSEP 2011 is not available prior to June 30, 2017.

The percentage of active members covered by the Judicial 2011 Plan has increased over time as members covered by the Judicial Plan leave the bench and are replaced by new judges. The number of active members covered by the Judicial 2011 Plan increased from 326 in the 2024 valuation to 352 in the 2025 valuation, and the percentage of the overall active population grew from 77% to 82%. Because the benefit structure is different for the Judicial 2011 members, the ongoing cost of the System (normal cost) declines as a larger percentage of active members is covered by the Judicial 2011 Plan. In addition, the Judicial 2011 Plan includes an employee contribution rate of 4.0% which then lowers the employer portion of the normal cost rate. As a result of the increase in the number of active members covered by the Judicial 2011 Plan, the effective member contribution rate increased by 0.20% and the normal cost rate decreased by 0.12%. The combined impact (total of 0.32% of covered payroll) was a significant factor in the decrease in the employer contribution rate.

As is expected in a mature retirement system, the number of members receiving benefits increased from 626 last year to 639 in the current valuation. In addition, the average benefit amount for this group increased by 3.1%, which is consistent with expectations.

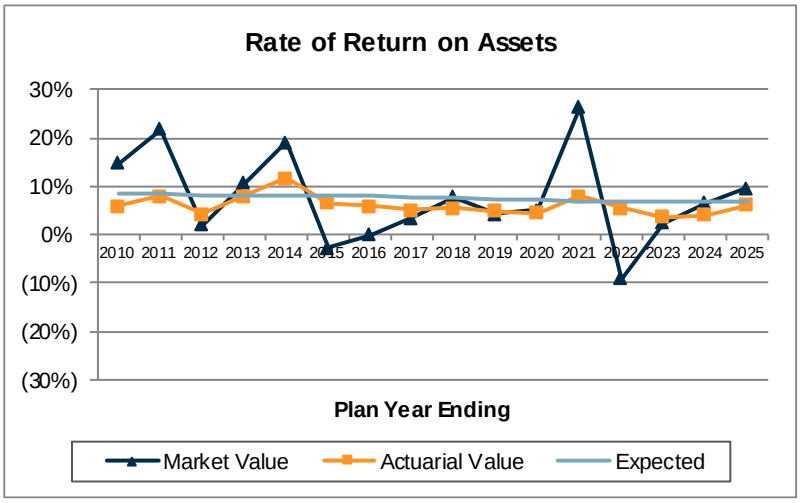
System Assets

As of June 30, 2025, the Judges System had net assets of $211.18 million, when measured on a market value basis, an increase of $14.60 million from the prior year. However, the market value of assets is not used directly in the calculation of the unfunded actuarial accrued liability and the employer actuarial contribution rate. An asset valuation method, which smoothes the effect of market fluctuations, is applied to determine the value of assets used in the valuation, called the actuarial value of assets. The current asset valuation method was first implemented in the June 30, 2018 actuarial valuation. Under this method, the difference between the dollar amount of the actual and assumed investment return on the market value of assets is recognized evenly over a closed five-year period.

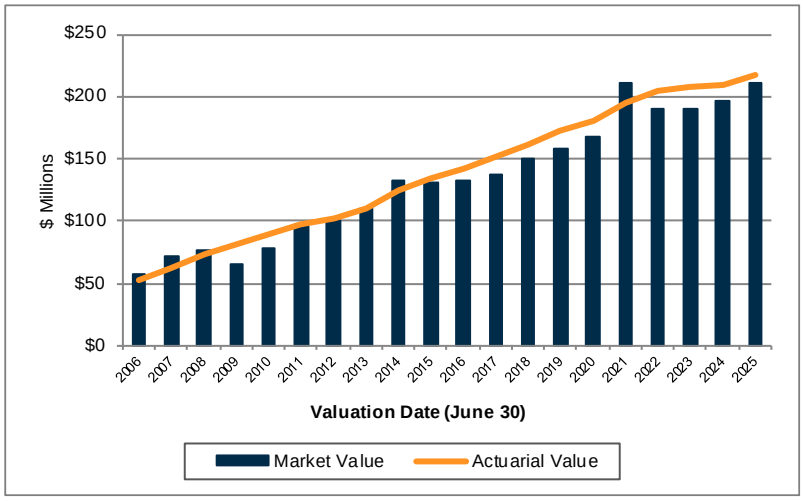
In the current valuation, the actuarial value of assets for Judges is $217.3 million, an increase of $8.2 million from the prior year. The components of change in the asset values are shown in the following table.

	Market Value ($M)		Actuarial Value ($M)	
Net Assets, June 30, 2024	$	196.57	$	209.09
- Employer and Member Contributions	+	46.91	+	46.91
- Miscellaneous Income	+	0.00	+	0.00
- Benefit Payments	-	51.18	-	51.18
- Net Investment Income	+	18.99	+	12.56
- Administrative Expenses	-	0.11	-	0.11
Net Assets, June 30, 2025	$	211.18	$	217.27
Estimated Net Rate of Return		9.8%		6.1%

The investment return on the market value of assets for the year ending June 30, 2025 of 9.8%, as reported by MOSERS, was greater than the assumed rate of return. As a result, it produced excess investment income from the expected return of $5.5 million for the year ended June 30, 2025. Due to the scheduled recognition of the current and prior investment experience in the asset smoothing method, the estimated rate of return on the actuarial value of assets for fiscal year 2025 was 6.1%, which is lower than the assumed investment return of 6.95%. As a result, there was an actuarial loss on the smoothed value of assets of $1.8 million. There is currently a net deferred investment loss of $6.1 million (actuarial value of assets exceeds market value). Please see Section 3 of this report for more detailed information on the market and actuarial value of assets.



The rate of return of the actuarial value of assets has been less volatile than the market value return, illustrating the benefit of using an asset smoothing method. However, during this period, the rate of return on actuarial assets has been at or below the assumed rate of return for most years, resulting in actuarial losses.



An asset smoothing method is used to mitigate the volatility in the market value of assets. By using a smoothing method, the actuarial (or smoothed) value can be, and actually should be, both above and below the pure market value.

Note the asset smoothing method changed with the 2018 valuation.

System Liabilities

The actuarial accrued liability is that portion of the present value of future benefits that will not be paid by future normal costs. The difference between this liability and the actuarial value of assets as of the valuation date is called the unfunded actuarial accrued liability (UAAL). The dollar amount of the UAAL is reduced if the contributions to the System exceed the normal cost for the year plus interest on the prior year's UAAL.

Note that until 1999, the Judges Plan was funded on a pay-as-you-go basis, so no advance funding occurred. Since that time, the funding of the Plan has steadily increased, but the funded ratio is still very low and the dollar amount of the UAAL is significant for a plan of this size. As the State continues to fund the Judges Plan, the funded ratio is expected to increase and eventually reach 100% if all actuarial assumptions are met in future years.

The UAAL, using both the actuarial and market value of assets, is shown as of June 30, 2025 in the following table:

	Actuarial Value of Assets	Market Value of Assets
Actuarial Accrued Liability	$697,530,450	$697,530,450
Value of Assets	217,267,067	211,176,545
Unfunded Actuarial Accrued Liability	$480,263,383	$486,353,905
Funded Ratio	31.1%	30.3%

See Section 4 of the report for the detailed development of the UAAL.

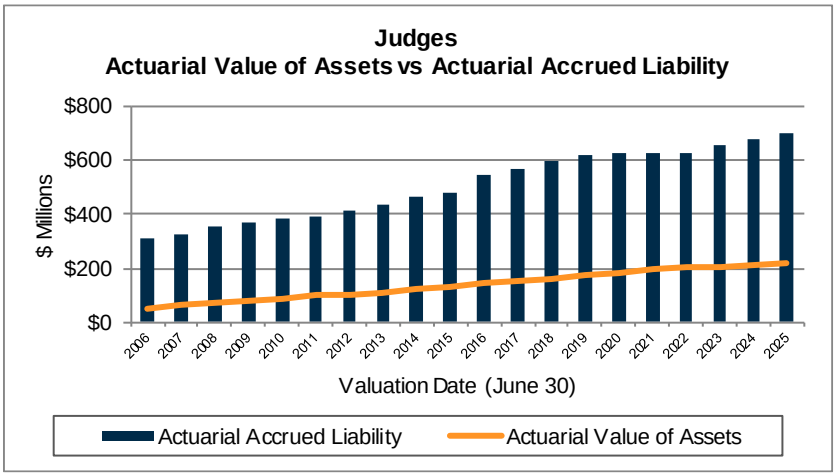
The net change in the UAAL from June 30, 2024 to June 30, 2025 was an increase of $14.4 million. The components of this net change are shown in the following table:

	($ Millions)
Unfunded Actuarial Accrued Liability, June 30, 2024	$465.9
- Expected decrease	(0.4)
- Investment experience	1.8
- Liability experience	14.6
- Other experience	(1.6)
Unfunded Actuarial Accrued Liability, June 30, 2025	$480.3

As shown above, various components impacted the dollar amount of the UAAL. The UAAL is amortized as a level-percent of payroll. This methodology results in dollar payment amounts that are lower in the early part of the amortization period but increase each year in the future with the assumed payroll growth assumption (currently 2.25%). Given the amortization period and the actuarial assumptions, the amortization payment during FYE 2025 was greater than the interest on the UAAL, resulting in a decrease in the UAAL (see first row in the table above).

Actuarial gains (losses), which result from actual experience that is more (less) favorable than anticipated based on the actuarial assumptions in place in the prior valuation, are reflected in the UAAL and are measured as the difference between the expected UAAL and the actual UAAL, taking into account any changes due to actuarial assumptions and methods, or benefit provision changes. Overall, the Judges System experienced a total actuarial loss of $16.5 million, the result of an actuarial loss of $14.6 million on System liabilities and a $1.8 million actuarial loss on actuarial assets. The largest sources of liability loss were larger cost-of-living adjustments (COLAs) than expected and unfavorable retirement experience, based on the actuarial assumptions.

As the following graph of historical actuarial assets and actuarial accrued liabilities shows, due to the magnitude of the contributions to the Plan, the assets have been growing at a faster rate than the liabilities. As a result, the Plan's funded ratio has steadily improved over time.

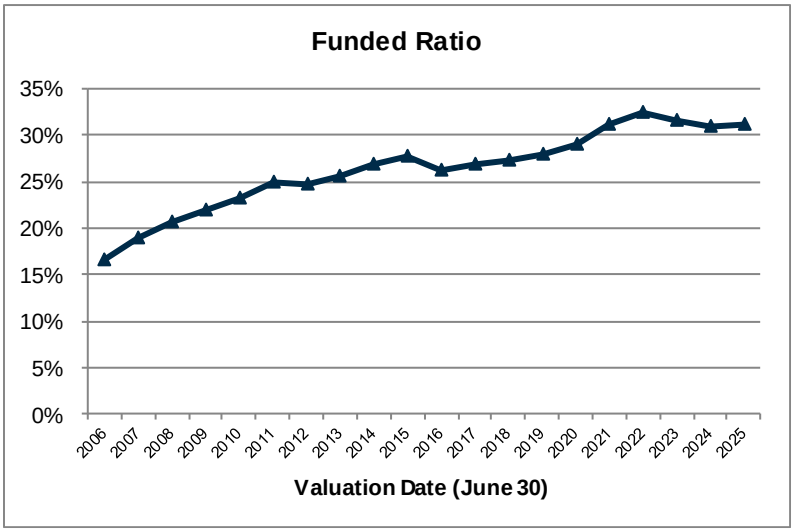


An evaluation of the UAAL on a pure dollar basis may not provide a complete analysis, since only the difference between the assets and liabilities (which are both large numbers) is reflected. Another way to evaluate the UAAL and the progress made in its funding is to track the funded ratio, the ratio of the actuarial value of assets to the actuarial accrued liability. The funded status information, using both the actuarial value of assets and the market value of assets, is shown in the following table (in millions).

	6/30/2020	6/30/2021	6/30/2022	6/30/2023	6/30/2024	6/30/2025
Using Actuarial Value of Assets:						
- Funded Ratio	28.9%	31.1%	32.4%	31.7%	31.0%	31.1%
- UAAL ($M)	$444	$431	$426	$447	$466	$480
Using Market Value of Assets:						
- Funded Ratio	26.8%	33.7%	30.2%	29.1%	29.1%	30.3%
- UAAL ($M)	$458	$415	$440	$464	$478	$486

Note that the funded ratio does not indicate whether or not the System assets are sufficient to settle benefits earned to date. The funded ratio, by itself, also may not be indicative of future funding requirements. As shown in the table above, the funded ratios differ using the market value of assets.

The funded ratio over a longer timeframe is shown in the following graph:



Typically plans that have been in existence as long as the Judges System (over 40 years) have a funded ratio well above the current level of 31%. However, until 1999, this plan was funded on a pay-as-you-go basis. As a result, each year's contribution was equal to the benefit payments and administrative expenses for that year only, i.e., the funded ratio was 0%. As a result of a change in funding policy that required contributions to equal the normal cost plus an amortization payment on the UAAL, the funded ratio has steadily increased over time. Assuming future experience follows the current actuarial assumptions, continued contributions under the current funding policy will allow the funded ratio to increase, until the UAAL is fully amortized in the 2049 valuation, and the funded ratio reaches 100%.

Required Employer Contribution Rate

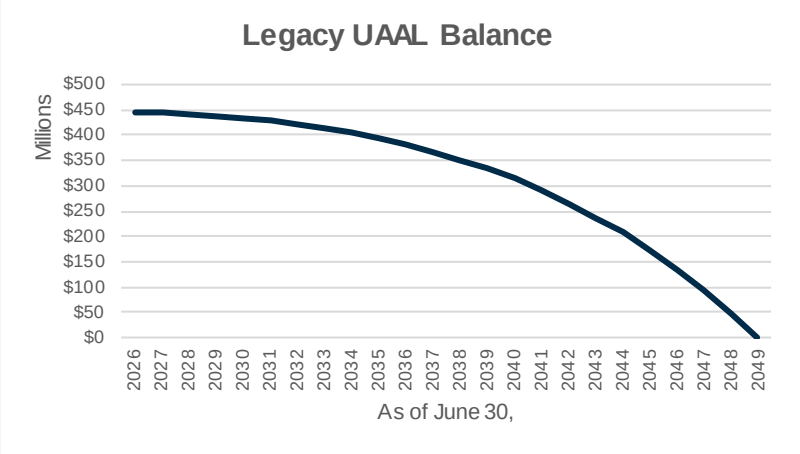
The Plan is funded by contributions from the employer (actuarially required) and employees hired after December 31, 2010 (4.00% of pay). Under the Entry Age Normal cost method, the actuarial contribution rate consists of two components:

- A "normal cost" for the portion of projected liabilities allocated by the actuarial cost method to service of members during the year following the valuation date, which includes a component for administrative expenses.
- 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.

Under the System's current funding policy, the UAAL contribution rate is determined by amortizing the UAAL using the layered amortization method. To implement this method, the projected UAAL developed in the June 30, 2018 valuation was amortized as a level-percent of payroll over a closed, 30-year period. Effective June 30, 2021, subsequent changes in the UAAL due to actuarial gains/losses or assumption changes are separately financed by establishing amortization bases

and payments, as a level percentage of payroll, over closed 25-year periods. Bases established prior to June 30, 2021 continue to be amortized on their original schedule. Any change in the System's benefit structure shall be amortized over a closed period of 20 years, as specified in state statute. The total UAAL amortization payment is the sum of the payments for each of the amortization bases.

The level-percent of payroll methodology for UAAL payments results in dollar payment amounts that are lower than the level-dollar payment method in the early portion of the amortization period but increase each year in the future with the assumed payroll growth assumption (currently 2.25%). Because the UAAL contribution rate is determined as a level-percent of payroll, the dollar amount of the UAAL contribution is scheduled to increase 2.25% each year in the future, even if all actuarial assumptions are met. If covered payroll increases as assumed, the UAAL contribution rate will remain stable. However, if actual payroll increases are higher/lower than the 2.25% assumption, the UAAL contribution rate will decrease/increase. With this payment methodology, the dollar amount of the legacy UAAL base is expected to hold steady for about three years before starting to decline as illustrated in the following graph:



Given the use of closed amortization periods and the State contributing at least the actuarial employer contribution each year, the System is expected to be fully funded by the end of the amortization period, if all actuarial assumptions are met. Based on the current valuation and funding policy, the full funding date is expected to occur in the June 30, 2049 valuation. In our opinion, the amortization policy meets the requirements of Actuarial Standard of Practice Number 4. We would also note that the contributions during FY 2026 (calculated in the June 30, 2024 valuation) are expected to be greater than the normal cost plus interest on the UAAL during that period.

In our professional judgement, the funding policy adopted by the Board of Trustees produces a reasonable actuarial determined contribution as defined in Actuarial Standard of Practice Number 4. Furthermore, the funding policy is intended to promote stable contributions, balance costs among generations of members, and ensure adequate advance funding of benefits.

See Section 5 of the report for the detailed development of the total actuarial required contribution rate as well as the required employer contribution rate, which is summarized in the following table:

Employer Contribution Rates	June 30 Valuation 2025	2024
1. Normal Cost Rate	19.46%	19.58%
2. UAAL Contribution Rate	44.00%	44.06%
3. Total Actuarial Required Contribution Rate	63.46%	63.64%
4. Member Contribution Rate	(3.30%)	(3.10%)
5. Actuarial Employer Contribution Rate	60.16%	60.54%
6. Required Employer Contribution Rate*	60.16%	60.54%

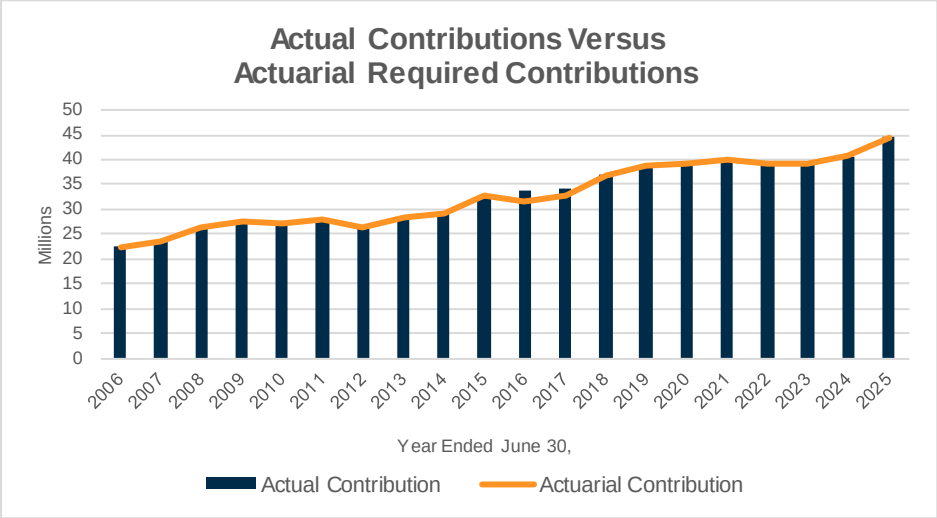
* The minimum employer contribution rate is 58.45% of pay until the System reaches an 80% funded ratio. The minimum employer contribution rate did not impact the current or prior valuation results.

The total actuarial required contribution rate in the June 30, 2025 valuation is 63.46%. The member contribution rate (as a percentage of total covered payroll) is anticipated to be 3.30%, resulting in an actuarial employer contribution rate for FYE 2027 of 60.16%. This amount exceeds the minimum employer contribution of 58.45% in the Judges Plan Funding Policy.

The following table shows the reconciliation of the actuarial employer contribution rate from June 30, 2024 to June 30, 2025 valuation:

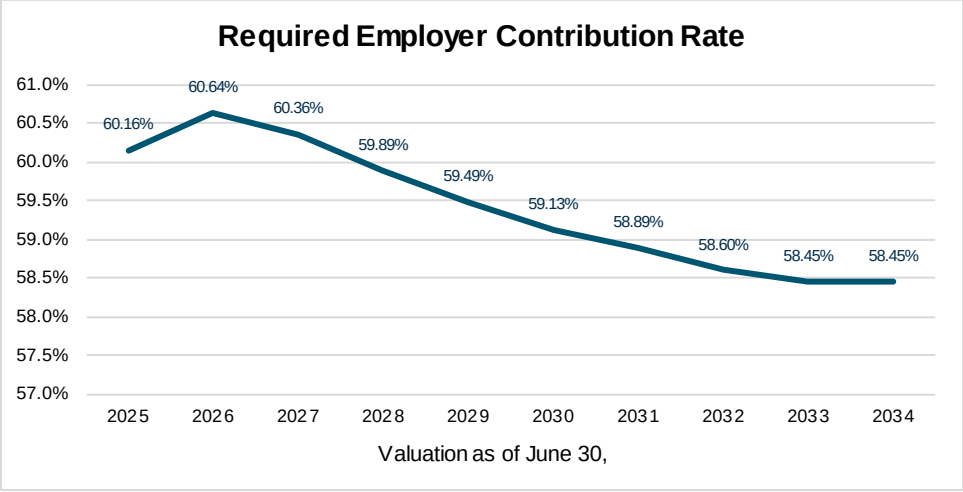
	% of Payroll
6/30/2024 Actuarial Employer Contribution Rate For FY 2026	**60.54%**
Asset (Gain)/Loss	0.17%
Liability (Gain)/Loss	1.38%
Projected Payroll Higher than Expected	(1.48%)
Change in Normal Cost Rate	(0.12%)
Change in Effective Member Contribution Rate	(0.20%)
Other Experience	(0.13%)
6/30/2025 Actuarial Employer Contribution Rate For FY 2027	**60.16%**

Since the System changed from pay-as-you-go funding, the state of Missouri has contributed at least the full actuarial required contribution as shown in the following graph which compares the computed employer contribution amounts and the actual contribution amounts:



The actuarial employer contribution rate, which is determined based on the snapshot of the System taken on each valuation date, is anticipated to increase in the following valuation as the deferred investment experience is recognized through the asset smoothing method before steadily declining. Future experience (both investment and demographic), which is not modeled here, will also have an impact on the ultimate level of contributions for the Judges System.

The following graph of the projected employer contribution rate over the next ten years reflects the impact of recognizing the deferred investment experience ($6.1 million loss). Once the deferred investment experience is recognized, the actuarial employer contribution rate declines as the normal cost rate decreases and the effective employee contribution rate increases due to a higher percentage of active members being covered by the 2011 Plan. As shown in the following graph, the minimum employer contribution rate of 58.45% is expected to impact the valuation results beginning with the June 30, 2033 actuarial valuation, assuming all actuarial assumptions are met in the future. In compliance with the Board's Funding Policy, the minimum contribution rate will be in effect until the System reaches an 80% funded ratio.



The net deferred investment loss (actuarial value of assets minus the market value) is $6.1 million as of June 30, 2025. The deferred investment experience will be reflected in the actuarial value of assets in the next four years. While the use of an asset smoothing method is a common procedure for public retirement systems, it is important to recognize the potential impact of the deferred investment experience. This is accomplished by comparing the key valuation results from the June 30, 2025 actuarial valuation using both the actuarial and market value of assets (see table below):

	Using Actuarial Value of Assets	Using Market Value of Assets
Actuarial Accrued Liability	$697,530,450	$697,530,450
Asset Value	(217,267,067)	(211,176,545)
Unfunded Actuarial Accrued Liability	$480,263,383	$486,353,905
Funded Ratio	31.1%	30.3%
Normal Cost Rate	19.46%	19.46%
UAAL Contribution Rate	44.00%	44.57%
Total Actuarial Required Contribution Rate	63.46%	64.03%
Member Contribution Rate	(3.30%)	(3.30%)
Actuarial Employer Contribution Rate	60.16%	60.73%

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 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 7 of this report for an in-depth discussion of the specific risks facing the Judges Plan.

The next page contains a comprehensive summary of valuation results for the current and prior year. Detailed exhibits deriving the results are in the following sections.

SUMMARY OF PRINCIPAL RESULTS
($ in millions)

Valuation Date Contribution for Fiscal Year Ending	June 30, 2025 June 30, 2027	June 30, 2024 June 30, 2026	% Change
Employer Contribution			
Annual Amount (Estimated)	$46.0	$43.9	4.8%
Percentage of Covered Payroll	60.16%	60.54%	(0.6%)
Projected Payroll for FYE 2027 and 2026	$76.5	$72.6	5.4%
Benefit Payments During Prior Year	$51.2	$49.0	4.5%
Membership			
Number of			
- Active Members	427	424	0.7%
- Retirees and Beneficiaries	639	626	2.1%
- Terminated Vested Members	32	30	6.7%
- Leave-of-Absence Members	1	0	0.0%
- Long Term Disability Members	0	0	0.0%
- Total	1,099	1,080	1.8%
- Reported Payroll	$72.7	$68.9	5.5%
Assets			
Market Value (MVA)	$211.2	$196.6	7.4%
Actuarial Value (AVA)	$217.3	$209.1	3.9%
Ratio - Actuarial Value to Market Value	103%	106%	
Return on Market Value*	9.8%	6.6%	
Return on Actuarial Value	6.1%	4.1%	
Actuarial Information			
Actuarial Accrued Liability (AAL)	$697.5	$675.0	3.3%
Unfunded Actuarial Accrued Liability (UAAL)	$480.3	$465.9	3.1%
Funded Ratio (Actuarial Value of Assets)	31.1%	31.0%	0.3%
Ratio of AVA to Reported Payroll	3.0	3.0	
Ratio of AAL to Reported Payroll	9.6	9.8	
Normal Cost Rate	19.46%	19.58%	(0.6%)
UAAL Contribution Rate	44.00%	44.06%	(0.1%)
Total Actuarial Required Contribution Rate	63.46%	63.64%	(0.3%)
Member Contribution Rate	(3.30%)	(3.10%)	6.5%
Actuarial Employer Contribution Rate	60.16%	60.54%	(0.6%)
Required Employer Contribution Rate	60.16%	60.54%	(0.6%)

* As reported by MOSERS.

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SECTION 2 – SCOPE OF THE REPORT

This report presents the actuarial valuation results of the Missouri State Employees' Retirement System – Judges as of June 30, 2025. This valuation was prepared at the request of the MOSERS Board.

Please pay particular attention to our actuarial certification letter, where the guidelines employed in the preparation of this report are outlined. We also comment on the sources and reliability of both the data and the actuarial assumptions upon which our findings are based. Those comments are the basis for our certification that this report is complete and accurate to the best of our knowledge and belief.

A summary of the findings which result from this valuation is presented in the previous section. Section 3 describes the assets and investment experience of the System. Sections 4 and 5 describe how the obligations of the System are to be met under the System's funding policy. Section 6 contains projections of future valuation results, assuming all actuarial assumptions are met. Section 7 discloses key maturity measurements and discusses the key risks facing the funding of the System. Section 8 includes some historical funding information that was required by the Governmental Accounting Standards Board (GASB) in the past.

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SECTION 3 – SYSTEM ASSETS

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 June 30, 2025. 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 then leads to a method of determining the contributions needed by members and the employer in the future to balance the System assets and liabilities.

Market Value of Assets

The current market value represents the "snapshot" or "cash-out" value of System assets as of the valuation date. In addition, the market value of assets provides a basis for measuring investment performance from time to time. Table 1 shows a summary of changes to both the market and the actuarial value assets for the year beginning June 30, 2024 and ending June 30, 2025.

Actuarial Value of Assets

Neither the market value of assets, representing a "cash-out" value of System assets, nor the book values of assets, representing the cost of investments, may be the best measure of the System's ongoing ability to meet its obligations.

To arrive at a suitable value of assets 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.

Table 2 shows the development of the actuarial value of assets (AVA) as of the valuation date.

TABLE 1
ASSET SUMMARY

	Judges	
	Market Value	Actuarial Value
1. Assets at June 30, 2024	196,573,541	209,090,000
2. Contributions		
State Contributions	44,634,596	44,634,596
Employee Contributions	2,276,185	2,276,185
Member Purchases of Service Credit	0	0
Total	46,910,781	46,910,781
3. Investment Income, Net of Investment Expenses	18,980,578	12,554,641
4. Miscellaneous Income	3	3
5. Benefit Payments		
Monthly Benefit Payments	51,178,589	51,178,589
Inactive Vested Lump Sum Payments	0	0
Contribution Refunds	0	0
Total	51,178,589	51,178,589
6. Administrative and Misc. Expenses	109,769	109,769
7. Assets at June 30, 2025 (1) + (2) + (3) + (4) - (5) - (6)	211,176,545	217,267,067
8. Rate of Return, Net of Investment Expenses*	9.8%	6.1%

* Based on the approximation formula: (2 x I) / (A+B-I), where
I = Investment Increment
A = Beginning of year asset value
B = End of year asset value

Market value return reported by MOSERS

TABLE 2
DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS

Under the current asset smoothing method, the difference between the actual and assumed investment return on the market value of assets will be recognized evenly over a closed five-year period. The method was first implemented with the June 30, 2018 valuation.

Fiscal Year End June 30,	2021	2022	2023	2024	2025
A. Market Value of Assets, Beginning of Year	$ 167,288,066	$ 211,081,342	$ 190,449,086	$ 190,226,755	$ 196,573,541
B. Contributions During Year	41,444,937	40,779,560	40,811,671	42,777,905	46,910,781
C. Miscellaneous Income	0	0	0	3	3
D. Benefit Payments and Expenses During Year	41,701,368	42,609,870	45,199,665	49,078,314	51,288,358
E. Expected Rate of Return	6.95%	6.95%	6.95%	6.95%	6.95%
F. Expected Net Investment Income	11,617,759	14,607,618	13,086,290	13,005,498	13,512,295
G. Expected Market Value of Assets, End of Year	178,649,394	223,858,650	199,147,382	196,931,847	205,708,262
H. Market Value of Assets, End of Year	211,081,342	190,449,086	190,226,755	196,573,541	211,176,545
I. Excess/(Shortfall) of Net Investment Income	$ 32,431,948	$ (33,409,564)	$ (8,920,627)	$ (358,306)	$ 5,468,283

TABLE 2
DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS

(continued)

The table below shows the development of gain/(loss) to be recognized in the current year:

Plan Year Ended	Asset Gain/(Loss)	Gain/(Loss) Recognized in Prior Years	Gain/(Loss) Recognized This Year	Gain/(Loss) Deferred to Future Years
6/30/2021	32,431,948	25,945,560	6,486,388	0
6/30/2022	(33,409,564)	(20,045,739)	(6,681,913)	(6,681,912)
6/30/2023	(8,920,627)	(3,568,250)	(1,784,125)	(3,568,252)
6/30/2024	(358,306)	(71,661)	(71,661)	(214,984)
6/30/2025	5,468,283	0	1,093,657	4,374,626
Total	(4,788,266)	2,259,910	(957,654)	(6,090,522)

A. Market Value of Assets as of June 30, 2025	$	211,176,545
B. Total Deferred Investment Experience	$	(6,090,522)
C. Actuarial Value of Assets as of June 30, 2025 (A. - B.)	$	217,267,067
D. Ratio of Actuarial Value to Market Value		102.9%

The table below shows the scheduled recognition of current deferred investment gains/(losses):

Plan Year Ended	Gain/(Loss) Deferred to Future Years	Gain/(Loss) to be Recognized in Plan Year Ending June 30, 2026	2027	2028	2029
6/30/2022	(6,681,912)	(6,681,912)			
6/30/2023	(3,568,252)	(1,784,125)	(1,784,127)		
6/30/2024	(214,984)	(71,661)	(71,661)	(71,662)	
6/30/2025	4,374,626	1,093,657	1,093,657	1,093,657	1,093,655
Total	(6,090,522)	(7,444,041)	(762,131)	1,021,995	1,093,655

SECTION 4 – SYSTEM LIABILITIES

In the previous section, an analysis of System's current assets was given as of June 30, 2025. In this section, the discussion will focus on the commitments (future benefit payments) of the System, which are referred to as its liabilities.

Table 3 contains an analysis of the actuarial present value of all future benefits (PVFB) for contributing members, inactive members, retirees and their beneficiaries. The liabilities summarized in Table 3 include the actuarial present value of all future benefits expected to be paid with respect to each member. For an active member, this value includes measures of both benefits already earned and future benefits expected to be earned. For all members, active and retired, the value extends over benefits earnable and payable for the rest of their lives and, if an optional benefit is chosen, for the lives of their surviving spouses.

The actuarial assumptions used to determine liabilities are based on the results of the latest experience study. These assumptions are outlined in Appendix C.

The Board's funding policy amortizes the UAAL using a "layered" bases method. Under this method, the "Legacy UAAL", as determined in the June 30, 2018 valuation, is amortized over a closed 30-year period (see Table 4). Effective June 30, 2021, subsequent changes in the UAAL due to actuarial gains/losses or assumption changes are separately financed by establishing amortization bases and payments, as a level percentage of payroll, over closed 25-year periods. Bases established prior to June 30, 2021 will continue to be amortized on their original schedule. Any change in the System's benefit structure shall be amortized over a closed period of 20 years, as set out in state statutes. The total UAAL amortization payment is the sum of the payments for each of the amortization bases. Note that the use of closed amortization periods will result in the System being fully funded at the end of the amortization period, if all actuarial assumptions are met.

All liabilities reflect the benefit provisions in place as of June 30, 2025, as amended by any legislation in the 2025 Legislative Session.

Actuarial Accrued Liability

A fundamental principle in financing the liabilities of a retirement program is that the cost of its benefits should be related to the period in which benefits are earned, rather than to the period of benefit distribution. An actuarial cost method is a mathematical technique that allocates the present value of future benefits into annual costs. In order to do this allocation, it is necessary for the funding method to "breakdown" the present value of future benefits into two components:

(1) that which is attributable to the past and
(2) that which is attributable to the future.

Actuarial terminology calls the part attributable to the past the "past service liability" or the "actuarial accrued liability." The portion allocated to the future is known as the present value of

future normal costs, with the specific piece of it allocated to the current year being called the "normal cost." Table 5 contains the actuarial balance sheet for the System. The Entry Age Normal actuarial cost method is used to develop the actuarial accrued liability. Table 6 shows the gain/(loss) analysis in total for the System.

TABLE 3
UNFUNDED ACTUARIAL ACCRUED LIABILITY
As of June 30, 2025

	(1) Actuarial Present Value	(2) Present Value of Future Normal Cost Contributions	(3) = (1) - (2) Actuarial Accrued Liabilities
Active Members			
Service retirement benefits based on service rendered before and likely to be rendered after valuation date	$247,817,997	$94,992,484	$152,825,513
Disability benefits likely to be paid to present active members who become totally and permanently disabled	0	0	0
Survivor benefits likely to be paid to widows and children of present active members who die before retiring	5,210,440	3,926,313	1,284,127
Separation benefits likely to be paid to present active members	20,357,133	17,480,458	2,876,675
Active Member Totals	$273,385,570	$116,399,255	$156,986,315
Members on Leave of Absence & LTD			
Service retirement benefits based on service rendered before the valuation date			67,492
Terminated Vested Members			
Service retirement benefits based on service rendered before the valuation date			13,110,340
Retired Lives			527,366,303
Total Actuarial Accrued Liability			$697,530,450
Actuarial Value of Assets			217,267,067
Unfunded Actuarial Accrued Liability			$480,263,383
Funded Ratio			31.1%

TABLE 4
AMORTIZATION SCHEDULE FOR LEGACY UAAL

The legacy UAAL base, established in the June 30, 2018 valuation, is the largest component of the total UAAL. To illustrate the impact of the level percent of payroll methodology, the amortization schedule for the legacy base is shown below. Note that this schedule is based on the underlying assumptions used in this valuation including an investment return assumption of 6.95% and an assumed payroll growth of 2.25%. Any change in these assumptions in the future, will impact the projected UAAL amortization schedule for the legacy UAAL.

As of June 30	Outstanding Balance (BOY)	Amortization Years Remaining	Contributions ($M)
2026	445	23	31
2027	443	22	32
2028	441	21	33
2029	438	20	34
2030	434	19	34
2031	428	18	35
2032	422	17	36
2033	414	16	37
2034	405	15	38
2035	394	14	38
2036	382	13	39
2037	368	12	40
2038	352	11	41
2039	334	10	42
2040	314	9	43
2041	291	8	44
2042	266	7	45
2043	238	6	46
2044	207	5	47
2045	173	4	48
2046	136	3	49
2047	95	2	50
2048	50	1	51
2049	0	0	0

TABLE 5
ACTUARIAL BALANCE SHEET

ASSETS		
Actuarial Value of Assets		$ 217,267,067
Unfunded Actuarial Accrued Liability		480,263,383
Present Value of Future Normal Costs		116,399,255
Total Assets		$ 813,929,705
LIABILITIES		
Present Value of Future Benefits		
Active members		
Retirement	$ 247,817,997	
Withdrawal	20,357,133	
Death	5,210,440	
Disability	0	
Total		$ 273,385,570
Inactive members		
Currently receiving benefits	527,366,303	
Not currently receiving benefits	13,177,832	
Total		$ 540,544,135
Total Liabilities		$ 813,929,705

TABLE 6
ANALYSIS OF GAIN/(LOSS)

	(1) Actuarial Accrued Liabilities	(2) Valuation Assets	(3) = (1) - (2) UAAL
(1) Value at Start of Year	$ 675,035,481	$ 209,090,000	$ 465,945,481
(2) Total Normal Cost From Last Valuation	12,967,296	0	12,967,296
(3) Actual Contributions (Employer and Member)	0	46,910,781	(46,910,781)
(4) Miscellaneous Income	0	3	(3)
(5) Benefit Payments	(51,178,589)	(51,178,589)	0
(6) Administrative Expenses	0	(109,769)	109,769
(7) Interest on (1) through (6) at 6.95%	46,067,608	14,382,189	31,685,419
(8) Expected Value Before Changes	$ 682,891,796	$ 219,094,615	$ 463,797,181
(9) Other Changes	0	0	0
(10) Expected Value After Changes: (8) + (9)	$ 682,891,796	$ 219,094,615	$ 463,797,181
(11) Actual Value at End of Year	697,530,450	217,267,067	480,263,383
(12) Gain / (Loss)	$ (14,638,654)	$ (1,827,548)	$ (16,466,202)
(13) Gain / (Loss) as Percent of Expected Actuarial Accrued Liabilities: $682,891,796	(2.1%)	(0.3%)	(2.4%)

TABLE 7
GAIN/(LOSS) ANALYSIS BY SOURCE

Type of Activity	Gain or (Loss) for Year Ended 6/30/2025	
Age & Service Retirements. If members retire at older ages or with lower final average pay than assumed, there is a gain. If younger ages or higher average pays, a loss.	($5,100,000)	(0.7%)
Death-in-Service Benefits. If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	850,000	0.1%
Withdrawal From Employment. If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	(510,000)	(0.1%)
Salary Increases. If there are smaller salary increases than assumed, there is a gain. If greater increases, a loss.	(2,770,000)	(0.4%)
Investment Income. If there is greater investment return on assets than assumed, there is a gain. If less return, a loss.	(1,830,000)	(0.3%)
Retiree Mortality. If more deaths than assumed, there is a gain. if fewer deaths, a loss.	690,000	0.1%
COLAs. If Cost of Living Adjustments are less than expected, a gain; if more a loss.	(7,310,000)	(1.1%)
Other. Miscellaneous gains and losses resulting from data adjustments, timing of financial transactions, valuation methods, etc.	(490,000)	(0.1%)
Gain (or Loss) During Year From Experience	($16,470,000)	(2.4%)

Note: Percentages may not add due to rounding.

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SECTION 5 – EMPLOYER CONTRIBUTIONS

The previous two sections were devoted to a discussion of the Judges' assets and liabilities. Table 5 indicates that current assets fall short of meeting the present value of future benefits (total liability). This is expected in all but a completely closed fund, where no further contributions are anticipated. In an active system, there will almost always be a difference between the actuarial value of assets and total liabilities. This deficiency has to be made up by future contributions and investment returns. An actuarial valuation sets out a schedule of future contributions that will fund this deficiency in an orderly fashion.

The method used to determine the incidence of the contributions in various years is called the actuarial cost method. Under an actuarial cost method, the contributions required to meet the difference between current assets and current liabilities are allocated each year between two elements: (1) the normal cost rate and (2) the unfunded actuarial accrued liability contribution rate.

The term "fully funded" is often applied to a system in which contributions at the normal cost rate are sufficient to pay for the benefits of existing employees as well as for those of new employees. More often than not, systems are not fully funded, either because of past benefit improvements that have not been completely funded or because of actuarial deficiencies that have occurred because experience has not been as favorable as anticipated by the actuarial assumptions. Under these circumstances, an unfunded actuarial accrued liability (UAAL) exists. Likewise, when the actuarial value of assets is greater than the actuarial accrued liability, a surplus exists.

Description of Contribution Rate Components

The Entry Age Normal (EAN) actuarial cost method is used for the valuation. Under that method, the normal cost for each year from entry age to assumed exit age is a constant percentage of the member's year by year projected compensation. The portion of the present value of future benefits not provided by the present value of future normal costs is the actuarial accrued liability. The unfunded actuarial accrued liability represents the difference between the actuarial accrued liability and the actuarial value of assets as of the valuation date. The unfunded actuarial accrued liability is calculated each year and reflects experience gains and losses.

In general, contributions are computed in accordance with a level percent-of-payroll funding objective. The contribution rate based on the June 30, 2025 actuarial valuation will be used to determine the actuarial employer contribution rate for the plan year ending June 30, 2027. In this context, the term "contribution rate" means the percentage, which is applied to the active member payroll to determine the actual employer contribution amount (i.e., in dollars) for the group.

Contribution Rate Summary

Table 8 shows the development of the June 30, 2026 projected UAAL. In Table 9, the amortization payment related to the UAAL is developed. Table 10 develops the required employer contribution rate for the Plan and the estimated amount of required State contributions. Table 11 shows

estimated contribution amounts if the employer contributions are paid early on July 15, September 1 or November 1. Amounts are shown for both the UAAL payment only and the total employer contribution.

The contribution rates shown in this report are based on the actuarial assumptions and cost methods described in Appendix C.

TABLE 8
PROJECTED UAAL AS OF JUNE 30, 2026

(1) Unfunded Actuarial Accrued Liability at June 30, 2025	$480,263,383
(2) Expected Contribution Rate for Year Ending June 30, 2026*	63.64%
(3) Normal Cost Rate for Year Ending June 30, 2026	19.46%
(4) Contribution Rate Applied to UAAL [(2) - (3)]	44.18%
(5) Projected Payroll for the Year After the Valuation Date	$74,852,001
(6) Expected UAAL Contribution [(4) * (5)]	$33,069,614
(7) Interest on (1) and (6) to June 30, 2026 at 6.95%	$32,248,438
(8) Projected UAAL at June 30, 2026 [(1) - (6) + (7)]	$479,442,207

*The Expected Contribution Rate for FYE 2026 is equal to the employer rate of 60.54% plus the weighted average member rate of 3.10% of payroll from the June 30, 2024 valuation.

TABLE 9
UAAL CONTRIBUTION RATE

We believe the use of the layered amortization policy with new bases over 25 years and the remainder of the legacy base over 23 years, complies with Actuarial Standard of Practice Number 4. This policy will fully amortize the individual, as well as the total, unfunded actuarial accrued liability within a reasonable timeframe and/or reduce the amount of the UAAL by a reasonable amount within a sufficiently short period.

Amortization Base	Original Amount	Remaining Payments	Projected June 30, 2026 Balance	Annual Payment*
2018 Legacy UAAL	$ 435,941,756	23	$ 444,969,836	$ 31,387,576
2019 Assumption Changes	5,024,057	24	5,123,866	352,869
2019 Experience Base	3,858,637	24	3,935,291	271,015
2020 Assumption Changes	6,341,771	25	6,461,568	435,139
2020 Experience Base	(12,097,127)	25	(12,325,642)	(830,042)
2021 Assumption Changes	(4,928,456)	21	(4,876,087)	(362,789)
2021 Experience Base	(10,350,056)	21	(10,240,076)	(761,880)
2022 Experience Base	(6,052,114)	22	(6,020,000)	(435,700)
2023 Experience Base	21,289,878	23	21,250,194	1,498,960
2024 Experience Base	16,529,627	24	16,527,255	1,138,195
2025 Experience Base	$ 14,636,002	25	14,636,002	985,627
Total			**$ 479,442,207**	**$ 33,678,970**

* Payment amount reflects mid-year timing.

1. Total UAAL Amortization Payments	$ 33,678,970
2. Expected Payroll for FYE 2027	$ 76,536,171
3. UAAL Amortization Payment Rate (1) / (2)	44.00%

TABLE 10
REQUIRED EMPLOYER CONTRIBUTION RATE
FOR THE FISCAL YEAR ENDING JUNE 30, 2027

ACTUARIAL VALUATION RESULTS AS OF JUNE 30, 2025

	Percent of Payroll		
	Pre 1/1/2011 Hires	Post 1/1/2011 Hires	Weighted Average
A. Normal Cost			
(1) Service retirement benefits	14.03 %	16.52 %	16.07 %
(2) Termination benefits	3.49	2.40	2.59
(3) Survivor benefits	0.52	0.67	0.65
(4) Disability benefits	0.00	0.00	0.00
(5) Administrative expenses	0.15	0.15	0.15
(6) Total	18.19	19.74	19.46
B. Less Member Contributions	0.00	4.00	3.30
C. Employer Normal Cost [A(6) - B]	18.19	15.74	16.16
D. Unfunded Actuarial Accrued Liabilities (UAAL) (level percent-of-payroll amortization with layered bases)			44.00
E. ACTUARIAL EMPLOYER CONTRIBUTION RATE [C. + D.]			**60.16 %**
F. POLICY MINIMUM EMPLOYER CONTRIBUTION RATE			**58.45 %**
G. ESTIMATED EMPLOYER CONTRIBUTION ($Millions) #			**$46.0**

At the September 18, 2014 meeting, the Board adopted a policy minimum contribution rate so that the employer contribution rate shall not fall below the fiscal 2015 rate (58.45% of payroll) until the plan is 80% funded.

Illustrative only. Estimated employer contribution amounts (shown in millions) are based on the greater of the Total Computed Employer Contribution Rate and the Policy Minimum Contribution Rate shown and the valuation payroll projected two years to the applicable fiscal year using the valuation assumption of 2.25% per year.

TABLE 11
EARLY PAYMENT AMOUNTS FOR FISCAL YEAR 2027

Section 104.436, RSMo. describes the certified contribution rate the employer shall pay in accordance with its ordinary course payrolls during each fiscal year. Per a Board Rule adopted during 2020, the employer may elect to pre-pay the amount for the unfunded actuarial accrued liability (UAAL) only or the total contribution which also includes the normal cost rate, on July 15, September 1, or November 1. At the end of the fiscal year, actual payroll will be compared to assumed payroll and an adjustment will be made to the total contributions paid, in either an additional amount paid by the employer or a credit to reduce future payments.

This exhibit is for informational purposes only and all payment amounts should be confirmed with MOSERS. Payment amounts are adjusted to payment dates using the assumed rate of return (6.95%) used in the actuarial funding valuation and assuming all scheduled payments are made prior to the one-time payment date.

	Expected Payroll for FY 2027	Total FY 2027 Payments	FY 2027 Contribution Rate	One-Time Payment, Adjusted for Expected Payroll Contributions to Date: July 15*	September 1**	November 1***	Additional Payroll Contributions
UAAL Payment Only	76,536,171	33,678,970	44.00%	32,657,601	27,444,203	22,202,612	16.16%
Full Employer Contribution	76,536,171	46,044,160	60.16%	44,647,796	37,520,307	30,354,273	0.00%

* One-time payment is for fiscal year payments and assumes no other contributions during the fiscal year have been made.
** Fiscal year payments are assumed to be made for all of July and August, in addition to the one-time payment.
*** Fiscal year payments are assumed to be made for all of July, August, September, and October, in addition to the one-time payment.

SECTION 6 – PROJECTIONS

The June 30, 2025 valuation results present the System's financial status at a single point in time and contribution requirements for a single fiscal year. Historical valuation results allow analysis of past trends, but no insight into future trends. A projection model provides insight into the longer term trend of (1) the projected Employer contributions; (2) the projected System funded status (ratio of actuarial assets over liabilities); (3) net cash flow patterns; and (4) the unfunded actuarial accrued liability (actuarial accrued liability minus actuarial assets). Projections can also be used to demonstrate how sensitive the valuation results are to the key variables being modeled. Such sensitivity analysis can be found in Section 7 of this report.

For Judges, projections are particularly important and insightful due to the multiple-tiered benefit structure. The current valuation produces a normal cost and actuarial accrued liability based on the composition of active members on the valuation date, June 30, 2025. Without a tiered structure, systems can assume that the normal cost, as a percentage of payroll, will remain relatively level. However, since all new employees are covered under a less costly benefit structure, until all new employees are covered under the post-2010 benefit structure, the normal cost percentage will continue to decrease. In addition, members hired after 2010 are the only group making employee contributions, so projections allow for the projected payroll to be segregated by tier so that total future contributions reflect an estimate of the amounts to be contributed by employees.

The member data (active and in-pay status) is projected for each year in the future using current assumptions. After the first year, a new-member profile is used to estimate the demographics of new employees replacing members who are projected to terminate, retire, die or become disabled in future years. ***For this modeling, the number of active members is assumed to remain level over the projection period.***

Unless otherwise noted, the projections in this section assume that all actuarial assumptions are met in all future years, including the investment return assumption, and that the Employer makes contributions equal to the full amount of the actuarially required contribution, as calculated by the valuation, or the minimum employer contribution rate as set out in the Board's Funding Policy. The projections are based on the current plan provisions and assume that all new members joining after June 30, 2025 will make employee contributions and participate in the Judicial 2011 plan.

The projections do not predict the System's financial condition or its ability to pay benefits in the future and do not provide any guarantee of future financial soundness of the System nor do they, on their own, indicate future funding requirements. Over time, a defined benefit plan's total cost will depend on a number of factors, including the amount of benefits paid, the number of people paid benefits, plan expenses and the amount of earnings on assets invested to pay benefits. These amounts, and other variables, are uncertain and unknowable at the time the projections were prepared. Because not all of the assumptions will unfold exactly as expected, actual results will differ from the projections shown.

TABLE 12
PROJECTION OF FUTURE ACTUARIAL VALUATION RESULTS
AS OF JUNE 30, 2025

Projection Based on Assumptions Outlined in Appendix D
(Amounts in thousands)

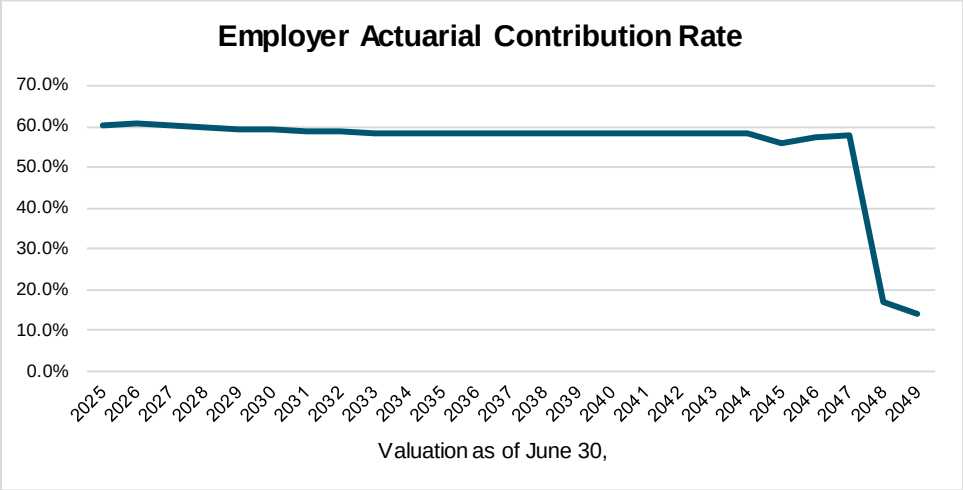
Valuation as of June 30, (1)	Covered Payroll at Valuation (2)	Actuarial Accrued Liability (AAL) (3)	Actuarial Value of Assets (AVA) (4)	Unfunded AAL (5)	Funded Ratio Using AVA (6)	Normal Cost Rate (7)	UAAL Amortization Payment Rate (8)	Actuarial Contribution Rate (9)	Member Contribution Rate (10)	Employer Actuarial Contribution Rate* (11)	Estimated Dollar Amount of Employer Contribution** (12)
2025	$74,852	$697,530	$217,267	$480,263	31.1%	19.46%	44.00%	63.46%	3.30%	60.16%	$46,044
2026	76,536	705,900	218,939	486,962	31.0%	19.51%	44.51%	64.02%	3.38%	60.64%	47,833
2027	78,880	714,203	228,109	486,094	31.9%	19.47%	44.34%	63.81%	3.45%	60.36%	48,849
2028	80,929	722,512	240,692	481,820	33.3%	19.39%	44.02%	63.41%	3.52%	59.89%	49,677
2029	82,947	730,529	254,170	476,358	34.8%	19.32%	43.76%	63.08%	3.59%	59.49%	50,604
2030	85,063	738,445	267,415	471,030	36.2%	19.23%	43.56%	62.79%	3.66%	59.13%	51,519
2031	87,128	745,965	281,526	464,439	37.7%	19.18%	43.42%	62.60%	3.71%	58.89%	52,585
2032	89,294	753,588	296,860	456,729	39.4%	19.10%	43.25%	62.35%	3.75%	58.60%	53,615
2033	91,494	761,388	313,768	447,619	41.2%	19.11%	43.10%	62.21%	3.79%	58.45%	54,772
2034	93,707	769,321	332,272	437,048	43.2%	19.02%	42.96%	61.98%	3.83%	58.45%	56,082
2035	95,949	777,041	352,436	424,605	45.4%	18.89%	42.80%	61.69%	3.87%	58.45%	57,391
2036	98,188	784,430	374,418	410,012	47.7%	18.98%	42.65%	61.63%	3.89%	58.45%	58,781
2037	100,566	792,872	399,104	393,768	50.3%	18.97%	42.48%	61.45%	3.92%	58.45%	60,166
2038	102,936	801,543	426,399	375,143	53.2%	19.02%	42.31%	61.33%	3.95%	58.45%	61,619
2039	105,421	810,873	456,654	354,219	56.3%	19.07%	42.11%	61.18%	3.96%	58.45%	63,089
2040	107,936	820,725	490,078	330,647	59.7%	19.15%	41.91%	61.06%	3.97%	58.45%	64,620
2041	110,556	831,585	527,110	304,474	63.4%	19.18%	41.69%	60.87%	3.98%	58.45%	66,180
2042	113,226	843,238	567,968	275,270	67.4%	19.22%	41.45%	60.67%	3.99%	58.45%	67,844
2043	116,071	856,419	613,405	243,013	71.6%	19.26%	41.17%	60.43%	3.99%	58.45%	69,435
2044	118,794	870,135	663,095	207,040	76.2%	19.31%	40.94%	60.25%	4.00%	58.45%	71,130
2045	121,694	885,046	717,514	167,532	81.1%	19.34%	40.66%	60.00%	4.00%	56.00%	69,799
2046	124,641	901,029	777,025	124,004	86.2%	19.40%	41.94%	61.34%	4.00%	57.34%	73,134
2047	127,544	917,501	838,275	79,226	91.4%	19.48%	42.40%	61.88%	4.00%	57.88%	75,548
2048	130,526	934,520	906,085	28,435	97.0%	19.56%	1.20%	20.76%	4.00%	16.76%	22,384
2049	133,558	951,935	979,819	(27,884)	102.9%	19.65%	-1.41%	18.24%	4.00%	14.24%	19,468

* Reflects Policy Minimum Contribution Rate, if applicable.
** Amounts shown are contributions in the fiscal year ending two years after the valuation date.

Note: Valuation results as of June 30, 2025 are based on the current valuation report. Results after June 30, 2025 are estimated based on an open group projection model. Projections assume the size of the active population remains constant over the projection period and all actuarial assumptions are met in the future. Projected covered payroll amounts reflect the assumption that current members who leave active employment will be replaced with new members whose pay is similar to recent new hires.

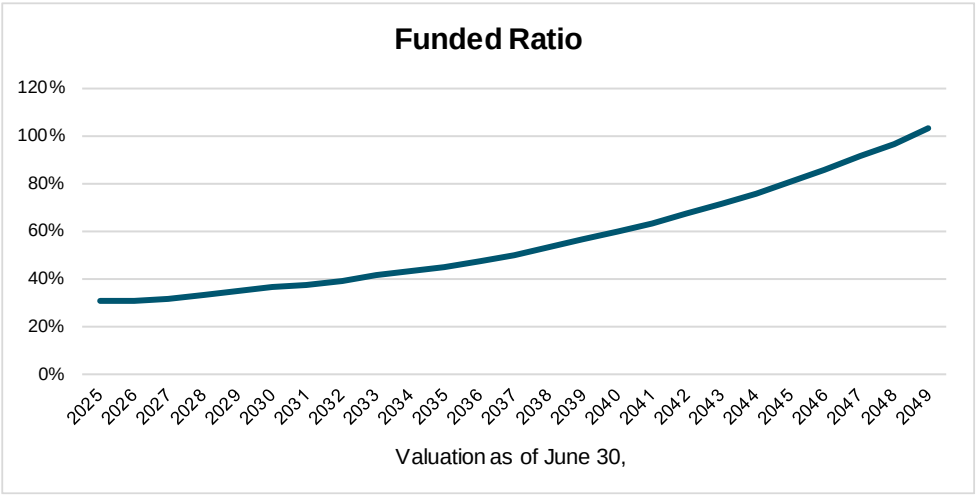
TABLE 12
PROJECTION OF FUTURE ACTUARIAL VALUATION RESULTS
AS OF JUNE 30, 2025

(continued)



Note: Reflects Policy Minimum Contribution Rate, if applicable.

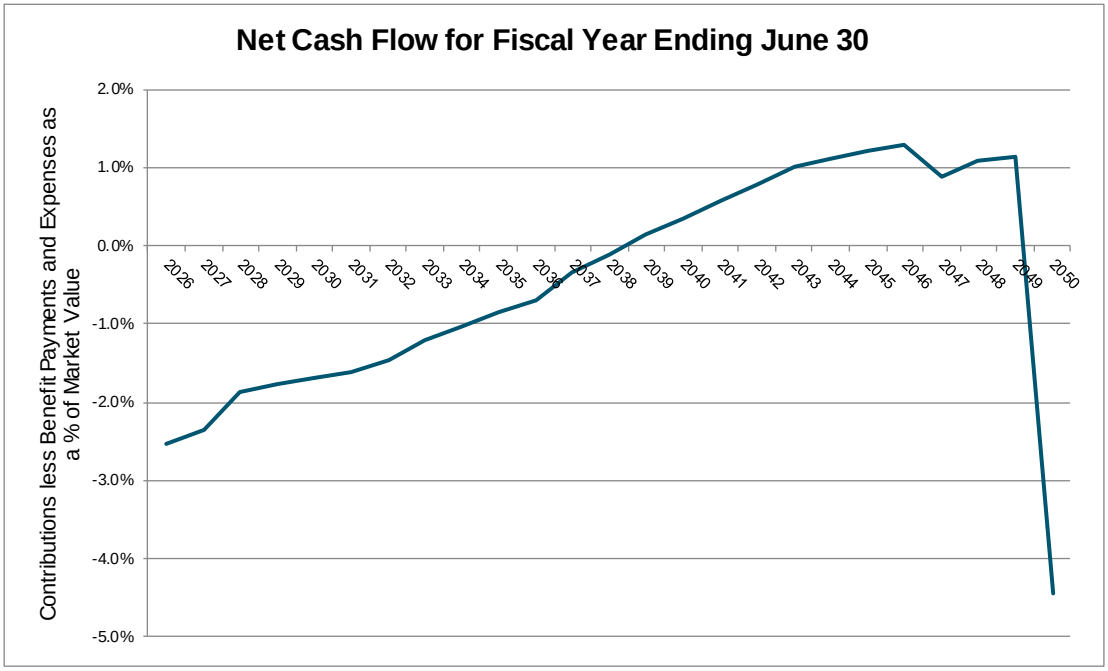
The employer contribution rate trends downward over time as a greater percentage of active members are covered by Judges 2011 Plan which has a lower normal cost rate and employee contributions of 4.0% of pay. Current projections indicate the Policy Minimum Contribution Rate is expected to first impact the valuation results in the 2033 valuation.



In the early stages of funding a retirement system (Judges was funded on a “pay as you go” basis until 1999), the contributions are an important part of accumulating assets and improving the funded ratio. If assumptions are met in the future, the funded ratio is expected to steadily improve.

TABLE 13
PROJECTION OF FUTURE NET CASH FLOWS
AS OF JUNE 30, 2025

Projection Based on Assumptions Outlined in Appendix D Amounts in thousands						
Fiscal Year Ending June 30, (1)	Total Contributions (2)	Benefit Payments (3)	Administrative Expenses (4)	Net Cash Flows (5)	Market Value of Assets (MVA) (6)	Net Cash Flow as a % of MVA (7)
2026	$47,636	$52,901	$112	($5,377)	$211,177	(2.55%)
2027	48,768	53,853	115	(5,200)	220,292	(2.36%)
2028	50,499	54,675	117	(4,293)	230,225	(1.86%)
2029	51,641	55,794	120	(4,274)	241,786	(1.77%)
2030	52,596	56,748	123	(4,274)	254,170	(1.68%)
2031	53,658	57,859	125	(4,327)	267,415	(1.62%)
2032	54,708	58,672	128	(4,092)	281,526	(1.45%)
2033	55,898	59,367	131	(3,600)	296,860	(1.21%)
2034	57,047	60,106	134	(3,194)	313,768	(1.02%)
2035	58,323	61,018	137	(2,832)	332,272	(0.85%)
2036	59,757	62,046	140	(2,430)	352,436	(0.69%)
2037	61,191	62,339	143	(1,292)	374,418	(0.35%)
2038	62,693	62,974	147	(427)	399,104	(0.11%)
2039	64,201	63,452	150	600	426,399	0.14%
2040	65,783	63,999	153	1,631	456,654	0.36%
2041	67,363	64,333	157	2,873	490,078	0.59%
2042	69,009	64,765	160	4,084	527,110	0.77%
2043	70,687	64,757	164	5,767	567,968	1.02%
2044	72,475	65,483	168	6,825	613,405	1.11%
2045	74,175	65,945	171	8,059	663,095	1.22%
2046	75,998	66,498	175	9,326	717,514	1.30%
2047	74,784	67,598	179	7,007	777,025	0.90%
2048	78,236	68,818	183	9,235	838,275	1.10%
2049	80,769	70,177	187	10,405	906,085	1.15%
2050	27,727	71,219	191	(43,684)	979,819	(4.46%)



SECTION 7 – RISK MEASURES

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 June 30, 2019 actuarial valuation for the Missouri State Employees' Retirement System – Judges (Judges or 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". This risk is why consistent funding of the full actuarial contribution rate, based on reasonable assumptions and methods, is so critical to the successful funding of a retirement system.

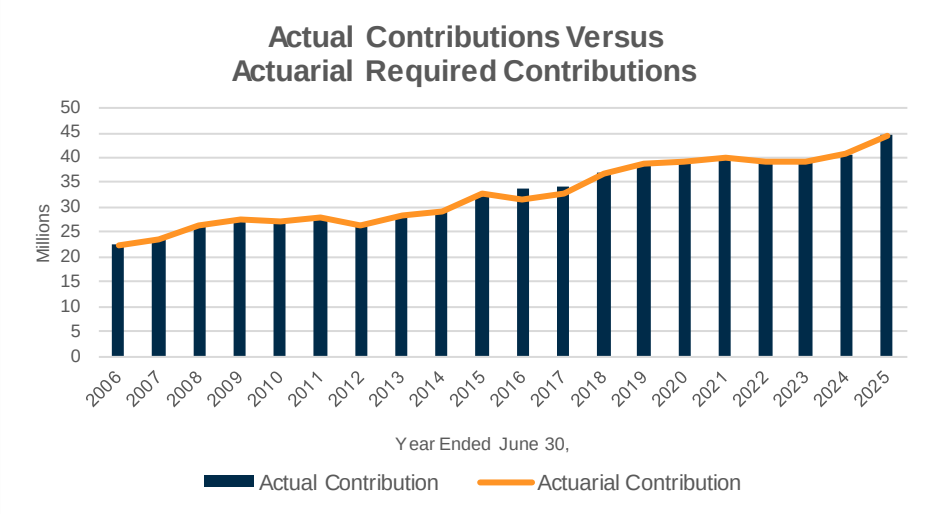
The term "risk" is most commonly associated with an outcome with undesirable results. However, in the actuarial world, risk can be translated as uncertainty. The actuarial valuation process uses many actuarial assumptions to project how future contributions and investment returns will meet the cash flow 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, declining active membership and retirement ages;
- external risks such as the regulatory and political environment.

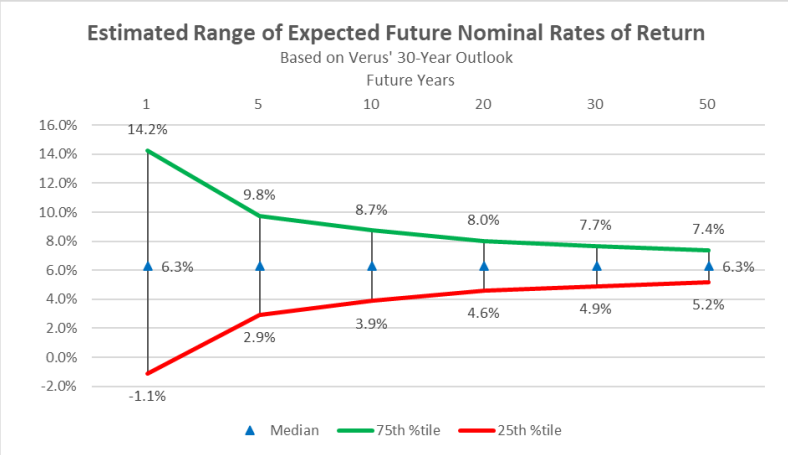
There is typically a direct correlation between healthy, well-funded retirement plans and consistent contributions equal to the full actuarial contribution rate each year. Historically, the state of Missouri has contributed the full actuarial contribution rate. At their September 18, 2014 meeting, the Board adopted a policy minimum contribution rate so that the employer contribution rate will not fall below the FY 2015 rate (58.45% of payroll) until the plan is 80% funded. As a result, the System's contributions were slightly above the actuarial rate during FY 2016 and FY 2017. The following graph displays the System's historical contribution levels over the past 20 years.



One of the most positive factors regarding the System's funding is the State's commitment to make contributions that are at least equal to the actuarial required contribution. This disciplined approach to funding has been illustrated by consistently contributing the full actuarial required contribution amount even with the increases that have occurred in the recent past. Despite the fact the full actuarial contribution rate has been contributed, the Judges Plan is only 31% funded. This is because the Plan was funded on a "pay-as-you-go" basis prior to 1999, which means that there was no cash reserve to invest and pay benefits from, i.e. the System's funded ratio was zero. In addition, the actuarial assumptions have been changed eight times in the last fourteen years, including a reduction in the investment return assumption from 8.50% in the 2011 valuation to 6.95% in the 2020 valuation. Also, actual investment experience over this period has lagged the assumptions. However, to the extent the State continues to fund the full actuarial contribution rate in the future, we would expect the funded ratio to steadily improve if the actuarial assumptions are met.

The most significant risk factor for most systems is investment return because of the volatility of returns and the size of plan assets compared to payroll (see Table 14). Given the underlying capital market assumptions provided by MOSERS' investment consultant, Verus, in 2021 when the experience study was performed and the System's asset allocation, the distribution of returns over time is illustrated in the graph on the next page.

As the following graph illustrates, in any single year the rate of return is expected to fall between -1% and 14% about 50% of the time. This volatility in the investment return from year to year creates significant risk to funding a retirement plan because of the corresponding volatility it creates in the employer contribution rate. As Table 14 explains, if the actual return is 10% different than the expected return, it would result in an increase in the actuarial contribution rate of 1.96% once the experience is fully recognized in the asset smoothing method (five years). As the System continues to build its asset reserve and approach 100% funding, unfavorable investment experience will have a more and more significant impact on the contribution rate. This is a typical characteristic of well-funded, mature plans.



Under the revised Actuarial Standards of Practice (ASOP) No. 4 effective for valuations after February 15, 2023, we are required to include a low-default-risk obligation measure of the System's liability in our funding valuation report. This is an informational disclosure as described below and would not be appropriate for assessing the funding progress or health of the plan. This measure uses the unit credit cost method and reflects all the assumptions and provisions of the funding valuation except that the discount rate is derived from considering low-default-risk fixed income securities. We considered the FTSE Pension Discount Curve based on market bond rates published by the Society of Actuaries as of June 30, 2025 and with the 30-year spot rate used for all durations beyond 30. Using these assumptions, we calculate a liability of $879 million. This amount approximates the termination liability if the plan (or all covered employment) ended on the valuation date and all of the accrued benefits had to be paid with cash-flow matched bonds. This assurance of funded status and benefit security is typically more relevant for corporate plans than for governmental plans, since governments rarely have the need or option to completely terminate a plan.

A key demographic risk for all retirement systems, including Judges, 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 period, as experienced with the COVID-19 pandemic. This type of event is also 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.

Many of the public retirement systems were created shortly after World War II. In general, the aging of the population, including the retirement of the baby boomers, along with earlier retirement eligibility has created a shift in the demographics of most systems. This change is not unexpected and has, in fact, been anticipated in the funding of the retirement system. Even though it was

anticipated, the demographic shift and maturing of the plans have increased the risk associated with funding the system. The following exhibits summarize certain historical information that indicates how certain key risk metrics have changed over time due to the maturing of the retirement system.

TABLE 14
HISTORICAL ASSET VOLATILITY RATIOS

As a retirement system matures, the size of the market value of assets is expected to increase 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 contribution rates.

Valuation Date	Market Value of Assets	Covered Payroll	Asset Volatility Ratio	Change in ACR with a Return 10% Different than Assumed*
6/30/2006	57,728,934	40,270,535	1.43	0.96%
6/30/2007	72,180,820	40,846,581	1.77	1.19%
6/30/2008	77,341,103	44,542,530	1.74	1.17%
6/30/2009	65,919,546	45,505,512	1.45	0.98%
6/30/2010	78,553,877	46,112,730	1.70	1.14%
6/30/2011	98,208,033	45,888,020	2.14	1.44%
6/30/2012	99,837,257	45,835,501	2.18	1.47%
6/30/2013	111,203,538	48,697,726	2.28	1.54%
6/30/2014	132,645,657	49,587,936	2.67	1.80%
6/30/2015	130,851,263	55,656,457	2.35	1.58%
6/30/2016	132,056,351	57,421,016	2.30	1.55%
6/30/2017	137,634,941	58,150,935	2.37	1.60%
6/30/2018	150,199,575	59,551,874	2.52	1.70%
6/30/2019	158,332,990	60,380,734	2.62	1.76%
6/30/2020	167,288,066	61,450,808	2.72	1.83%
6/30/2021	211,081,342	63,031,506	3.35	2.26%
6/30/2022	190,449,086	63,317,888	3.01	2.03%
6/30/2023	190,226,755	64,660,037	2.94	1.98%
6/30/2024	196,573,541	68,907,592	2.85	1.92%
6/30/2025	211,176,545	72,671,849	2.91	1.96%

* 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 assets at June 30, 2025 are about 2.91 times the amount of covered payroll. Consequently, underperforming the investment return assumption by 10.00% (i.e., earn -3.05% for one year) is equivalent to about 29.1% of payroll. While the actual impact of this experience in the first year is mitigated by the asset smoothing method and amortization of the UAAL, this table illustrates the risk associated with volatile investment returns. Such an event in one year would be expected to increase the actuarial contribution rate by 1.96% of payroll once it is fully recognized in the asset smoothing method.

TABLE 14
HISTORICAL ASSET VOLATILITY RATIOS

(continued)

The following graph shows a comparison of Judges' historical asset volatility ratios and the historical median asset volatility ratio for a group of large public plans that are tracked in the Public Plan Database. The pattern of the change in the asset volatility ratio for Judges over time is similar to that observed in the Public Plan Database. When asset values drop significantly (like in 2009), the ratio drops as well. Most of the plans that participate in the NASRA Public Fund Survey have been accumulating assets for fifty or more years. Consequently, it is not surprising that the Judges System has a lower asset volatility ratio in comparison.

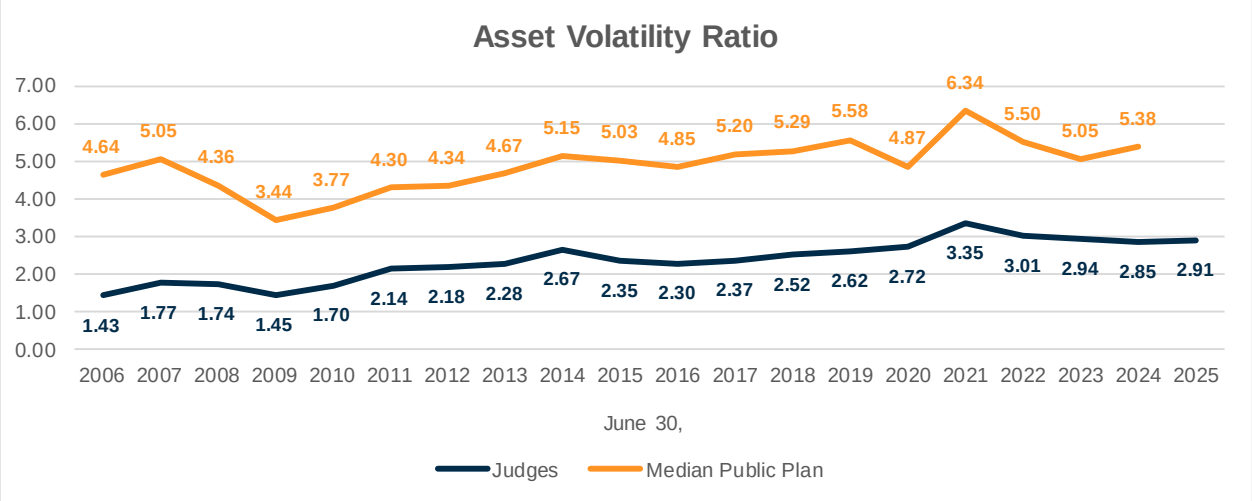


TABLE 15
LIABILITY MATURITY MEASUREMENTS

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. The retirement of the remaining baby boomers over the next decade is expected to further exacerbate the aging of the retirement system population. With more of the total liability residing with retirees, investment volatility has a greater impact on the funding of the system since it is more difficult to restore the system financially after losses occur when there is comparatively less payroll over which to spread costs.

Projections provide the most effective way of analyzing the impact of these changes on future funding measures, but studying several key metrics from the valuation can also provide some valuable insight.

Fiscal Year End	Retiree Liability (a)	Total Actuarial Accrued Liability (b)	Retiree Percentage (a) / (b)	Covered Payroll (c)	Ratio (b) / (c)
6/30/10	236,113,077	382,012,773	61.81%	46,112,730	8.28
6/30/11	251,532,354	393,484,589	63.92%	45,888,020	8.57
6/30/12	258,642,149	413,332,538	62.57%	45,835,501	9.02
6/30/13	274,911,416	435,378,358	63.14%	48,697,726	8.94
6/30/14	285,124,436	462,336,255	61.67%	49,587,936	9.32
6/30/15	316,042,514	482,969,311	65.44%	55,656,457	8.68
6/30/16	354,715,048	547,621,617	64.77%	57,421,016	9.54
6/30/17	377,099,534	564,417,925	66.81%	58,150,935	9.71
6/30/18	401,725,610	593,788,592	67.65%	59,551,874	9.97
6/30/19	434,204,353	617,482,705	70.32%	60,380,734	10.23
6/30/20	436,014,583	624,847,011	69.78%	61,450,808	10.17
6/30/21	438,537,859	626,284,219	70.02%	63,031,506	9.94
6/30/22	440,091,330	630,043,013	69.85%	63,317,888	9.95
6/30/23	481,684,580	654,242,323	73.62%	64,660,037	10.12
6/30/24	502,184,361	675,035,481	74.39%	68,907,592	9.80
6/30/25	527,366,303	697,530,450	75.60%	72,671,849	9.60

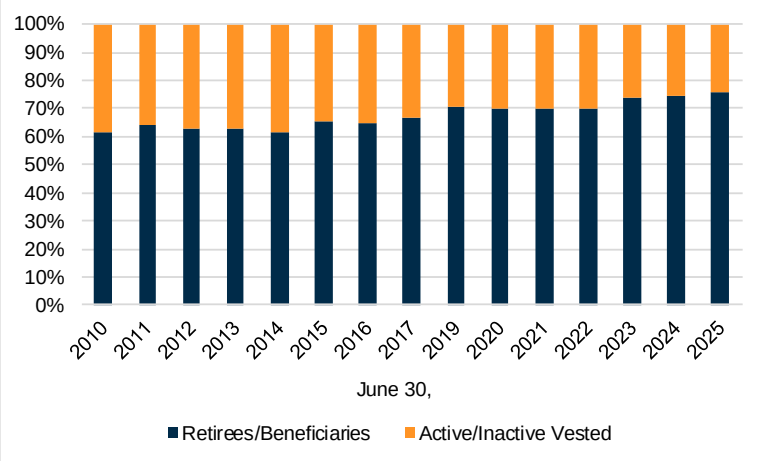
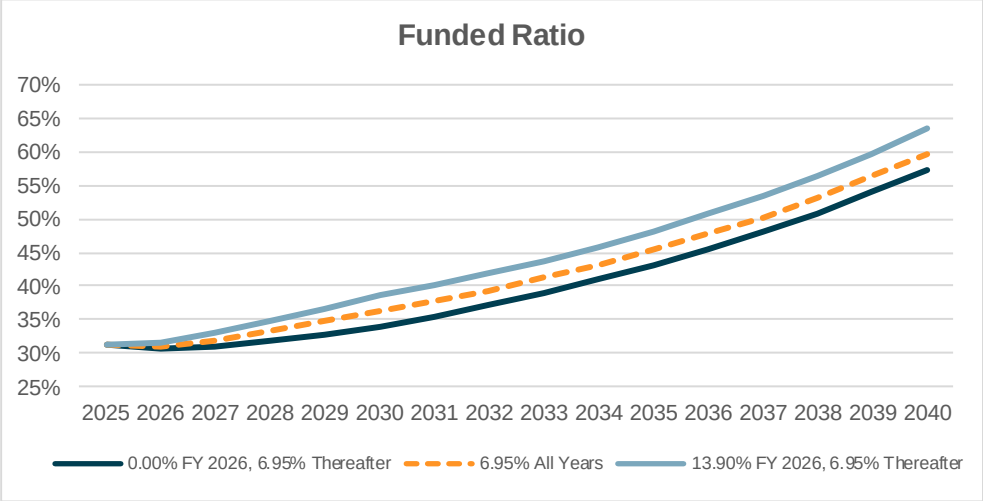


TABLE 16
SCENARIO TESTING

As mentioned earlier, the most significant risk factor for most systems is investment return. There are many different tools that can be useful when assessing investment risk. One of these tools is to perform scenario testing using a projection model. Scenario testing is choosing one set of specific criteria to compare against another set of specific criteria, also known as a "what if" scenario. The scenario testing illustrated below shows the impact to the System's funded ratio and required employer contribution rate if the asset return during the upcoming year (FYE 2026) is at, above or below the currently assumed 6.95% return. The projections assume the actual return on assets will be as follows:

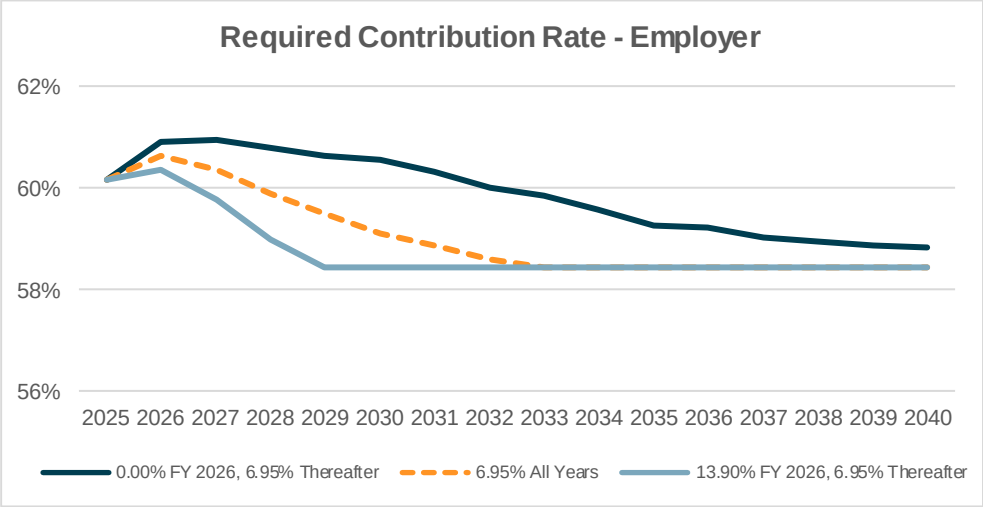
- Scenario 1: 6.95% return in all years (the current assumption)
- Scenario 2: 0.00% return in FYE 2026, then 6.95% thereafter
- Scenario 3: 13.90% return in FYE 2026, then 6.95% thereafter



In each scenario, the funded ratio gradually increases over the next 15 years once the initial deferred investment losses have been recognized. The most significant factor in the early stages of building an asset reserve is the contributions, rather than investment income. By the end of this period, the funded ratio is about 6% lower under Scenario 2 when compared to Scenario 3.

TABLE 16
SCENARIO TESTING

(continued)



Under all three scenarios, the employer portion of the actuarial contribution rate declines steadily once the current deferred asset losses have been recognized. Under Scenario 2, the employer portion of the actuarial contribution rate increases from its current level due to the recognition of deferred assets losses, but ultimately drops to around 59% in 15 years. Note that while the employer portion of the actuarial contribution rate falls to below 58% under Scenarios 1 and 3, the Policy Minimum Employer Contribution does not allow the employer to contribute less than 58.45% until the System is 80% funded, which is not projected to happen in the next 15 years. The steadily decreasing employer contribution rate is largely due to a decline in the normal cost rate as more members are covered by the Judges 2011 benefit structure over time, as well as increases in the effective employee contribution rate.

TABLE 17
COMPARISON OF VALUATION RESULTS UNDER ALTERNATE INVESTMENT RETURN ASSUMPTIONS

($ in millions)

This exhibit compares the key June 30, 2025 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	**5.95%**	**6.45%**	**6.95%**	**7.45%**	**7.95%**
Contributions					
Total Normal Cost	23.72%	21.47%	19.46%	17.67%	16.06%
Member Contributions	(3.30%)	(3.30%)	(3.30%)	(3.30%)	(3.30%)
Employer Normal Cost	20.42%	18.17%	16.16%	14.37%	12.76%
Unfunded Actuarial Accrued Liability	45.71%	44.87%	44.00%	43.11%	42.20%
Actuarial Employer Contribution Rate	66.13%	63.04%	60.16%	57.48%	54.96%
Required Employer Contribution Rate*	66.13%	63.04%	60.16%	58.45%	58.45%
Estimated Employer Contribution Amount	$50.6	$48.2	$46.0	$44.7	$44.7
Actuarial Accrued Liability	$764.9	$729.9	$697.5	$667.5	$639.7
Actuarial Value of Assets	$217.3	$217.3	$217.3	$217.3	$217.3
Unfunded Actuarial Accrued Liability	$547.6	$512.6	$480.3	$450.3	$422.4
Funded Ratio	28.4%	29.8%	31.1%	32.5%	34.0%

* The System's minimum employer contribution rate is 58.45% of pay. The minimum contribution rate will be in effect until the System reaches an 80% funded ratio

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

SECTION 8 – HISTORICAL FUNDING AND OTHER INFORMATION

This section of the report provides a historical perspective on the System's funding and contribution practices, along with other information that may be of interest.

The information required for financial reporting by the System and participating employers is established by the Governmental Accounting Standards Board (GASB). GASB 67 separates accounting and financial reporting from funding requirements by creating disclosure and reporting requirements that are independent of the basis used for funding the System. A separate report that contains all of the information and exhibits of an actuarial nature that are necessary for the System's financial reporting under GASB 67 will be issued in the future.

GASB Statement No. 68 establishes standards for the measurement, recognition, and display of pension expense and related liabilities. Annual pension cost is measured and disclosed on the accrual basis of accounting. A separate report containing all of the pertinent information under GASB 68 reporting will also be prepared in the future.

TABLE 18
SCHEDULE OF FUNDING PROGRESS

($ in millions)

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded Actuarial Accrued Liability (UAAL) (b - a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as a % of Covered Payroll [(b - a) / c]
June 30, 2006	$52	$309	$257	16.7%	$40.3	637.7%
June 30, 2007	62	327	265	18.9%	40.8	649.5%
June 30, 2008	73	355	282	20.6%	44.5	633.7%
June 30, 2009	81	369	288	22.0%	45.5	633.0%
June 30, 2010	89	382	293	23.3%	46.1	635.6%
June 30, 2011	98	393	295	25.0%	45.9	642.7%
June 30, 2012	102	413	311	24.8%	45.8	679.0%
June 30, 2013	111	435	324	25.5%	48.7	665.3%
June 30, 2014	124	462	338	28.0%	49.6	681.5%
June 30, 2015	134	483	349	27.8%	55.7	626.6%
June 30, 2016	143	548	404	26.2%	57.4	703.8%
June 30, 2017	152	564	413	26.9%	58.2	708.9%
June 30, 2018	162	594	432	27.3%	59.6	724.8%
June 30, 2019	172	617	445	27.9%	60.4	737.4%
June 30, 2020	181	625	444	28.9%	61.5	722.7%
June 30, 2021	195	626	431	31.1%	63.0	684.3%
June 30, 2022	204	630	426	32.4%	63.3	672.9%
June 30, 2023	207	654	447	31.7%	64.7	691.6%
June 30, 2024	209	675	466	31.0%	68.9	676.2%
June 30, 2025	217	698	480	31.1%	72.7	660.9%

Note: Information before 2017 was produced by the prior actuary. Numbers may not add due to rounding.

TABLE 19
SHORT-TERM SOLVENCY TEST

Fiscal Year End	Member Contributions (1)	Current Retirees and Beneficiaries (2)	Active and Inactive Members, Employer Financed Portion (3)	Actuarial Value of Assets Available for Benefits	Percentage of Actuarial Liabilities Covered by Actuarial Value of Assets Available for (1)	(2)	(3)
2010	$ 0	$ 236,113,077	$ 145,899,696	$ 88,976,738	100.0	37.7	0.0
2011	59,958	251,532,354	141,892,277	98,398,628	100.0	39.1	0.0
2012	209,817	258,642,149	154,450,572	102,266,706	100.0	39.5	0.0
2013	421,753	274,911,416	160,045,189	111,140,339	100.0	40.3	0.0
2014	716,564	285,124,436	176,469,255	124,269,105	100.0	43.3	0.0
2015	1,204,757	316,042,514	165,722,040	134,349,908	100.0	42.1	0.0
2016	1,855,955	354,715,048	191,050,614	143,468,860	100.0	39.9	0.0
2017	2,232,405	377,099,534	185,085,986	151,828,631	100.0	39.7	0.0
2018	3,124,482	401,725,610	188,938,500	162,135,045	100.0	39.6	0.0
2019	4,421,019	434,204,353	178,857,333	172,224,529	100.0	38.6	0.0
2020	5,991,360	436,014,583	182,841,068	180,713,310	100.0	40.1	0.0
2021	7,294,197	438,537,859	180,452,163	194,988,153	100.0	42.8	0.0
2022	8,675,309	440,091,330	181,276,374	203,997,065	100.0	44.4	0.0
2023	10,319,516	481,684,580	162,238,227	207,085,203	100.0	40.8	0.0
2024	12,050,259	502,184,361	160,800,861	209,090,000	100.0	39.2	0.0
2025	14,069,327	527,366,303	156,094,820	217,267,067	100.0	38.5	0.0

TABLE 20
HISTORICAL EMPLOYER CONTRIBUTIONS

($ in millions)

Fiscal Year Ending	Actuarial Employer Contribution Rate	Actuarial Employer Contribution	Actual Dollar Amount	Percent Contributed
June 30, 2006	55.76%	$22.4	$22.4	100.0%
June 30, 2007	58.48%	23.7	23.7	100.0%
June 30, 2008	58.65%	26.2	26.2	100.0%
June 30, 2009	60.07%	27.7	27.7	100.0%
June 30, 2010	58.48%	27.0	27.0	100.0%
June 30, 2011	60.03%	27.8	27.8	100.0%
June 30, 2012	57.30%	26.3	26.3	100.0%
June 30, 2013	56.92%	28.3	28.3	100.0%
June 30, 2014	59.69%	29.3	29.3	100.0%
June 30, 2015	58.45%	32.7	32.7	100.0%
June 30, 2016	55.04%	31.6	33.6	106.3%
June 30, 2017	55.76%	32.7	34.2	104.6%
June 30, 2018	62.09%	36.9	36.9	100.0%
June 30, 2019	63.71%	38.6	38.6	100.0%
June 30, 2020	63.80%	39.2	39.2	100.0%
June 30, 2021	63.38%	40.0	40.0	100.0%
June 30, 2022	61.94%	39.2	39.2	100.0%
June 30, 2023	60.17%	39.1	39.1	100.0%
June 30, 2024	59.83%	40.7	40.7	100.0%
June 30, 2025	61.34%	44.6	44.6	100.0%

TABLE 21
HISTORICAL MEMBER STATISTICS

Valuation Date June 30	Active Members				Retired Members			
	Number	Payroll $ Millions	Average Salary $	% Incr.	Number	Active/ Retired	Annual Benefits $ Millions	% Incr.
2006	394	$40	$102,209	0.1	398	1.0	$19.4	3.2
2007	400	41	102,116	(0.1)	437	0.9	21.7	11.9
2008	401	45	111,079	8.8	440	0.9	22.5	3.7
2009	397	46	114,623	3.2	463	0.9	24.0	6.7
2010	402	46	114,708	0.1	465	0.9	24.5	2.1
2011	399	46	115,008	0.3	486	0.8	26.5	8.2
2012	398	46	115,165	0.1	488	0.8	27.0	1.9
2013	400	49	121,744	5.7	497	0.8	28.4	5.2
2014	405	50	122,439	0.6	511	0.8	29.8	4.9
2015	405	56	137,423	12.2	539	0.8	32.4	8.7
2016	408	57	140,738	2.4	540	0.8	33.2	2.5
2017	410	58	141,832	0.8	559	0.7	34.6	4.2
2018	415	60	143,498	1.2	569	0.7	36.3	4.9
2019	414	60	145,847	1.6	585	0.7	38.6	6.3
2020	418	61	147,012	0.8	590	0.7	40.1	3.9
2021	418	63	150,793	2.6	607	0.7	42.3	5.5
2022	415	63	152,573	1.2	596	0.7	42.9	1.4
2023	415	65	155,807	2.1	619	0.7	47.0	9.6
2024	424	69	162,518	4.3	626	0.7	49.6	5.5
2025	427	73	170,192	4.7	639	0.7	52.1	5.0

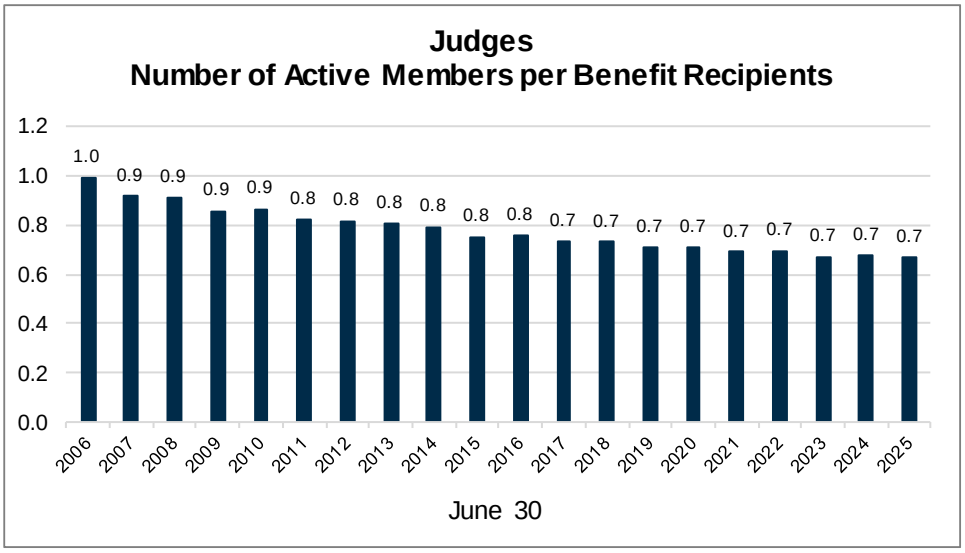


TABLE 22
RETIREES AND BENEFICIARIES ADDED TO AND REMOVED FROM ROLLS

Fiscal Year Ended June 30	Added to Rolls		Removed from Rolls		Rolls at End of Year			Percentage Increase/(Decrease)	
Benefit Type	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances	Average Annual Allowances	Annual Allowances	Average Annual Allowances
2025									
Retirees	29	$3,991,020	20	$1,888,380	487	$45,106,752	$92,622	4.89%	2.95%
Beneficiaries	18	1,058,049	14	570,885	152	7,042,716	46,334	7.43%	4.61%
2024									
Retirees	23	$3,657,571	14	$1,371,115	478	$43,004,112	$89,967	5.62%	3.63%
Beneficiaries	9	703,128	11	446,856	148	6,555,552	44,294	4.07%	5.47%
2023									
Retirees	38	$5,037,864	18	$1,356,900	469	$40,717,656	$86,818		
Beneficiaries	12	822,634	9	393,094	150	6,299,280	41,995		

Note: This schedule is intended to show a 10-year history. Additional years will be reported as they become available.

TABLE 23
BENEFIT RECIPIENTS BY TYPE AND OPTION ELECTED

		Type of Retirement			
Amount of Monthly Benefit	Number of Benefit Recipients	Normal Retirement	Early Retirement	Survivor of Active	Survivor of Retired
1-500	7	0	3	0	4
501-1,000	9	0	7	0	2
1,001-1,500	7	0	5	0	2
1,501-2,000	10	0	8	1	1
2,001-2,500	7	0	2	1	4
2,501-3,000	15	0	7	1	7
3,001-3,500	32	0	7	13	12
3,501-4,000	44	0	11	8	25
Over 4,000	508	399	38	9	62
Total	639	399	88	33	119

	Option Elected							
Amount of Monthly Benefit	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1-500	0	0	0	7	0	0	0	0
501-1,000	0	0	0	9	0	0	0	0
1,001-1,500	0	0	0	4	0	2	0	1
1,501-2,000	0	0	0	10	0	0	0	0
2,001-2,500	0	0	0	7	0	0	0	0
2,501-3,000	0	0	0	15	0	0	0	0
3,001-3,500	0	0	0	28	0	0	0	4
3,501-4,000	0	0	0	42	0	1	1	0
Over 4,000	0	0	1	495	0	4	1	7
Total	0	0	1	617	0	7	2	12

1) Life Income with 60 Guaranteed Payments
2) Life Income with 120 Guaranteed Payments
3) Life Income with 180 Guaranteed Payments
4) Joint & 50% Survivor
5) Joint & 75% Survivor
6) Joint & 100% Survivor
7) Automatic Minor Survivor
8) No Survivor Option (includes pop-ups)

TABLE 24
AVERAGE MONTHLY BENEFIT AMOUNTS

Members Retiring During Fiscal Year		Years Credited Service by Category							All Members
		<5	5-10	11-15	16-20	21-25	26-30	31+	
2025	Average monthly benefit	$1,428	$3,781	$6,937	$7,318	$7,124	$7,203	$7,217	$6,729
	Average final salary	$14,800	$11,900	$14,540	$14,948	$14,247	$14,405	$14,433	$14,348
	Number of retirees	1	2	5	6	7	3	5	29
2024	Average monthly benefit	$0	$3,429	$6,651	$6,935	$6,280	$7,098	$7,348	$6,316
	Average final salary	$0	$12,195	$14,009	$13,870	$12,558	$14,196	$14,696	$13,682
	Number of retirees	0	4	4	2	3	5	5	23
2023	Average monthly benefit	$0	$0	$6,162	$6,498	$6,360	$6,614	$6,388	$6,443
	Average final salary	$0	$0	$12,652	$12,996	$12,720	$13,045	$12,775	$12,893
	Number of retirees	0	0	7	12	5	11	3	38

Notes: Average age for Judges who retired during FY 2025 was 66.6 years old.
COLA increases are excluded from the above table.
This schedule is intended to show a 10-year history. Additional years will be reported as they become available.

TABLE 25
RETIREES AND BENEFICIARIES TABULATED BY FISCAL YEAR OF RETIREMENT

Fiscal Year of Retirement	Number	Total Annual Benefit	Average Monthly Benefit
1985 and prior	1	$19,260	$1,605
1986	0	0	0
1987	4	200,405	4,175
1988	0	0	0
1989	0	0	0
1990	2	76,783	3,199
1991	5	256,594	4,277
1992	1	99,186	8,266
1993	1	9,252	771
1994	3	146,604	4,072
1995	4	287,136	5,982
1996	3	191,508	5,320
1997	3	176,136	4,893
1998	4	290,496	6,052
1999	6	438,612	6,092
2000	5	424,476	7,075
2001	11	1,102,872	8,355
2002	8	754,550	7,860
2003	11	964,512	7,307
2004	11	938,760	7,112
2005	11	1,177,866	8,923
2006	10	452,784	3,773
2007	35	2,963,172	7,055
2008	18	1,612,595	7,466
2009	23	1,534,799	5,561
2010	11	946,536	7,171
2011	27	2,154,480	6,650
2012	12	784,090	5,445
2013	25	2,040,135	6,800
2014	18	1,320,125	6,112
2015	43	3,932,448	7,621
2016	20	1,684,896	7,020
2017	26	2,152,087	6,898
2018	29	2,725,898	7,833
2019	42	3,653,569	7,249
2020	25	2,068,165	6,894
2021	30	2,277,362	6,326
2022	33	2,559,563	6,464
2023	47	3,980,787	7,058
2024	32	2,632,860	6,856
2025	39	3,118,109	6,663
Total	639	$52,149,468	$6,801

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MEMBER DATA RECONCILIATION

	Active Members	Inactive Vested	Leave of Absence	Retirees	Beneficiaries	Total
As of June 30, 2024	424	30	0	478	148	1,080
Changes in status:						
a) Retirement	(27)	(2)	0	29	0	0
b) Death	(2)	0	0	(19)	(13)	(34)
c) Leave of absence	(1)	0	1	0	0	0
d) Vested termination	(4)	4	0	0	0	0
e) Contribution refund	0	0	0	0	0	0
f) Beneficiary in receipt	0	0	0	0	18	18
g) Disability retirement	0	0	0	0	0	0
h) Return to active service	0	0	0	0	0	0
i) Expired benefit	0	0	0	0	0	0
j) Data adjustment	0	0	0	(1)	(1)	(2)
Total changes in status	(34)	2	1	9	4	(18)
New entrants	37	0	0	0	0	37
Net Change	3	2	1	9	4	19
As of June 30, 2025	427	32	1	487	152	1,099

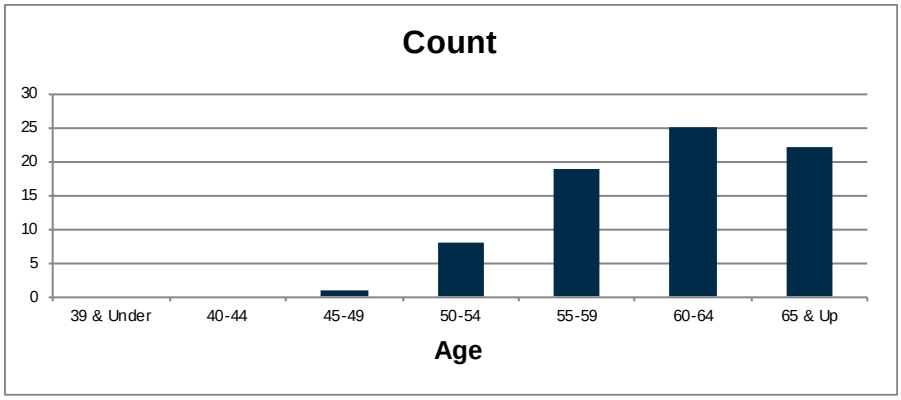
SUMMARY OF MEMBERSHIP DATA

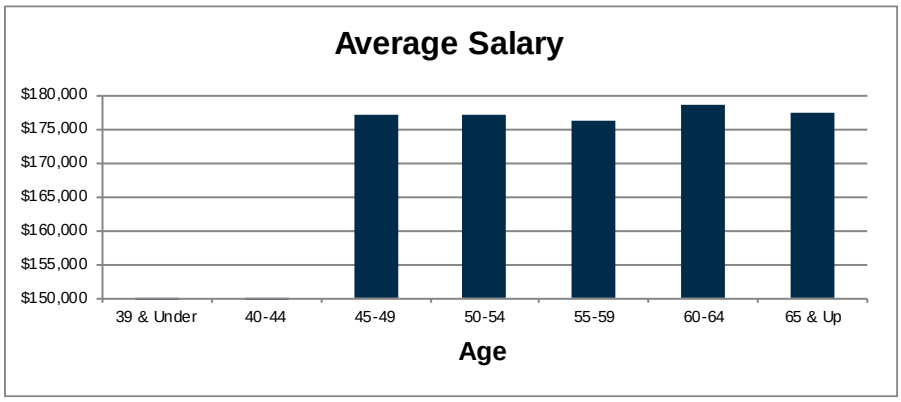
A. ACTIVE MEMBERS	June 30, 2025	June 30, 2024	% Change
1. Number of Active Members			
(a) Judicial Plan	75	98	(23.5)
(b) Judicial Plan 2011	352	326	8.0
(c) Total	427	424	0.7
2. Annualized Reported Salary			
(a) Judicial Plan	$ 13,302,274	$ 16,544,336	(19.6)
(b) Judicial Plan 2011	59,369,575	52,363,256	13.4
(c) Total	$ 72,671,849	$ 68,907,592	5.5
3. Accumulated Member Contributions	$ 13,409,388	$ 11,549,478	16.1
4. Active Member Averages			
(a) Age	54.1	54.4	(0.6)
(b) Service	9.1	9.6	(5.2)
(c) Compensation	$ 170,192	$ 162,518	4.7
B. INACTIVE MEMBERS			
1. Number of Inactive Vested Members	33	30	10.0
2. Inactive Vested Member Averages			
(a) Age	56.4	57.4	(1.7)
(b) Monthly benefit	$ 2,817	2,709	4.0
C. RETIREES, DISABLEDS, AND BENEFICIARIES			
1. Number of Members			
(a) Retirees	487	478	1.9
(b) Beneficiaries	152	148	2.7
(c) Total	639	626	2.1
2. Total Monthly Benefits			
(a) Retired	$ 3,758,896	$ 3,583,676	4.9
(b) Beneficiaries	586,893	546,296	7.4
(c) Total	$ 4,345,789	$ 4,129,972	5.2
3. Average Age			
(a) Retired	76.0	75.9	0.1
(b) Beneficiaries	79.5	80.0	(0.6)
(c) Total	76.9	76.8	0.1

ACTIVE MEMBERS
AS OF JUNE 30, 2025

HIRED BEFORE JANUARY 1, 2011

	Count of Members			Reported Annualized Earnings for Current Members		
Age	Male	Female	Total	Male	Female	Total
39 & Under	0	0	0	$ 0	$ 0	$ 0
40-44	0	0	0	0	0	0
45-49	1	0	1	176,958	0	176,958
50-54	4	4	8	693,615	721,929	1,415,544
55-59	9	10	19	1,583,237	1,762,450	3,345,687
60-64	19	6	25	3,404,570	1,058,213	4,462,783
65 & Up	14	8	22	2,405,478	1,495,824	3,901,302
Total	47	28	75	$ 8,263,858	$ 5,038,416	$ 13,302,274

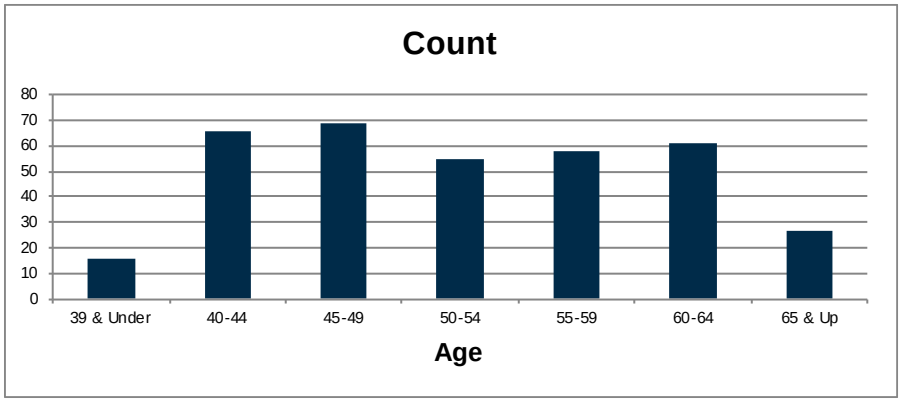


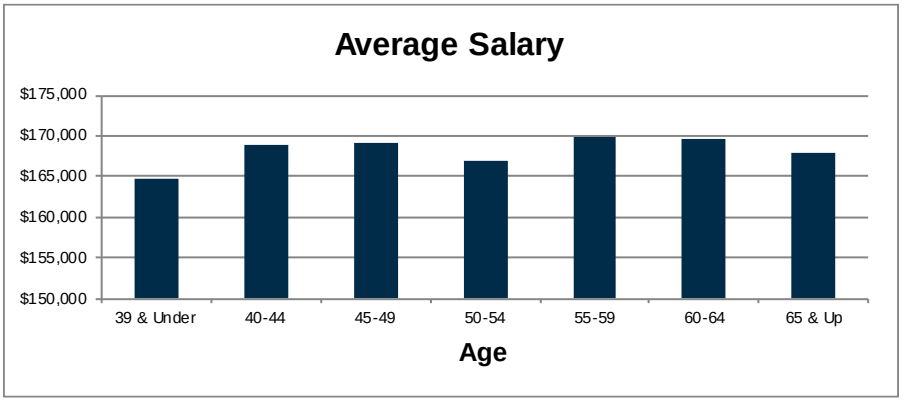


ACTIVE MEMBERS
AS OF JUNE 30, 2025

HIRED ON OR AFTER JANUARY 1, 2011

	Count of Members			Reported Annualized Earnings for Current Members		
Age	Male	Female	Total	Male	Female	Total
39 & Under	9	7	16	$ 1,495,320	$ 1,140,206	$ 2,635,526
40-44	37	29	66	6,290,428	4,857,646	11,148,074
45-49	37	32	69	6,259,144	5,413,768	11,672,912
50-54	34	21	55	5,681,058	3,503,359	9,184,417
55-59	46	12	58	7,821,791	2,026,938	9,848,729
60-64	40	21	61	6,846,040	3,503,151	10,349,191
65 & Up	23	4	27	3,878,923	651,803	4,530,726
Total	226	126	352	$ 38,272,704	$ 21,096,871	$ 59,369,575

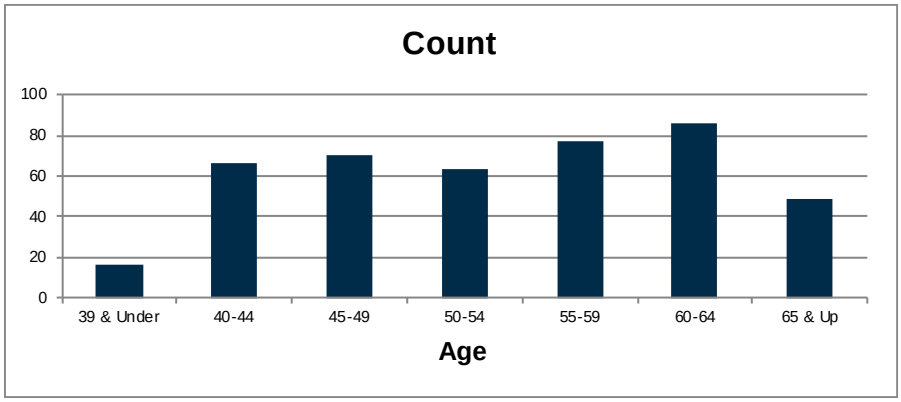


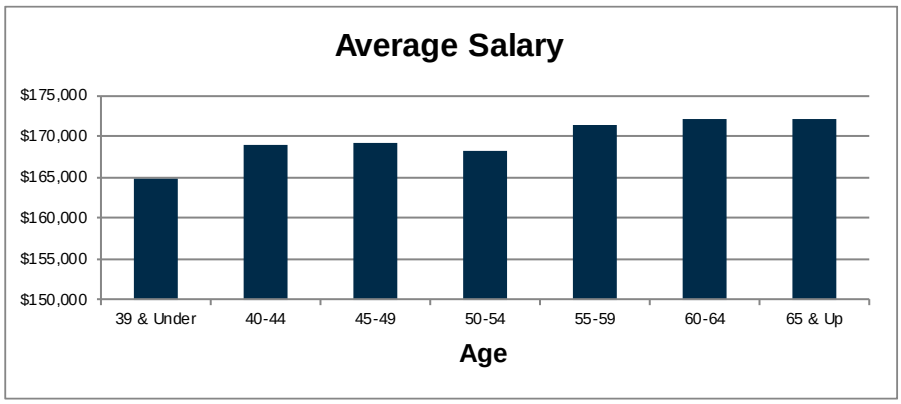


ACTIVE MEMBERS
AS OF JUNE 30, 2025

TOTAL

	Count of Members			Reported Annualized Earnings for Current Members		
Age	Male	Female	Total	Male	Female	Total
39 & Under	9	7	16	$ 1,495,320	$ 1,140,206	$ 2,635,526
40-44	37	29	66	6,290,428	4,857,646	11,148,074
45-49	38	32	70	6,436,102	5,413,768	11,849,870
50-54	38	25	63	6,374,673	4,225,288	10,599,961
55-59	55	22	77	9,405,028	3,789,388	13,194,416
60-64	59	27	86	10,250,610	4,561,364	14,811,974
65 & Up	37	12	49	6,284,401	2,147,627	8,432,028
Total	273	154	427	$ 46,536,562	$ 26,135,287	$ 72,671,849





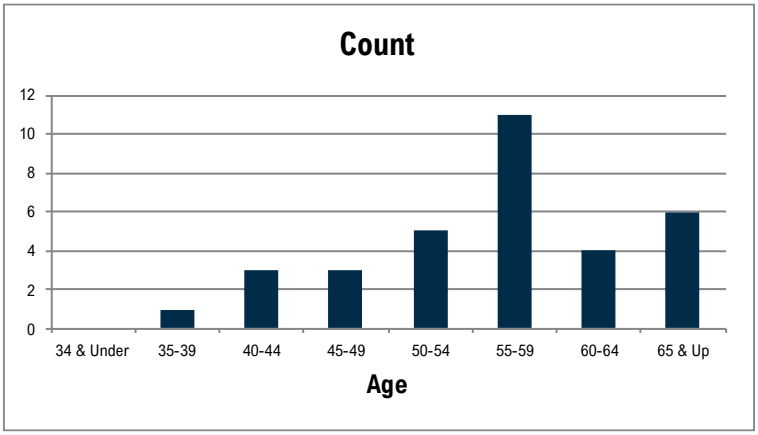
AGE AND SERVICE DISTRIBUTION
AS OF JUNE 30, 2025

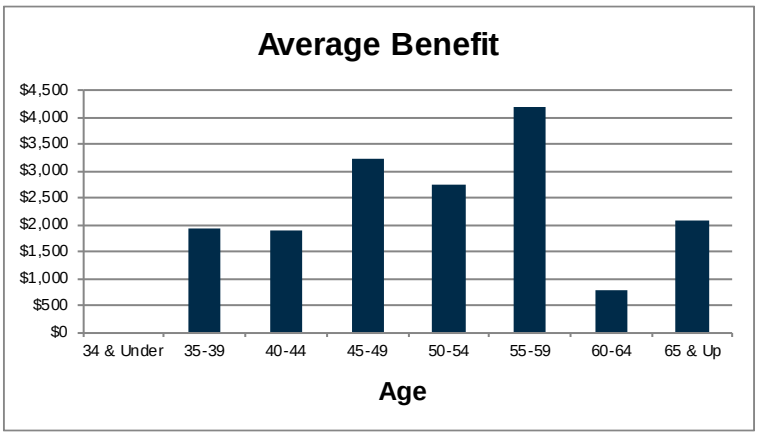
Age		0-4	5-9	10-14	15-19	20-24	25-29	Over 29	Total
39 & Under	Number	14	1	1	0	0	0	0	16
	Total Salary	$ 2,295,767	$ 176,958	$ 162,801	$ 0	$ 0	$ 0	$ 0	$ 2,635,526
	Average Sal.	$ 163,983	$ 176,958	$ 162,801	$ 0	$ 0	$ 0	$ 0	$ 164,720
40-44	Number	43	17	5	1	0	0	0	66
	Total Salary	$ 7,194,046	$ 2,937,501	$ 853,726	$ 162,801	$ 0	$ 0	$ 0	$ 11,148,074
	Average Sal.	$ 167,303	$ 172,794	$ 170,745	$ 162,801	$ 0	$ 0	$ 0	$ 168,910
45-49	Number	35	24	11	0	0	0	0	70
	Total Salary	$ 5,843,197	$ 4,081,362	$ 1,925,311	$ 0	$ 0	$ 0	$ 0	$ 11,849,870
	Average Sal.	$ 166,948	$ 170,057	$ 175,028	$ 0	$ 0	$ 0	$ 0	$ 169,284
50-54	Number	16	25	13	9	0	0	0	63
	Total Salary	$ 2,648,680	$ 4,199,824	$ 2,173,112	$ 1,578,345	$ 0	$ 0	$ 0	$ 10,599,961
	Average Sal.	$ 165,543	$ 167,993	$ 167,162	$ 175,372	$ 0	$ 0	$ 0	$ 168,253
55-59	Number	18	23	16	11	8	1	0	77
	Total Salary	$ 2,994,816	$ 3,965,953	$ 2,711,002	$ 1,931,232	$ 1,422,691	$ 168,722	$ 0	$ 13,194,416
	Average Sal.	$ 166,379	$ 172,433	$ 169,438	$ 175,567	$ 177,836	$ 168,722	$ 0	$ 171,356
60-64	Number	10	18	33	10	7	8	0	86
	Total Salary	$ 1,700,097	$ 3,099,690	$ 5,591,815	$ 1,765,985	$ 1,221,014	$ 1,433,373	$ 0	$ 14,811,974
	Average Sal.	$ 170,010	$ 172,205	$ 169,449	$ 176,599	$ 174,431	$ 179,172	$ 0	$ 172,232
65 & Up	Number	6	7	13	5	5	7	6	49
	Total Salary	$ 977,405	$ 1,182,078	$ 2,208,442	$ 877,720	$ 867,098	$ 1,187,999	$ 1,131,286	$ 8,432,028
	Average Sal.	$ 162,901	$ 168,868	$ 169,880	$ 175,544	$ 173,420	$ 169,714	$ 188,548	$ 172,082
Total	Number	142	115	92	36	20	16	6	427
	Total Salary	$ 23,654,008	$ 19,643,366	$ 15,626,209	$ 6,316,083	$ 3,510,803	$ 2,790,094	$ 1,131,286	$ 72,671,849
	Average Sal.	$ 166,578	$ 170,812	$ 169,850	$ 175,447	$ 175,540	$ 174,381	$ 188,548	$ 170,192

INACTIVE VESTED MEMBERS
AS OF JUNE 30, 2025

	Count of Members			Monthly Deferred Benefits		
Age	Male	Female	Total	Male	Female	Total
34 & Under	0	0	0	$ 0	$ 0	$ 0
35-39	1	0	1	1,937	0	1,937
40-44	3	0	3	5,684	0	5,684
45-49	2	1	3	9,309	369	9,678
50-54	1	4	5	2,220	11,598	13,818
55-59	7	4	11	38,107	8,174	46,281
60-64	3	1	4	2,725	397	3,122
65 & Up	4	2	6	8,258	4,182	12,440
Total	21	12	33	$ 68,240	$ 24,720	$ 92,960

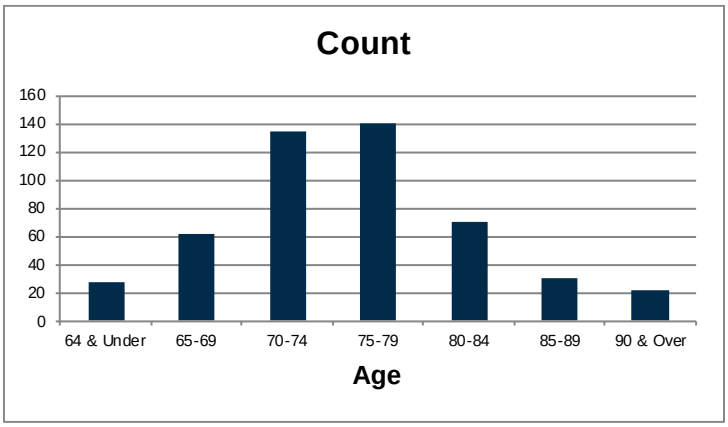
*There is 1 member currently on leave. His count and estimated deferred monthly benefit are included.

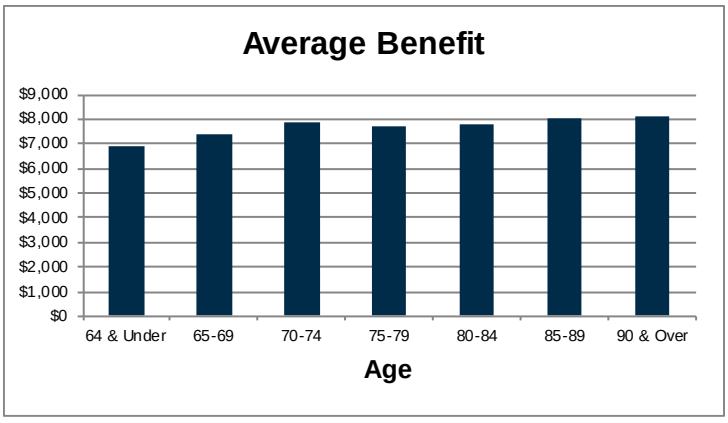




RETIRED MEMBERS
AS OF JUNE 30, 2025

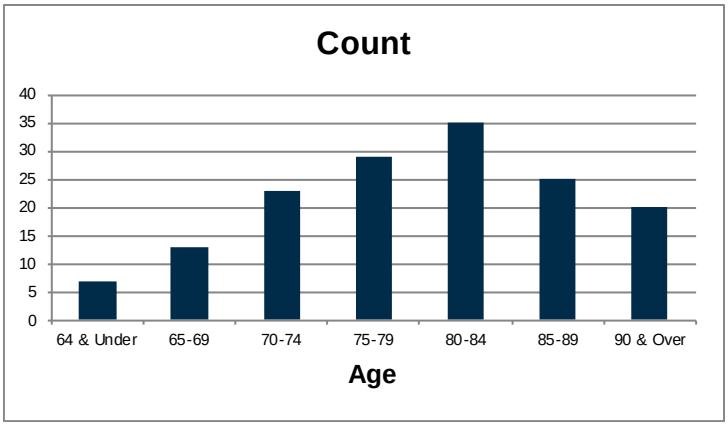
	Count of Members			Monthly Benefits		
Age	Male	Female	Total	Male	Female	Total
64 & Under	25	3	28	$ 173,778	$ 18,462	$ 192,240
65-69	44	18	62	319,657	136,364	456,021
70-74	108	27	135	857,243	209,244	1,066,487
75-79	116	24	140	893,968	182,744	1,076,712
80-84	59	11	70	451,653	95,289	546,942
85-89	26	4	30	212,956	29,045	242,001
90 & Over	22	0	22	178,493	0	178,493
Total	400	87	487	$ 3,087,748	$ 671,148	$ 3,758,896

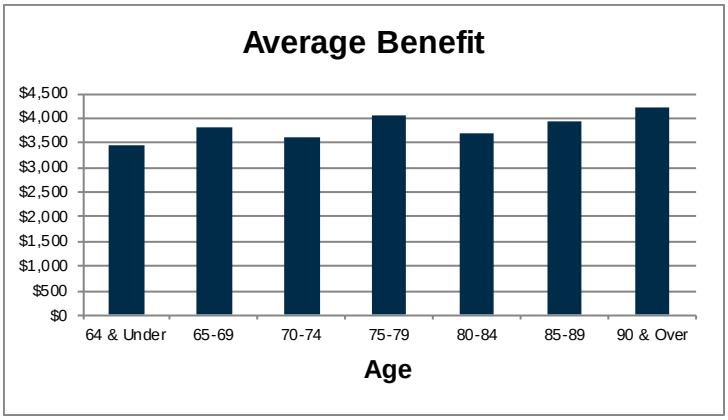




BENEFICIARIES RECEIVING BENEFITS
AS OF JUNE 30, 2025

	Count of Members			Monthly Benefits		
Age	Male	Female	Total	Male	Female	Total
64 & Under	2	5	7	$ 6,996	$ 17,112	$ 24,108
65-69	2	11	13	9,669	39,912	49,581
70-74	2	21	23	7,221	75,925	83,146
75-79	2	27	29	6,556	111,415	117,971
80-84	1	34	35	5,695	123,854	129,549
85-89	1	24	25	4,391	93,995	98,386
90 & Over	0	20	20	0	84,152	84,152
Total	10	142	152	$ 40,528	$ 546,365	$ 586,893





RETIRED MEMBERS AS OF JUNE 30, 2025
BENEFITS TABULATED BY OPTION AND TYPE OF BENEFIT

Judges Hired Before January 1, 2011

Type of Benefit	No.	Total Monthly Benefits
Service Retirement		
Life Annuity	3	$ 23,417
50% Joint and Survivor	466	3,655,304
100% Joint and Survivor	0	0
15-Year Certain and Life	0	0
Survivor Beneficiary	117	458,539
Total	586	4,137,260
Death-in-Service	27	100,173
Total	**613**	**$ 4,237,433**

Judges Hired On or After January 1, 2011

Type of Benefit	No.	Total Monthly Benefits
Service Retirement		
Life Annuity	6	$ 30,279
50% Joint and Survivor	5	22,454
100% Joint and Survivor	7	27,442
15-Year Certain and Life	0	0
Survivor Beneficiary	2	8,885
Total	20	89,060
Death-in-Service	6	19,296
Total	**26**	**$ 108,356**

Age and Service Retirement

Eligibility for Unreduced Benefit (for Members Hired Before 1/1/2011)

The earliest of attaining:

(1) At least 62 with 12 years of creditable service.
(2) At least 60 with 15 years of creditable service.
(3) At least 55 with 20 years of creditable service.

Eligibility for Unreduced Benefit (for Members Hired On or After 1/1/2011)

The earliest of attaining:

(1) At least 67 with 12 years of creditable service.
(2) At least 62 with 20 years of creditable service.

Benefit Amount

50% of compensation

Early Retirement

Eligibility for Reduced Benefit (for Members Hired Before 1/1/2011)

Age 60

Benefit Amount

(1) If between 60 and 62, years of service divided by 15 multiplied by 50% of compensation.
(2) If at least 62, years of service divided by 12 and multiplied by 50% of compensation.

Eligibility for Reduced Benefit (for Members Hired On or After 1/1/2011)

Age 62

Benefit Amount

(1) If between 62 and 67, years of service divided by 20 multiplied by 50% of compensation.

(2) If at least 67, years of service divided by 12 and multiplied by 50% of compensation.

Compensation used for Benefit Determination

The annual salary at date of termination of the highest position held.

Vested Deferred Benefits

Benefits for employees who terminate prior to eligibility for an immediate benefit are considered to be vested. Benefits commence once the individual qualifies for normal or early retirement based on age and service.

Death Benefits

Death Prior to Retirement

50% of the benefit the member would have been eligible to receive based on service to age 70 is payable to an eligible spouse or minor children.

Death After Retirement

50% of the benefit the retired member was receiving at the date of death to an eligible surviving spouse for members hired before January 1, 2011.

Disability Benefits

Disability benefits become payable at the time the member is eligible for normal retirement (50% of salary for remainder of term) and are computed based on the service that would have accrued if active employment had continued until normal retirement age, and member's compensation while an active employee.

Post-Retirement Benefit Adjustments

Benefits are increased to benefit recipients (including survivors) annually in accordance with the following formulas:

Increase in CPI	Formula 1 Benefit Increase	Formula 2 Benefit Increase
5.00% or less	4.00%	80% of CPI increase
5.01% - 6.24%	80% of CPI increase	80% of CPI increase
6.25% or more	5.00%	5.00%

Members first hired prior to August 28, 1997 receive COLAs based on Formula 1 until an aggregate increase of 65% is reached. At that point, subsequent COLAs based on Formula 2 are granted.

Members first hired on or after August 28, 1997 receive COLAs based solely on Formula 2.

Members hired prior to January 1, 2011 who work beyond the later of age 60 or the date when first eligible for age and service retirement will have their monthly benefit increased upon retirement. The percentage increase is equal to all COLAs for the years between (i) the later of age 60 or the date when first eligible for age and service retirement and (ii) date of actual retirement, not to exceed 65%.

Member Contributions

For members hired prior to 1/1/2011: None

For members hired on or after 1/1/2011: 4.00% of salary, with interest credited at 4.00%.

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APPENDIX C – SUMMARY OF ACTUARIAL ASSUMPTIONS

ACTUARIAL METHODS

1. **Calculation of Normal Cost and Actuarial Accrued Liability:** The funding method used to determine the normal cost and actuarial accrued liability was the Entry Age Actuarial Cost Method described below.

   Entry Age Actuarial Cost Method

   Under the entry age normal cost method, the actuarial present value of each member's projected benefit is allocated on a level basis over the member's compensation between the entry age of the member and their assumed exit age. The portion of the actuarial present value allocated to the valuation year is called the normal cost. The actuarial present value of benefits allocated to prior years of service is called the actuarial accrued liability. The unfunded actuarial accrued liability represents the difference between the actuarial accrued liability and the actuarial value of assets as of the valuation date. The unfunded actuarial accrued liability is calculated each year and reflects experience gains/losses.

2. **Calculation of the Actuarial Value of Assets:** Calculation of the Actuarial Value of Assets (AVA): The current asset smoothing method was first effective with the June 30, 2018 valuation. Under this method, the difference between the actual and assumed investment return on the market value of assets is recognized evenly over a five-year period. No corridor is used with the new method.

3. **Amortization of the Unfunded Actuarial Accrued Liability (UAAL):** Beginning with the June 30, 2018 valuation, the UAAL is amortized using a "layered" approach. Under this method, the "Legacy UAAL", as determined in the June 30, 2018 valuation, is amortized over a closed 30-year period. Effective June 30, 2021, subsequent changes in the UAAL due to actuarial gains/losses or assumption changes are separately financed by establishing amortization bases and payments, as a level percentage of payroll, over closed 25-year periods. Bases established prior to June 30, 2021 will continue to be amortized on their original schedule. Any change in the System's benefit structure shall be amortized over a closed period of 20 years, as set out in state statutes. The total UAAL amortization payment is the sum of the payments for each of the amortization bases.

   If the System has a negative UAAL (surplus), all prior amortization bases will be eliminated, and a new, single amortization base shall be established and funded over an open 30-year amortization period until the valuation indicates a positive UAAL exists. At that time, the amortization base shall be re-established equal to the amount of the UAAL and amortized over a closed 25-year period.

Changes in Methods and Assumptions since the Prior Year

There have been no changes since the prior valuation.

APPENDIX C – SUMMARY OF ACTUARIAL ASSUMPTIONS

ACTUARIAL ASSUMPTIONS

An experience study which analyzed the System's economic and demographic assumptions was performed in 2021 and the results were presented to the Board. The assumptions listed below are a result of that experience study. The next experience study is scheduled for 2026.

Economic Assumptions

1. Investment Return	6.95%, compounded annually, net of investment expenses.
2. Inflation	2.25% per year
3. Salary Increases	3.00% per year (2.25% Inflation + 0.25% Productivity + 0.50% Merit)
4. Payroll Growth	2.25% per year
5. Cost-of-Living Adjustment (COLA)	4.00% on a compounded basis when a minimum COLA of 4.00% is in effect. 1.80% on a compounded basis when no minimum COLA is in effect.
6. Administrative Expenses	Actual prior year expenses, included in normal cost rate.

Demographic Assumptions

1. Mortality	The mortality assumption includes an appropriate level of conservatism that reflects expected future mortality improvement.
a. Post-retirement (Retirees)	Pub-2010 General Members Median Healthy Retiree mortality table. Mortality projected generationally from 2010 to 2020 using Scale MP-2020 and 75% of Scale MP-2020 for years after 2020.
b. Post-retirement (Beneficiaries)	Pub-2010 General Members Median Contingent Survivor mortality table. Mortality projected generationally from 2010 to 2020 using Scale MP-

2020 and 75% of Scale MP-2020 for years after 2020.

c. Pre-retirement — Pub-2010 General Members Median Employee mortality table. Mortality projected generationally from 2010 to 2020 using Scale MP-2020 and 75% of Scale MP-2020 for years after 2020.

2. Retirement

Members Hired Before January 1, 2011

Early Retirement	
Age	Rate
62-69	5%
70	100

Unreduced Retirement	
Age	Rate
55	10.0%
56-63	3.0
64-66	10.0
67	17.5
68	25.0
69	35.0
70	100.0

Members Hired On or After January 1, 2011

Unreduced Retirement	
Age	Rate
62	10%
63-66	3
67	25
68-69	20
70	100

3. Termination: 2.0% per year

4. Disability: None

Other Assumptions

1. Form of Payment	Hired before 1/1/2011 – 50% joint and survivor Hired on or after 1/1/2011 – Straight life annuity
2. Marital Status	
a. Percent married	90% married
b. Spouse's age	Females assumed to be four years younger than males.
3. Pay Increase Timing	Beginning of the fiscal year.
4. Decrement Timing	Decrements of all types are assumed to occur mid-year.
5. Other Liability Adjustments	None
6. Incidence of Contributions	Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made. New entrant normal cost contributions are applied to the funding of new entrant benefits.
7. Forfeitures	For members hired on or after January 1, 2011 only: Value the greater of the refund amount or the present value of the deferred benefit.
8. Commencement age for deferred vested benefit	Normal retirement age

Data Adjustments

Active and retired member data was reported as of May 31, 2025. It was brought forward to June 30, 2025 by adding one month of service for all active members, one month of contributions and interest for Judicial Plan 2011 members, and the June COLA for certain retired members. Financial information continues to be reported as of June 30. This procedure was instituted to provide sufficient time for the Board of Trustees to certify the appropriate contribution rate prior to the October 1 statutory deadline.

Active members reported with no annualized salary were assumed to receive the average active member pay.

TECHNICAL VALUATION PROCEDURES

Other Valuation Procedures

Salary increases are assumed to apply to annual amounts. For purposes of the valuation, no regulatory limits were applied to member compensation or benefits.

Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur. However, exact fractional service is used to determine the amount of the benefit payable.

The decrement rates are used directly from the experience study. They do not reflect an adjustment for multiple decrement table effects, except that withdrawal rates do not operate during normal retirement eligibility. Decrements of all types are assumed to occur mid-year, except that immediate retirement is assumed for those who are at or above the age at which retirement rates are 100%.

No actuarial liability is included for participants who terminated without being vested prior to the valuation date, except those due a refund of contributions.

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APPENDIX D – GLOSSARY OF TERMS

Actuarial Accrued Liability	The difference between the actuarial present value of system benefits and the actuarial value of future normal costs. Also referred to as "accrued liability" or "actuarial liability".
Actuarial Assumptions	Estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.
Accrued Service	Service credited under the system which was rendered before the date of the actuarial valuation.
Actuarial Equivalent	A single amount or series of amounts of equal actuarial value to another single amount or series of amounts, computed on the basis of appropriate assumptions.
Actuarial Cost Method	A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of retirement system benefit between future normal cost and actuarial accrued liability. Sometimes referred to as the "actuarial funding method".
Experience Gain (Loss)	The difference between actual experience and actuarial assumptions anticipated experience during the period between two actuarial valuation dates.
Actuarial Present Value	The amount of funds currently required to provide a payment or series of payments in the future. It is determined by discounting future payments at predetermined rates of interest and by probabilities of payment.
Amortization	Paying off an interest-discounted amount with periodic payments of interest and principal, as opposed to paying off with lump sum payment.
Normal Cost	The actuarial present value of retirement system benefits allocated to the current year by the actuarial cost method.

Unfunded Actuarial Accrued Liability

The difference between actuarial accrued liability and the valuation assets. Sometimes referred to as "unfunded actuarial liability" or "unfunded accrued liability"

Most retirement systems have unfunded actuarial accrued liability. They arise each time new benefits are added and each time an actuarial loss is realized.