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***NEBRASKA PUBLIC EMPLOYEES
RETIREMENT SYSTEM***

JUDGES RETIREMENT SYSTEM

**ACTUARIAL VALUATION REPORT
AS OF JULY 1, 2018**

**Fifty-Third Actuarial Report for
System Plan Year Beginning July 1, 2018
and
State Fiscal Year Ending June 30, 2020**





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November 8, 2018

Public Employees Retirement Board
Nebraska Public Employees Retirement System
Post Office Box 94816
Lincoln, NE 68509

Dear Members of the Board:

At your request, we have performed an actuarial valuation of the Judges Retirement System as of July 1, 2018 for the purpose of determining the actuarial required contribution for the plan year ending June 30, 2019. It is our understanding that any required additional State contribution for this plan year will be made on July 1, 2019 (State fiscal year end 2020). The major findings of the valuation are contained in this report, which reflects the benefit and funding provisions in place on July 1, 2018. The benefit provisions are unchanged from the prior valuation. However, this is the first valuation that includes members who are affected by LB 415, as passed by the 2017 Nebraska Legislature (members hired on or after July 1, 2017). There were no changes to the actuarial assumptions and methods from 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 prior years. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete, our results may be different and our calculations may need to be revised.

We further certify that all costs, liabilities, rates of interest and other factors for the Judges Retirement System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer the best estimate of anticipated experience affecting the System. Nevertheless, the emerging costs will vary from those presented in this report to the extent actual experience differs from that projected by the actuarial assumptions. The Public Employees Retirement Board has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in Appendix C.



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; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements.

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

The consultants who worked on this assignment are pension actuaries. Cavanaugh Macdonald'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,

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

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

A handwritten signature in blue ink that reads 'Brent A. Banister'.

Brent A. Banister Ph.D., FSA, EA, MAAA, FCA
Chief Actuary



SECTION 1 – BOARD SUMMARY

This report presents the results of the July 1, 2018 actuarial valuation of the Judges Retirement System. The primary purposes of performing this actuarial valuation are to:

- Determine the level of State contributions for the plan year ending June 30, 2019 that will be sufficient to meet the funding policy set out in the Nebraska statutes.
- Disclose asset and liability measurements as well as the current funded status of the System as of the valuation date.
- Compare actual and expected experience under the System during the plan year ended June 30, 2018.
- Analyze and report on trends in System contributions, assets and liabilities over the past several years.

There were no changes to the actuarial assumptions and methods or benefit provisions from the last valuation. However, we would note that this is the first valuation that includes members whose benefit provisions were impacted by LB 415 (passed by the 2017 Nebraska Legislature). This impacts members hired on or after July 1, 2017 by granting the Public Employees Retirement Board (PERB) the authority to set the actuarial assumptions used to determine the benefit amounts payable under optional forms of payment. In the current valuation, there are 8 members covered under the revised provisions of LB 415, which is about 5% of the total active membership. Because the nature of the change in benefits is small and very few members in the valuation are affected, this change had a minimal impact on the current valuation.

The Nebraska statutes require the State to make any additional contribution necessary to meet the actuarial required contribution amount in excess of court fees, member contributions, and any other State appropriations. **Based on the results of the July 1, 2018 actuarial valuation, the additional State contribution for the plan year ending June 30, 2019 is \$442,599.**

The actuarial valuation results provide a “snapshot” view of the System’s financial condition on July 1, 2018. The System’s unfunded actuarial accrued liability (UAAL) decreased from \$11.9 million last year to \$7.6 million this year and the funded ratio increased from 94% to 96%.

The valuation results reflect net favorable experience for the past plan year as demonstrated by an UAAL that was lower than expected. The UAAL on July 1, 2018 is \$7.6 million compared to an expected UAAL of \$11.6 million. The favorable experience was due to the combined impact of an experience gain on both the System liabilities and the actuarial value of assets. The rate of return on the market value of assets for FY 2018 was 8.6%, as reported by the Nebraska Investment Council. However, the asset smoothing method only recognizes 20% of the excess/shortfall between the assumed rate of return and the actual return. The partial recognition of FY 2018 experience, coupled with the scheduled recognition of the deferred experience from the prior four years, resulted in a rate of return on the actuarial (smoothed) value of assets of 8.4%. Because this return is higher than the assumed rate (7.5%), it generated an experience gain of \$1.6 million on the actuarial value of assets. There was also an actuarial gain of \$2.4 million on System liabilities, largely as the result of smaller salary increases than expected for active members.

The actuarial required contribution rate decreased from 27.92% of pay last year to 26.70% of pay in this year’s valuation, a decrease of 1.22% of pay. The Judges Retirement System is funded by employee contributions, court fees, and contributions from the State, if needed, to meet the actuarial required contribution. The expected court fees for FY 2019 are \$4.11 million this year (based on the actual court



SECTION 1 – BOARD SUMMARY

fees for FY 2018) compared to expected fees of \$4.08M in last year’s valuation. The court fees, combined with member contributions, are still insufficient to meet the employer actuarial required contribution for the plan year ending June 30, 2019. Therefore, an additional contribution of \$442,599 by the State is required.

A summary of the key results from the July 1, 2018 actuarial valuation is shown in the following table. Further detail on the valuation results can be found in the following sections of this Executive Summary.

	Valuation Results	
	July 1, 2018	July 1, 2017
Unfunded Actuarial Accrued Liability	\$7,618,265	\$11,925,125
Funded Ratio (Actuarial Assets)	96.08%	93.64%
Normal Cost Rate	24.50%	24.74%
UAAL Amortization Rate	2.20%	3.18%
Total Actuarial Required Contribution	26.70%	27.92%
Member Contribution Rate	(7.62%)	(7.82%)
Additional Required Contribution Rate	19.08%	20.10%
Additional Required Contribution	\$4,555,142	\$4,746,464
Estimated Court Fees	\$4,112,543	\$4,078,851
Additional Required State Contribution	\$442,599	\$667,613

EXPERIENCE FOR THE LAST PLAN YEAR

Numerous factors contributed to the change in the System’s assets, liabilities, and actuarial required contribution rate between July 1, 2017 and July 1, 2018. The components are examined in the following discussion.

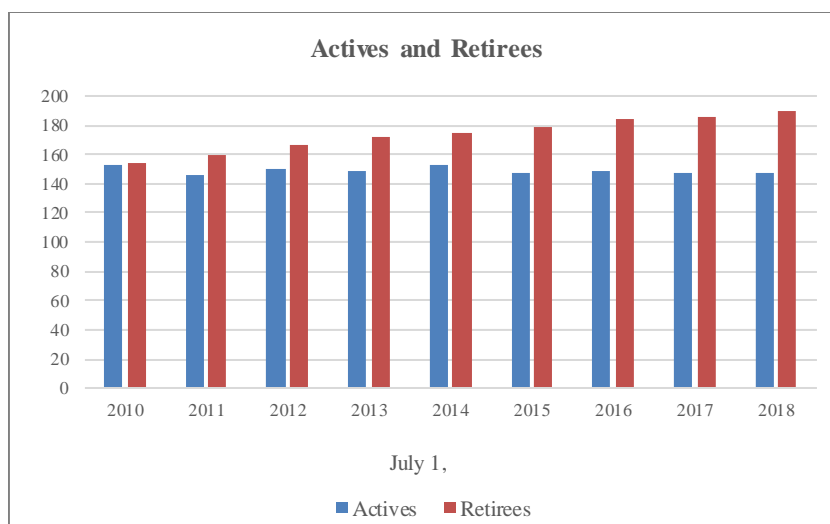
MEMBERSHIP

There were 147 active members in the 2018 valuation, unchanged from the 2017 valuation. As of July 1, 2018, 23 out of 147 (about 16%) of the active members were hired on or after July 1, 2015. It will take many years before the change to the benefit provisions for members hired on or after July 1, 2015 has a significant impact on the System’s liabilities and costs. The graph on the following page shows the number of active and retired members included in the last nine valuations. The number of active members has remained steady, around 150, while the number of retirees has increased from 154 to 190. The increase in the number of retirees relative to the number of actives is not unexpected given the maturity of the system, historical improvements in mortality rates and the stable number of judicial positions in the State.

The graph on the following page compares the number of active members to the number of members receiving a benefit in each valuation over the last nine years.



SECTION 1 – BOARD SUMMARY



ASSETS

As of June 30, 2018, the System had net assets of \$188.1 million, when measured on a market value basis. This was an increase of \$11.4 million from the prior year.

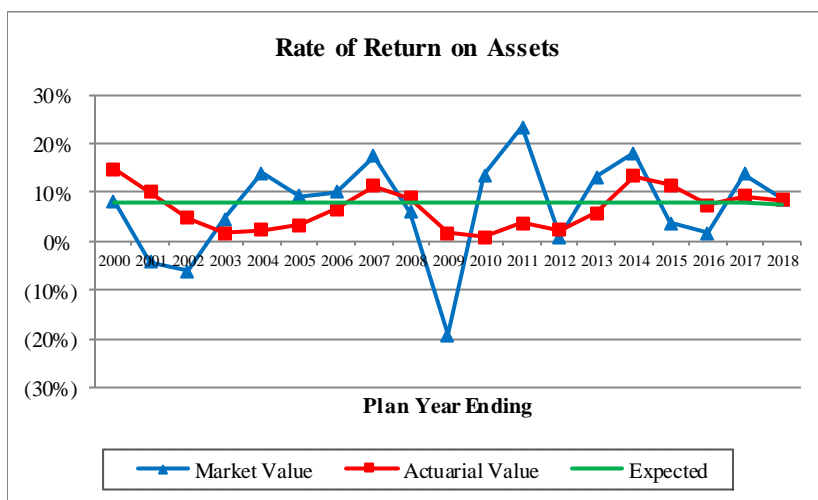
The market value of assets is not used directly in the calculation of the unfunded actuarial accrued liability and the actuarial required contribution rate. An asset valuation method, which smoothes the effect of market fluctuations, is applied to determine the value of assets used in the valuation. The resulting amount is called the actuarial value of assets. In this year’s valuation, the actuarial value of assets is \$186.7 million, an increase of \$11.1 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, 2017	\$	176.61	\$	175.58
- Employer and Member Contributions	+	6.59	+	6.59
- Benefit Payments	-	10.14	-	10.14
- Net Investment Income	+	15.00	+	14.62
Net Assets, June 30, 2018	\$	188.06	\$	186.65
Estimated Rate of Return		8.6%		8.4%

The rate of return on the actuarial value of assets was 8.4%, which was higher than the 7.5% investment return assumption. As a result, there was an experience gain on assets of \$1.6 million. The investment return on the market value of assets for FY 2018 of 8.6% resulted in an increase to the net deferred investment gain from \$1.0 million in last year’s valuation to \$1.4 million in the current valuation. Please see Section 3 of this report for more detailed information on the market and actuarial value of assets.



SECTION 1 – BOARD SUMMARY



The rate of return of the actuarial value of assets has been less volatile than the market value return, illustrating the benefits of using an asset smoothing method.

LIABILITIES

The actuarial accrued liability is that portion of the present value of future benefits that will not be paid by future 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 unfunded actuarial accrued liability is reduced if the contributions to the System exceed the normal cost for the year plus interest on the prior year’s UAAL.

The unfunded actuarial accrued liability, using both the actuarial and market value of assets, is shown as of July 1, 2018 in the following table:

	Actuarial Value of Assets	Market Value of Assets
Actuarial Accrued Liability	\$194,269,172	\$194,269,172
Value of Assets	<u>186,650,907</u>	<u>188,055,655</u>
Unfunded Actuarial Accrued Liability	\$7,618,265	\$6,213,517
Funded Ratio	96.08%	96.80%

The table indicates that, absent investment returns lower than expected (7.5%), the funded ratio is expected to increase over the next four years as the deferred investment experience is recognized.

See Section 4 of the report for the detailed development of the unfunded actuarial accrued liability.



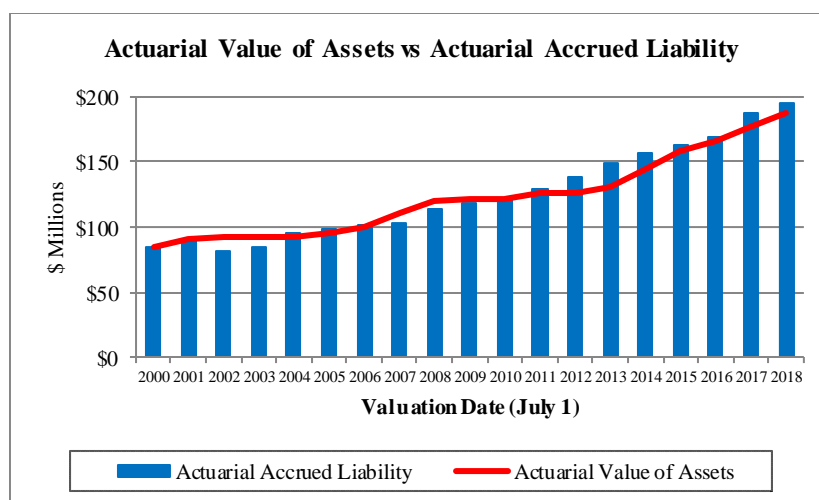
SECTION 1 – BOARD SUMMARY

There was a net decrease of \$4.3 million in the UAAL from July 1, 2017 to July 1, 2018. The various components of the change are shown in the following table (in millions):

	(\$ Millions)
Unfunded Actuarial Accrued Liability, July 1, 2017	\$11.93
- Expected increase from amortization method	0.12
- Investment experience	(1.55)
- Liability experience	(2.40)
- Other experience	(0.48)
Unfunded Actuarial Accrued Liability, July 1, 2018	\$7.62

As shown above, various components impacted the UAAL. Actuarial gains (losses), which result from actual experience that is more (less) favorable than anticipated based on the actuarial assumptions, 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 System experienced an aggregate actuarial gain of \$3.95 million. The actuarial gain may be explained by considering the separate experience of assets and liabilities. As noted earlier, there was a \$1.55 million gain on the actuarial value of assets. Favorable experience on System liabilities, mainly due to lower salary increases than expected, resulted in a \$2.40 million gain. A breakdown of the various components of experience gains/losses can be found in Table 8 of this report.

As the following graph of historical actuarial assets and accrued liabilities illustrates, the Judges Retirement System has generally been very well-funded over this period, with many years at or above the fully funded level. As losses from the market downturn in 2009 were recognized, there were years where the actuarial accrued liability was above the assets. However, the combination of legislation designed to improve the System’s funding status and investment returns in recent years in excess of the assumption have strengthened the System’s funded status.





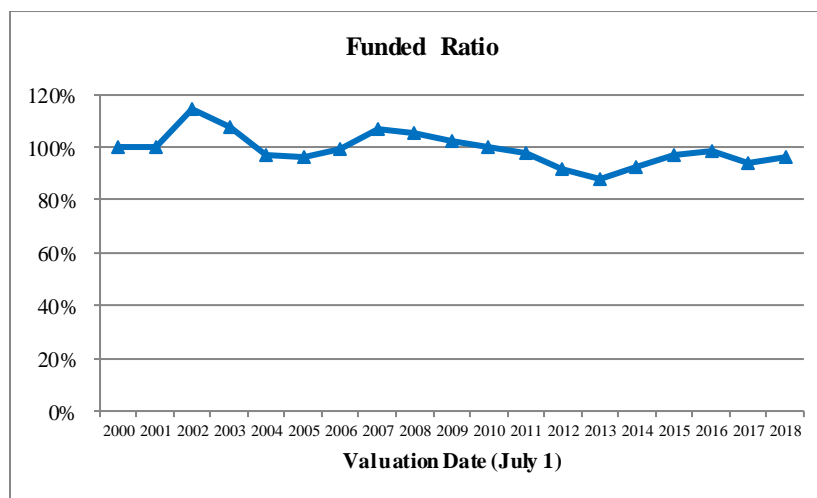
SECTION 1 – BOARD SUMMARY

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, which is based on the actuarial value of assets, is shown below (in millions).

	7/1/2014	7/1/2015	7/1/2016	7/1/2017	7/1/2018
Funded Ratio	92.58%	97.08%	98.09%	93.64%	96.08%
UAAL/(Surplus)	\$11.60	\$4.73	\$3.20	\$11.93	\$7.62

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. In addition, if the funded ratios were shown using the market value of assets, the results would differ.

The funded ratio over a longer period of years is shown in the following graph. The System has generally been at or just below 100% funded, other than in a few years. The changes to the benefit structure for members hired on or after July 1, 2015, as well as the increases in the court fees that were included in legislation in 2015, are expected to mitigate the need for supplemental State contributions.



ACTUARIAL REQUIRED CONTRIBUTION RATE

The State’s funding policy is to contribute any additional payments necessary to meet the actuarial required contribution in excess of court fees, member contributions and other State appropriations. The additional State contribution for the plan year is made on the July 1 following the plan year-end. The actuarial required 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.
- 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.



SECTION 1 – BOARD SUMMARY

The UAAL contribution rate is determined by calculating the amortization payment as a level-percent of payroll, assuming a constant number of active members and assumed salary increases. This methodology results in payments that are lower in the initial years of the amortization period, but increase each year in the future with the assumed payroll growth assumption of 3.50%. Because the UAAL contribution rate is determined as a level-percent of payroll, the dollar amount of the UAAL contribution is scheduled to increase 3.50% each year in the future, even if all actuarial assumptions are met. Therefore, if the increase in covered payroll is less than 3.50% per year, the UAAL contribution rate will increase. The current valuation results show the covered payroll has increased by 1.10% since the prior valuation. As a result, the UAAL contribution rate is higher than expected.

Total expected funding from court fees for FY 2019 is \$4,112,543 (based on the actual court fees for FY 2018). This amount, when combined with expected member contributions, is insufficient to meet the actuarial required contribution for the plan year ending June 30, 2019. Therefore, an additional contribution of \$442,599 by the State is required. See Section 5 of the report for the detailed development of the contribution rates which are summarized in the following table:

Contribution Rates	July 1, 2018	July 1, 2017
1. Normal Cost Rate	24.50%	24.74%
2. UAAL Contribution Rate	2.20%	3.18%
3. Total Actuarial Required Contribution Rate	26.70%	27.92%
4. Member Contribution Rate	(7.62%)	(7.82%)
5. Employer Required Contribution Rate [3 + 4]	19.08%	20.10%
6. Estimated Payroll	\$ 23,873,911	\$ 23,614,251
7. Employer Required Contribution [5 * 6]	4,555,142	4,746,464
8. Estimated Court Fees	4,112,543	4,078,851
9. Additional Required State Contribution [7 - 8, but not less than \$0]	\$ 442,599	\$ 667,613

The following table shows the breakdown of non-member contributions by source, as determined in each actuarial valuation, in recent years. Note these are not actual contributions, but expected amounts.



SECTION 1 – BOARD SUMMARY

Plan Year	Total Required Contributions	Court Fees and State Appropriation	Additional State Contribution
2018/2019	\$4,555,142	\$4,112,543	\$442,599
2017/2018	4,746,464	4,078,851	667,613
2016/2017	3,577,379	3,458,665	118,714
2015/2016	3,460,854	3,577,205	0
2014/2015	3,852,713	3,102,864	749,849 *
2013/2014	3,983,750	3,180,367	803,383
2012/2013	3,491,193	3,411,370	79,823 *
2011/2012	3,579,661	3,579,661	0
2010/2011	3,615,291	3,615,291	0
2009/2010	4,160,906	4,160,906	0
2008/2009	3,353,208	3,353,208	0
2007/2008	3,207,953	3,207,953	0
2006/2007	3,120,253	3,120,253	0
2005/2006	2,877,273	2,877,273	0
2004/2005	2,718,959	2,074,397	644,562
2003/2004	2,691,913	2,691,913	0
2002/2003	1,291,663	564,857	726,806

* Contribution not fully made.

Note: Information before 2013 was produced by the prior actuary.

The actuarial required contribution, determined this year based on the snapshot of the System taken on the valuation date of July 1, 2018, will change each year as the deferred investment experience is recognized and other experience (both investment and demographic) impacts the System. Therefore, the contribution rate is expected to change each year. To the extent the difference between the actual and expected experience is significant, the change in the actuarial contribution rate is also expected to change significantly.

The major source of funding for the Judges Retirement System, other than member contributions, is court fees. As the following table illustrates, the dollar amount of court fees had been declining prior to the passage of legislation in 2015 which increased the court fees allocated to the Judges Retirement System for plan years beginning July 1, 2015 and July 1, 2017.



SECTION 1 – BOARD SUMMARY

Plan Year Ending	Court Fees
June 30, 2007	\$3,135,709
June 30, 2008	\$3,280,964
June 30, 2009	\$3,419,091
June 30, 2010	\$3,543,047
June 30, 2011	\$3,507,417
June 30, 2012	\$3,411,370
June 30, 2013	\$3,180,367
June 30, 2014	\$3,102,864
June 30, 2015	\$2,977,205
June 30, 2016	\$3,458,665
June 30, 2017	\$3,578,851
June 30, 2018	\$4,112,543

**SECTION 1 – BOARD SUMMARY****SUMMARY OF PRINCIPAL RESULTS**

	<u>7/1/2018 Valuation</u>	<u>7/1/2017 Valuation</u>	<u>% Change</u>
1. PARTICIPANT DATA			
Number of:			
Active Members			
- Hired before July 1, 2015	124	132	(6.06%)
- Hired on or after July 1, 2015	23	15	53.33%
Total	<u>147</u>	<u>147</u>	0.00%
Retired Members and Beneficiaries	186	182	2.20%
Disabled Members	4	4	0.00%
Inactive Vested Members	4	4	0.00%
Total Members	<u>341</u>	<u>337</u>	1.19%
Projected Annual Salaries of Active Members	\$ 23,873,911	\$ 23,614,251	1.10%
Annual Retirement Payments for Retired Members, Disabled Members and Beneficiaries	\$ 10,774,452	\$ 9,893,854	8.90%
2. ASSETS AND LIABILITIES			
a. Market Value of Assets	\$ 188,055,655	\$ 176,605,831	6.48%
b. Actuarial Value of Assets	186,650,907	175,577,087	6.31%
c. Total Actuarial Accrued Liability	194,269,172	187,502,212	3.61%
d. Unfunded Actuarial Accrued Liability [c - b]	\$ 7,618,265	\$ 11,925,125	(36.12%)
e. Funded Ratio (Actuarial Value of Assets) [b / c]	96.08%	93.64%	2.61%
f. Funded Ratio (Market Value of Assets) [a / c]	96.80%	94.19%	2.77%
3. EMPLOYER CONTRIBUTION RATES AS A PERCENT OF PAYROLL			
Normal Cost	24.50%	24.74%	(0.97%)
Amortization of Unfunded Actuarial Accrued Liability	<u>2.20%</u>	<u>3.18%</u>	(30.82%)
Actuarial Required Contribution Rate	26.70%	27.92%	(4.37%)
Member Contribution Rate	<u>(7.62%)</u>	<u>(7.82%)</u>	(2.56%)
Employer Required Contribution Rate	19.08%	20.10%	(5.07%)
Employer Required Contribution Amount	\$ 4,555,142	\$ 4,746,464	(4.03%)
Expected Court Fees	<u>4,112,543</u>	<u>4,078,851</u>	0.83%
Additional Required State Contribution Amount	\$ 442,599	\$ 667,613	(33.70%)



SECTION 2 – SCOPE OF THE REPORT

This report presents the actuarial valuation results of the Judges Retirement System as of July 1, 2018. This valuation was prepared at the request of the Public Employees Retirement Board of the Nebraska Public Employees Retirement System.

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 of the current year's 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 (liabilities) of the System are to be met under the actuarial cost method in use. Section 6 includes some historical funding information that was required by the Governmental Accounting Standards Board (GASB) in the past.

This report includes several appendices:

- Appendix A Schedules of valuation data classified by various categories of members.
- Appendix B A summary of the current benefit structure, as determined by the provisions of governing law on July 1, 2018.
- Appendix C A summary of the actuarial methods and assumptions used to estimate liabilities and determine contribution rates.
- Appendix D A glossary of actuarial terms.



SECTION 3 – 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 July 1, 2018. On that date, the assets available for the payment of benefits are appraised. The assets are compared with the liabilities of the System, which are generally in excess of assets. The actuarial process then leads to a method of determining the contributions needed by members and the employer in the future to balance the System's 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 is a comparison, at market values, of System assets as of July 1, 2018 and July 1, 2017, in total and by investment category. Table 2 summarizes the change in the market value of assets from July 1, 2017 to July 1, 2018.

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. Under the asset smoothing methodology, the difference between the actual and assumed investment return on the market value of assets is recognized evenly over a five-year period.

Table 3 shows the development of the actuarial value of assets (AVA) as of the valuation date.



TABLE 1
JUDGES RETIREMENT SYSTEM
MARKET VALUE OF ASSETS
by Investment Category

	<u>June 30, 2018</u>	<u>June 30, 2017</u>
1. Cash and Equivalents	\$ 123,054	\$ 160,766
2. Investments	192,628,941	180,393,832
3. Capital Assets	57	80
4. Receivables and Prepaids	18,168,534	13,631,797
5. Accounts Payable	<u>(22,864,931)</u>	<u>(17,580,644)</u>
6. Net Assets Available for Pension Benefits	\$ 188,055,655	\$ 176,605,831



TABLE 2
JUDGES RETIREMENT SYSTEM
CHANGE IN MARKET VALUE OF ASSETS

	<u>2018</u>	<u>2017</u>
1. Market Value of Assets, Beginning of Year	\$ 176,605,831	\$ 159,240,849
2. Contributions		
(a) Member	\$ 1,814,533	\$ 1,743,103
(b) Court fees	4,112,543	3,578,851
(c) State appropriations	667,613	118,714
(d) Total	\$ <u>6,594,689</u>	\$ <u>5,440,668</u>
3. Expenditures		
(a) Benefit payments	\$ 10,144,103	\$ 9,690,310
(b) Administrative expenses	71,266	84,626
(c) Total	\$ <u>10,215,369</u>	\$ <u>9,774,936</u>
4. Investment Return, Net of Expenses		
(a) Investment income	\$ 2,666,149	\$ 2,194,596
(b) Securities lending income	73,208	45,891
(c) Securities lending expense	(50,240)	(20,864)
(d) Net appreciation/(depreciation) in fair value of investments	12,381,345	19,479,627
(e) Other	42	0
(f) Total investment return	\$ <u>15,070,504</u>	\$ <u>21,699,250</u>
5. Market Value of Assets, End of Year [1 + 2(d) - 3(c) + 4(f)]	\$ 188,055,655	\$ 176,605,831
6. Rate of Return, Net of Expenses*	8.6%	13.8%

* As reported by the Nebraska Investment Council



TABLE 3
JUDGES RETIREMENT SYSTEM
DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS

	Year End			
	6/30/2015	6/30/2016	6/30/2017	6/30/2018
1. Actuarial Value of Assets, Beginning of Year	\$ 144,729,946	\$ 157,369,088	\$ 164,900,363	\$ 175,577,087
2. Unrecognized Return Beginning of Year	\$ 14,060,165	\$ 3,430,921	\$ (5,659,514)	\$ 1,028,744
3. Contributions During Year				
(a) Member	\$ 1,610,529	\$ 1,651,432	\$ 1,743,103	\$ 1,814,533
(b) Court fees	2,977,205	3,458,665	3,578,851	4,112,543
(c) State appropriations	94,000	0	118,714	667,613
(d) Total	\$ 4,681,734	\$ 5,110,097	\$ 5,440,668	\$ 6,594,689
4. Benefit Payments	\$ 8,547,892	\$ 9,052,110	\$ 9,690,310	\$ 10,144,103
5. Expected Investment Income on (1), (2), (3) and (4)*	\$ 12,579,978	\$ 12,739,472	\$ 12,604,794	\$ 13,146,386
6. Actual Return on Market Value , Net of All Expenses	\$ 5,876,056	\$ 2,382,853	\$ 21,614,624	\$ 14,999,238
7. Return to be Spread, End of Year [6 - 5]	\$ (6,703,922)	\$ (10,356,619)	\$ 9,009,830	\$ 1,852,852

*Based on the investment return assumption applicable at the beginning of the year. The assumption was 8.0% through year end 6/30/2017 and 7.5% thereafter.



**TABLE 3
(continued)**

JUDGES RETIREMENT SYSTEM

DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS

8. Return to be Spread

Plan Year <u>Ending</u>	Return to be <u>Spread</u>	Unrecognized <u>Percent</u>	Unrecognized <u>Return</u>
2018	\$1,852,852	80%	\$1,482,282
2017	9,009,830	60%	5,405,898
2016	(10,356,619)	40%	(4,142,648)
2015	(6,703,922)	20%	(1,340,784)
			<hr/> \$1,404,748

9. Total Market Value of Assets as of July 1, 2018 \$188,055,655

10. Total Actuarial Value of Assets as of July 1, 2018 \$186,650,907
[9 - 8]

11. Asset Ratios

(a) Actuarial Value to Market Value [10 / 9]	99.25%
(b) Market Value to Actuarial Value [9 / 10]	100.75%



SECTION 4 – SYSTEM LIABILITIES

In the previous section, an actuarial valuation was compared with an inventory process, and an analysis was given of the inventory of assets of the Judges Retirement System as of the valuation date, July 1, 2018. In this section, the discussion will focus on the commitments (future benefit payments) of the System, which are referred to as its liabilities.

Table 4 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 4 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 the measurement of both benefits already earned and future benefits to be earned. For all members, active and retired, the value extends over benefits earnable and payable for the rest of their lives and for the lives of the surviving beneficiaries.

All liabilities reflect the benefit provisions in place as of July 1, 2018.

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 calculation of actuarial accrued liability for the System. The Entry Age Normal actuarial cost method is used to develop the actuarial accrued liability.



TABLE 4
JUDGES RETIREMENT SYSTEM
PRESENT VALUE OF FUTURE BENEFITS (PVFB)
AS OF JULY 1, 2018

1. Active Employees		
(a) Retirement	\$	117,860,958
(b) Death		3,021,322
(c) Total	\$	<u>120,882,280</u>
2. Inactive Vested Members		2,104,460
3. Inactive Nonvested Members		0
4. Disabled Members		2,318,781
5. Retirees		90,483,248
6. Beneficiaries		<u>18,126,159</u>
7. Total Present Value of Future Benefits [1(c) + 2 + 3 + 4 + 5 + 6]	\$	233,914,928



TABLE 5
JUDGES RETIREMENT SYSTEM
ACTUARIAL ACCRUED LIABILITY
AS OF JULY 1, 2018

1. Present Value of Future Benefits for Active Members	\$	120,882,280
2. Present Value of Future Normal Costs for Active Members		
(a) Retirement	\$	38,232,275
(b) Death		1,413,481
(c) Total	\$	<u>39,645,756</u>
3. Actuarial Accrued Liability for Active Members [1 - 2(c)]	\$	81,236,524
4. Actuarial Accrued Liability for Inactive Members	\$	113,032,648
5. Total Actuarial Accrued Liability [3 + 4]	\$	194,269,172
6. Actuarial Value of Assets	\$	186,650,907
7. Unfunded Actuarial Accrued Liability [5 - 6]	\$	7,618,265



TABLE 6
JUDGES RETIREMENT SYSTEM
ACTUARIAL BALANCE SHEET
AS OF JULY 1, 2018

ASSETS

Actuarial Value of Assets	\$	186,650,907
Unfunded Actuarial Accrued Liability		7,618,265
Present Value of Future Normal Costs		<u>39,645,756</u>
Total Assets	\$	233,914,928

LIABILITIES

Present Value of Future Benefits			
Active members			
Retirement	\$	117,860,958	
Death		<u>3,021,322</u>	
Total			120,882,280
Inactive members			2,104,460
Retirees, disabilities and beneficiaries			<u>110,928,188</u>
Total	\$		233,914,928



TABLE 7
JUDGES RETIREMENT SYSTEM
ACTUARIAL GAIN/(LOSS)

Liabilities

1. Actuarial Accrued Liability as of July 1, 2017	\$ 187,502,212
2. Normal Cost for Plan Year Ending June 30, 2018	5,199,238
3. Benefit Payments During Plan Year Ending June 30, 2018	(10,144,103)
4. Interest at 7.50%	<u>14,110,728</u>
5. Expected Actuarial Accrued Liability as of July 1, 2018	\$ 196,668,075
6. Actuarial Accrued Liability as of July 1, 2018	\$ 194,269,172

Assets

7. Actuarial Value of Assets as of July 1, 2017	\$ 175,577,087
8. Contributions During Plan Year Ending June 30, 2018	6,594,689
9. Benefit Payments During Plan Year Ending June 30, 2018	(10,144,103)
10. Interest at 7.50%	<u>13,069,230</u>
11. Expected Actuarial Value of Assets as of July 1, 2018	\$ 185,096,903
12. Actuarial Value of Assets as of July 1, 2018	\$ 186,650,907

Gain / (Loss)

13. Actuarial Gain / (Loss) on Liabilities [5 - 6]	\$ 2,398,903
14. Actuarial Gain / (Loss) on Assets [12 - 11]	1,554,004
15. Total Actuarial Gain / (Loss) for Plan Year Ending June 30, 2018 [13 + 14]	\$ 3,952,907



TABLE 8
JUDGES RETIREMENT SYSTEM
GAIN/(LOSS) ANALYSIS BY SOURCE

Liability Sources	Gain/(Loss)
Retirement	\$ 849,746
Termination	33,486
Disability	0
Mortality	(420,231)
Salary	2,050,826
New Entrants/Rehires	(106,155)
COLA	(245,438)
Miscellaneous	236,669
Total Liability Gain/(Loss)	\$ 2,398,903
Asset Gain/(Loss)	\$ 1,554,004
Net Actuarial Gain/(Loss)	\$ 3,952,907



TABLE 9

JUDGES RETIREMENT SYSTEM
PROJECTED BENEFIT PAYMENTS

<u>Plan Year</u> <u>Ending June 30</u>	<u>Current</u> <u>Active Members</u>	<u>Current In-Pay</u> <u>Members</u>	<u>Total</u>
2019	\$ 967,000	\$ 10,621,000	\$ 11,588,000
2020	2,102,000	10,646,000	12,748,000
2021	2,955,000	10,653,000	13,608,000
2022	3,873,000	10,578,000	14,451,000
2023	4,775,000	10,507,000	15,282,000
2024	5,473,000	10,426,000	15,899,000
2025	6,363,000	10,331,000	16,694,000
2026	7,310,000	10,214,000	17,524,000
2027	8,067,000	10,071,000	18,138,000
2028	9,074,000	9,924,000	18,998,000
2029	9,808,000	9,755,000	19,563,000
2030	10,488,000	9,563,000	20,051,000
2031	11,158,000	9,344,000	20,502,000
2032	11,908,000	9,164,000	21,072,000
2033	12,538,000	8,891,000	21,429,000
2034	13,221,000	8,585,000	21,806,000
2035	14,064,000	8,247,000	22,311,000
2036	14,859,000	7,874,000	22,733,000
2037	15,418,000	7,468,000	22,886,000
2038	16,036,000	7,029,000	23,065,000
2039	16,625,000	6,562,000	23,187,000
2040	16,969,000	6,072,000	23,041,000
2041	17,406,000	5,565,000	22,971,000
2042	17,750,000	5,048,000	22,798,000
2043	18,123,000	4,531,000	22,654,000
2044	18,174,000	4,022,000	22,196,000
2045	18,062,000	3,530,000	21,592,000
2046	17,929,000	3,063,000	20,992,000
2047	17,773,000	2,629,000	20,402,000
2048	17,451,000	2,233,000	19,684,000

Note: Cash flows are the expected future non-discounted payments to current members. These numbers exclude refund payouts to any current nonvested inactive members and assume future retirees elect the normal form of payment.



SECTION 5 – EMPLOYER CONTRIBUTIONS

The previous two sections were devoted to a discussion of the assets and liabilities of the System. A comparison of Tables 3 and 4 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 deal with 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/(surplus) 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 July 1, 2018 actuarial valuation will be used to determine the actuarial required employer contribution rate to the Judges Retirement System for the plan year ending June 30, 2019. Any State contributions are expected to be deposited on July 1, 2019 (State fiscal year 2020). In this context, the term "contribution rate" means the percentage, which is applied to a particular active member payroll to determine the actual employer contribution amount (i.e., in dollars) for the group.

Contribution Rate Summary

In Table 10 the amortization payment related to the unfunded actuarial accrued liability/(surplus), as of July 1, 2018, is developed. Table 11 develops the actuarial required contribution rate for the System and the amount of any additional required state contributions.

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



SECTION 5 – EMPLOYER CONTRIBUTIONS

TABLE 10
JUDGES RETIREMENT SYSTEM
SCHEDULE OF AMORTIZATION BASES

Amortization Bases	Original Amount	July 1, 2018 Remaining Payments	Date of Last Payment	Outstanding Balance as of July 1, 2018	Annual Contribution*
2011 UAAL Base	\$ 3,073,897	23	7/1/2041	\$ 3,249,498	\$ 215,422
2012 Experience Base	\$ 4,171,302	24	7/1/2042	\$ 4,483,250	\$ 289,475
2012 Assumption Change Base	\$ 4,319,074	24	7/1/2042	\$ 4,642,073	\$ 299,729
2013 Experience Base	\$ 6,839,972	25	7/1/2043	\$ 7,464,259	\$ 470,167
2014 Experience Base	\$ (7,043,240)	26	7/1/2044	\$ (7,564,912)	\$ (465,547)
2015 Experience Base	\$ (7,075,557)	27	7/1/2045	\$ (7,469,597)	\$ (449,722)
2016 Experience Base	\$ (1,566,805)	28	7/1/2046	\$ (1,623,714)	\$ (95,761)
2017 Experience Base	\$ (3,985,070)	29	7/1/2047	\$ (4,049,329)	\$ (234,209)
2017 Assumption Change Base	\$ 12,705,465	29	7/1/2047	\$ 12,910,340	\$ 746,720
2018 Experience Base	\$ (4,423,603)	30	7/1/2048	\$ (4,423,603)	\$ (251,190)
Total				\$ 7,618,265	\$ 525,084

* Contribution amount reflects mid-year timing.

- 1. Total UAAL Amortization Payments \$ 525,084
- 2. Projected Payroll for FY 2019 \$ 23,873,911
- 3. UAAL Amortization Payment Rate 2.20%

Note: Beginning with the July 1, 2017 valuation, the payments on each UAAL base are determined as a level-percent of payroll using a 3.50% payroll growth assumption.



TABLE 11
JUDGES RETIREMENT SYSTEM
ACTUARIAL REQUIRED CONTRIBUTION RATE
FOR PLAN YEAR ENDING JUNE 30, 2019

1. Normal Cost	
(a) Amount	\$ 5,247,241
(b) Expected pay for current actives	21,419,651
(c) Normal Cost Rate as % of pay	24.50%
2. UAAL Amortization Rate (see Table 10)	2.20%
3. Total Actuarial Required Contribution Rate [1(c) + 2]	26.70%
4. Statutory Member Contribution Rate	7.62%
5. Employer Required Contribution Rate [3 - 4]	19.08%
6. Actuarial Required Employer Contribution	
(a) Projected pay for FY 2019	\$ 23,873,911
(b) Total required contribution [5 * 6(a)]	4,555,142
(c) Expected court fees	4,112,543
(d) Additional required State contribution amount as of July 1, 2019 [6(b) - 6(c), not less than 0]	\$ 442,599



SECTION 6 – 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.



SECTION 6 – HISTORICAL FUNDING AND OTHER INFORMATION

TABLE 12
JUDGES RETIREMENT SYSTEM
HISTORICAL FUNDING INFORMATION
SCHEDULE OF FUNDING PROGRESS

Table with 7 columns: Actuarial Valuation Date, Actuarial Value of Assets (a), Actuarial Accrued Liability (AAL) (b), Unfunded Actuarial Liability (UAAL) (b - a), Funded Ratio (a / b), Covered Payroll (c), and UAAL as a % of Covered Payroll [(b - a) / c]. Rows range from June 30, 2003 to June 30, 2018.

Note: Information before 2013 was produced by the prior actuary.



SECTION 6 – HISTORICAL FUNDING AND OTHER INFORMATION

TABLE 13

JUDGES RETIREMENT SYSTEM

HISTORICAL FUNDING INFORMATION

**SCHEDULE OF CONTRIBUTIONS FROM EMPLOYER
AND OTHER CONTRIBUTING ENTITIES**

Plan Year Ending	Actuarial Required Contributions			Percent Contributed
	State	Court Fees	Total	
June 30, 2005	\$501,841	\$2,217,118	\$2,718,959	84%
June 30, 2006	72,244	3,048,009	3,120,253	100%
June 30, 2007	72,244	3,135,709	3,207,953	100%
June 30, 2008	72,244	3,280,964	3,353,208	100%
June 30, 2009	72,244	3,419,091	3,491,335	100%
June 30, 2010	72,244	3,543,047	3,615,291	100%
June 30, 2011	72,244	3,507,417	3,579,661	100%
June 30, 2012	72,244	3,411,370	3,483,614	100%
June 30, 2013	0	3,180,367	3,180,367	100%
June 30, 2014	803,383	3,102,864	3,906,247	100%
June 30, 2015	749,849	2,977,205	3,727,054	82%
June 30, 2016	0	3,458,665	3,458,665	100%
June 30, 2017	118,714	3,578,851	3,697,565	100%
June 30, 2018	667,613	4,112,543	4,780,156	100%

Note: Contribution information is consistent with that shown in the GASB 67 report prepared for the System.

**APPENDIX A – MEMBERSHIP DATA****MEMBER DATA RECONCILIATION**

	Active Members	Inactive Vested	Inactive Nonvested	Retirees and Beneficiaries	Disabled Members	Total
As of July 1, 2017	147	4	0	182	4	337
Changes in status						
a) Retirement	(6)	(1)	0	7	0	0
b) Death	(1)	0	0	(7)	0	(8)
c) Nonvested terminations	0	0	0	0	0	0
d) Vested terminations	(1)	1	0	0	0	0
e) Contribution refund	0	0	0	0	0	0
f) Beneficiaries in receipt	0	0	0	4	0	4
g) Disability retirements	0	0	0	0	0	0
h) Return to active service	0	0	0	0	0	0
i) Expired benefits	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total changes in status	(8)	0	0	4	0	(4)
New entrants						
a) Without prior service	8	0	0	0	0	8
b) With prior service	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total new members	8	0	0	0	0	8
Net Change	0	0	0	4	0	4
As of July 1, 2018	147	4	0	186	4	341



APPENDIX A – MEMBERSHIP DATA

SUMMARY OF MEMBERSHIP DATA

A. ACTIVE MEMBERS	July 1, 2018	July 1, 2017	% Change
1. Number of Active Members			
(a) Before assumed retirement age	140	144	(2.8%)
(b) Beyond assumed retirement age	7	3	133.3%
(c) Total*	<u>147</u>	<u>147</u>	0.0%
2. Annual Reported Salary			
(a) Before assumed retirement age	\$ 22,135,622	\$ 22,429,250	(1.3%)
(b) Beyond assumed retirement age	930,959	386,452	140.9%
(c) Total	<u>\$ 23,066,581</u>	<u>\$ 22,815,702</u>	1.1%
3. Accumulated Contributions	\$ 17,756,388	\$ 17,354,154	2.3%
4. Active Member Averages			
(a) Age	58.2	58.7	(0.9%)
(b) Service	12.4	12.7	(2.4%)
(c) Compensation	\$ 156,916	\$ 155,209	1.1%
B. INACTIVE MEMBERS			
1. Number of Inactive Members	4	4	0.0%
2. Accumulated Member Contributions	\$ 490,799	\$ 545,436	(10.0%)
3. Inactive Member Averages			
(a) Age	55.8	55.7	0.2%
(b) Accumulated member contributions	\$ 122,700	\$ 136,359	(10.0%)
C. RETIREES, DISABLEDS, AND BENEFICIARIES			
1. Number of Members			
(a) Retired	139	137	1.5%
(b) Disabled	4	4	0.0%
(c) Beneficiaries	47	45	4.4%
(d) Total	<u>190</u>	<u>186</u>	2.2%
2. Annual Benefits			
(a) Retired	\$ 8,427,831	\$ 7,813,365	7.9%
(b) Disabled	290,303	283,182	2.5%
(c) Beneficiaries	2,056,318	1,797,307	14.4%
(d) Total	<u>\$ 10,774,452</u>	<u>\$ 9,893,854</u>	8.9%

* As of July 1, 2018, there are 8 members in Tier 3, 15 members in Tier 2, 96 members who were hired after July 1, 2004 or who elected the enhanced joint and survivor benefit option, and 28 members who were hired before July 1, 2004 and did not elect the enhanced joint and survivor benefit option.

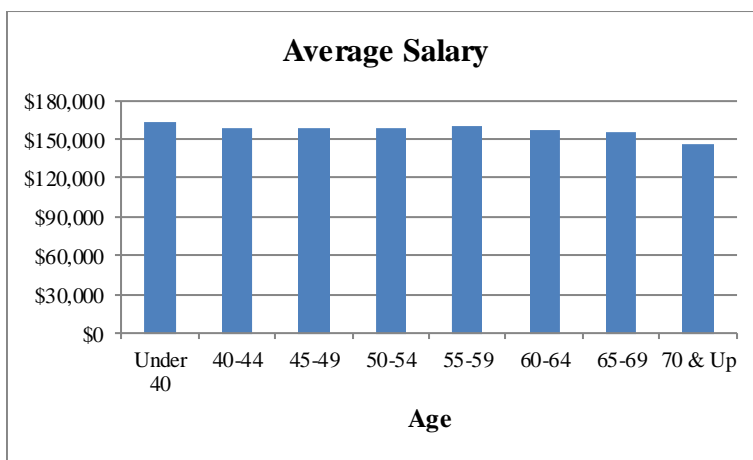
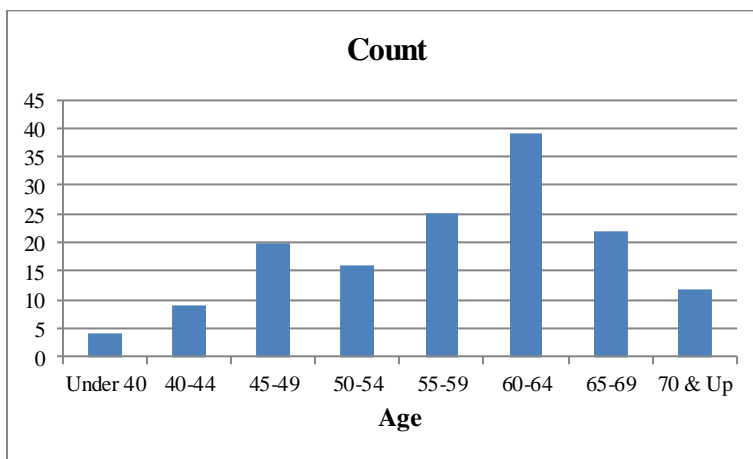


APPENDIX A – MEMBERSHIP DATA

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

Total

<u>Age</u>	<u>Count</u>			<u>Reported FY 2018 Earnings</u>		
	<u>Male</u>	<u>Female</u>	<u>Total</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
Under 40	2	2	4	\$ 330,019	\$ 320,999	\$ 651,018
40-44	7	2	9	1,114,328	311,998	1,426,326
45-49	10	10	20	1,590,322	1,590,649	3,180,971
50-54	12	4	16	1,894,332	636,995	2,531,327
55-59	17	8	25	2,699,648	1,286,991	3,986,639
60-64	29	10	39	4,619,301	1,498,972	6,118,273
65-69	19	3	22	3,020,312	393,096	3,413,408
70 & Up	10	2	12	1,516,305	242,314	1,758,619
Total	106	41	147	\$ 16,784,567	\$ 6,282,014	\$ 23,066,581



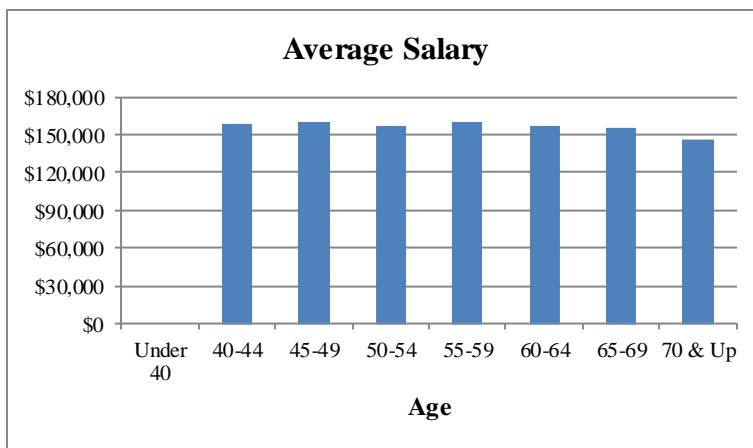
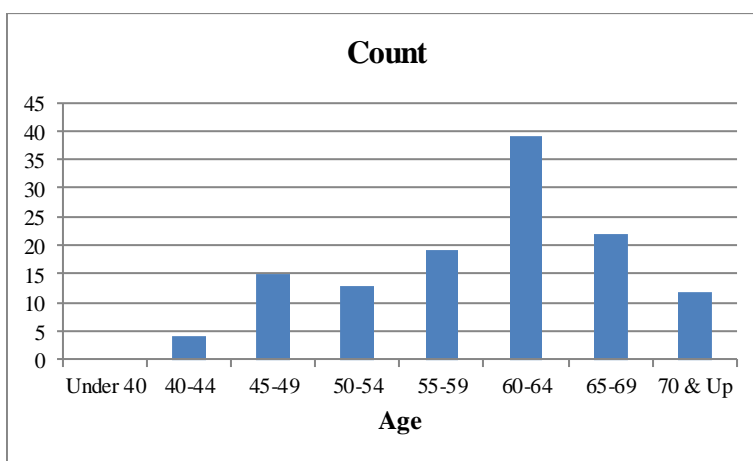


APPENDIX A – MEMBERSHIP DATA

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

Members Hired Before July 1, 2015

<u>Age</u>	<u>Count</u>			<u>Reported FY 2018 Earnings</u>		
	<u>Male</u>	<u>Female</u>	<u>Total</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
Under 40	0	0	0	\$ 0	\$ 0	\$ 0
40-44	3	1	4	476,663	155,999	632,662
45-49	8	7	15	1,273,991	1,117,993	2,391,984
50-54	9	4	13	1,408,324	636,995	2,045,319
55-59	11	8	19	1,746,321	1,286,991	3,033,312
60-64	29	10	39	4,619,301	1,498,972	6,118,273
65-69	19	3	22	3,020,312	393,096	3,413,408
70 & Up	10	2	12	1,516,305	242,314	1,758,619
Total	89	35	124	\$ 14,061,217	\$ 5,332,360	\$ 19,393,577



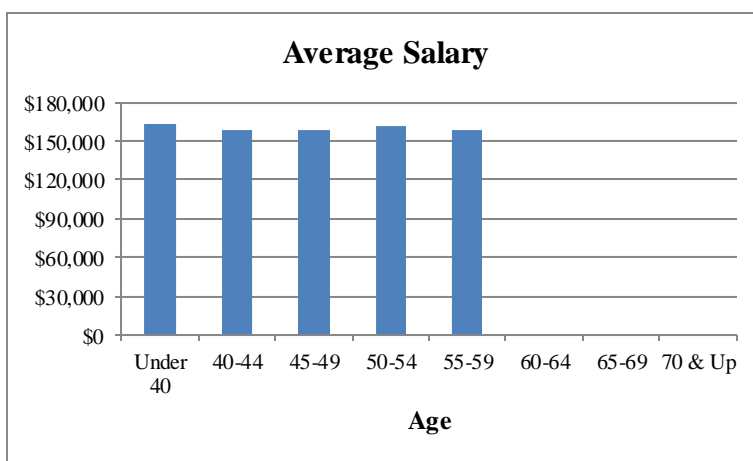
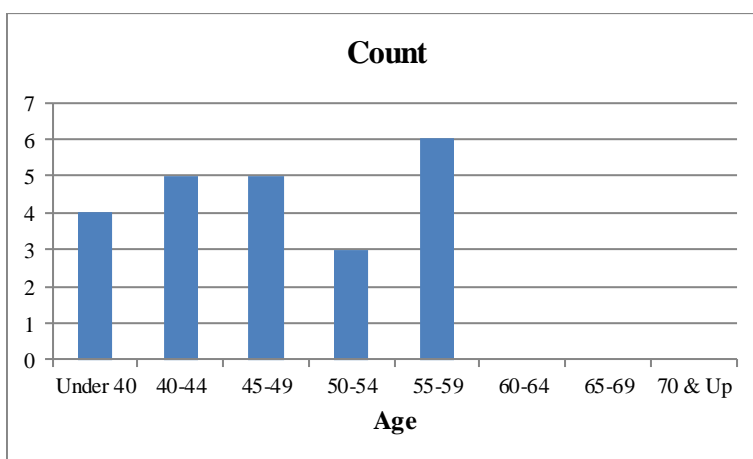


APPENDIX A – MEMBERSHIP DATA

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

Members Hired On or After July 1, 2015

<u>Age</u>	<u>Count</u>			<u>Reported FY 2018 Earnings</u>		
	<u>Male</u>	<u>Female</u>	<u>Total</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
Under 40	2	2	4	\$ 330,019	\$ 320,999	\$ 651,018
40-44	4	1	5	637,665	155,999	793,664
45-49	2	3	5	316,331	472,656	788,987
50-54	3	0	3	486,008	0	486,008
55-59	6	0	6	953,327	0	953,327
60-64	0	0	0	0	0	0
65-69	0	0	0	0	0	0
70 & Up	0	0	0	0	0	0
Total	17	6	23	\$ 2,723,350	\$ 949,654	\$ 3,673,004





APPENDIX A – MEMBERSHIP DATA

**AGE AND SERVICE DISTRIBUTION
AS OF JULY 1, 2018**

Age		0-4	5-9	10-14	15-19	20-24	Over 24	Total
Under 40	Number	4	0	0	0	0	0	4
	Total Salary	\$ 651,018	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 651,018
	Average Sal.	\$ 162,754	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 162,755
40-44	Number	6	3	0	0	0	0	9
	Total Salary	\$ 949,663	\$ 476,663	\$ 0	\$ 0	\$ 0	\$ 0	\$ 1,426,326
	Average Sal.	\$ 158,277	\$ 158,888	\$ 0	\$ 0	\$ 0	\$ 0	\$ 158,481
45-49	Number	13	5	2	0	0	0	20
	Total Salary	\$ 2,054,312	\$ 792,995	\$ 333,664	\$ 0	\$ 0	\$ 0	\$ 3,180,971
	Average Sal.	\$ 158,024	\$ 158,599	\$ 166,832	\$ 0	\$ 0	\$ 0	\$ 159,049
50-54	Number	6	5	4	1	0	0	16
	Total Salary	\$ 954,005	\$ 788,661	\$ 632,662	\$ 155,999	\$ 0	\$ 0	\$ 2,531,327
	Average Sal.	\$ 159,001	\$ 157,732	\$ 158,166	\$ 155,999	\$ 0	\$ 0	\$ 158,208
55-59	Number	6	11	5	3	0	0	25
	Total Salary	\$ 953,327	\$ 1,759,320	\$ 792,995	\$ 480,997	\$ 0	\$ 0	\$ 3,986,639
	Average Sal.	\$ 158,888	\$ 159,938	\$ 158,599	\$ 160,332	\$ 0	\$ 0	\$ 159,466
60-64	Number	3	7	10	11	8	0	39
	Total Salary	\$ 485,330	\$ 1,104,992	\$ 1,594,656	\$ 1,737,654	\$ 1,195,641	\$ 0	\$ 6,118,273
	Average Sal.	\$ 161,777	\$ 157,856	\$ 159,466	\$ 157,969	\$ 149,455	\$ 0	\$ 156,879
65-69	Number	0	2	4	4	12	0	22
	Total Salary	\$ 0	\$ 324,998	\$ 632,662	\$ 636,996	\$ 1,818,752	\$ 0	\$ 3,413,408
	Average Sal.	\$ 0	\$ 162,499	\$ 158,166	\$ 159,249	\$ 151,563	\$ 0	\$ 155,155
70 & Up	Number	0	0	1	4	7	0	12
	Total Salary	\$ 0	\$ 0	\$ 173,332	\$ 641,329	\$ 943,958	\$ 0	\$ 1,758,619
	Average Sal.	\$ 0	\$ 0	\$ 173,332	\$ 160,332	\$ 134,851	\$ 0	\$ 146,552
Total	Number	38	33	26	23	27	0	147
	Total Salary	\$ 6,047,655	\$ 5,247,629	\$ 4,159,971	\$ 3,652,975	\$ 3,958,351	\$ 0	\$ 23,066,581
	Average Sal.	\$ 159,149	\$ 159,019	\$ 159,999	\$ 158,825	\$ 146,606	\$ 0	\$ 156,916



APPENDIX A – MEMBERSHIP DATA

**INACTIVE VESTED MEMBERS
AS OF JULY 1, 2018**

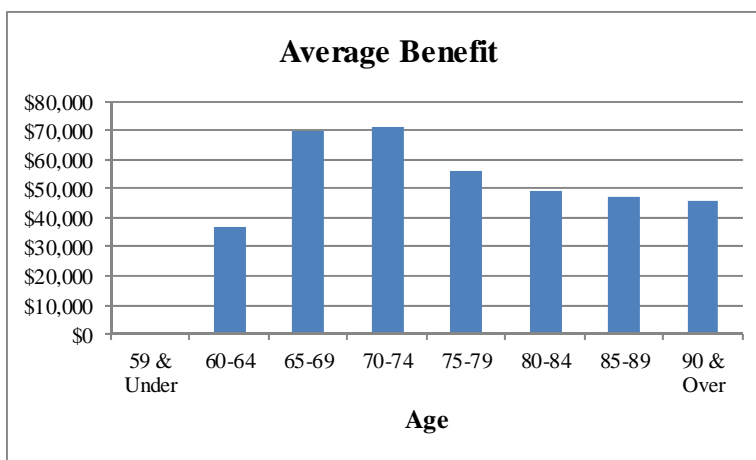
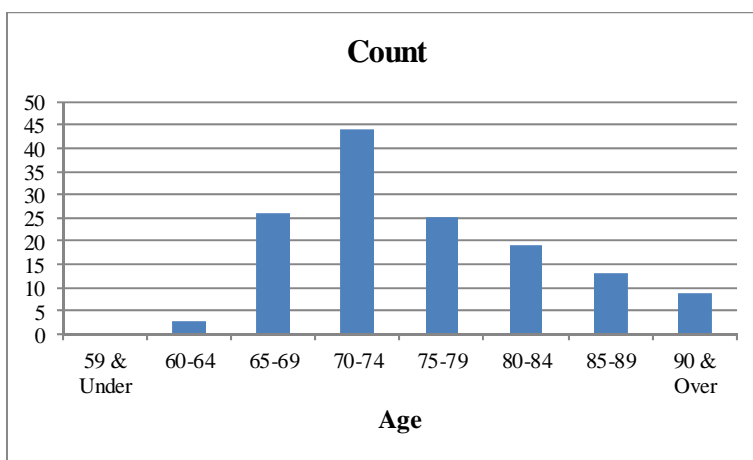
<u>Age</u>	<u>Count</u>			<u>Annual Benefits</u>		
	<u>Male</u>	<u>Female</u>	<u>Total</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
59 & Under	1	1	2	\$ 16,492	\$ 51,052	\$ 67,544
60-64	2	0	2	139,103	0	139,103
65-69	0	0	0	0	0	0
70-74	0	0	0	0	0	0
75-79	0	0	0	0	0	0
80-84	0	0	0	0	0	0
85-89	0	0	0	0	0	0
90 & Over	0	0	0	0	0	0
Total	3	1	4	\$ 155,595	\$ 51,052	\$ 206,647



APPENDIX A – MEMBERSHIP DATA

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

<u>Age</u>	<u>Count</u>			<u>Annual Benefits</u>		
	<u>Male</u>	<u>Female</u>	<u>Total</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
59 & Under	0	0	0	\$ 0	\$ 0	\$ 0
60-64	2	1	3	92,833	16,879	109,712
65-69	14	12	26	1,087,337	730,727	1,818,064
70-74	36	8	44	2,747,146	383,349	3,130,495
75-79	15	10	25	1,092,415	314,544	1,406,959
80-84	13	6	19	770,629	162,260	932,889
85-89	9	4	13	530,011	85,727	615,738
90 & Over	7	2	9	378,091	35,883	413,974
Total	96	43	139	\$6,698,462	\$1,729,369	\$8,427,831

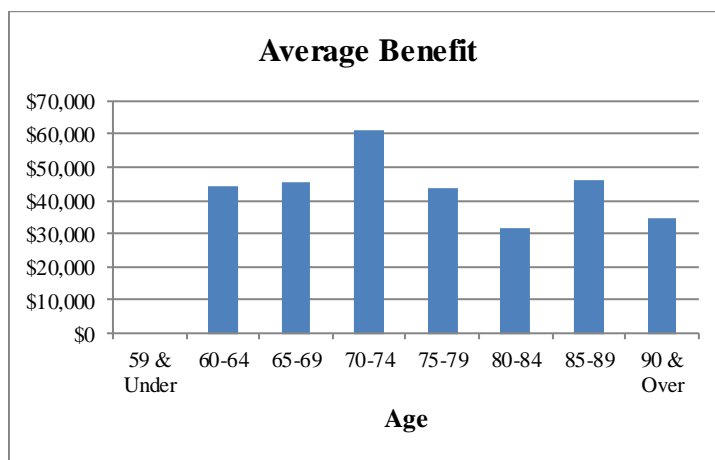
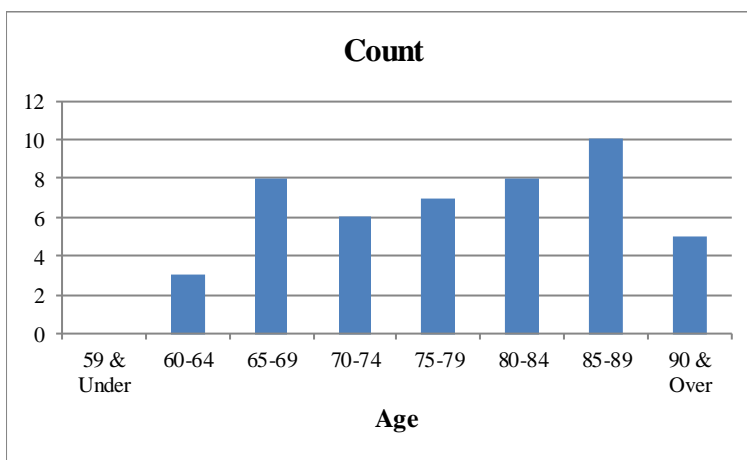




APPENDIX A – MEMBERSHIP DATA

**BENEFICIARIES RECEIVING BENEFITS
AS OF JULY 1, 2018**

Age	Count			Annual Benefits		
	Male	Female	Total	Male	Female	Total
59 & Under	0	0	0	\$ 0	\$ 0	\$ 0
60-64	1	2	3	11,733	121,527	133,260
65-69	1	7	8	62,486	299,863	362,349
70-74	0	6	6	0	367,028	367,028
75-79	0	7	7	0	304,765	304,765
80-84	0	8	8	0	254,257	254,257
85-89	0	10	10	0	461,218	461,218
90 & Over	0	5	5	0	173,441	173,441
Total	2	45	47	\$ 74,219	\$1,982,099	\$2,056,318





APPENDIX A – MEMBERSHIP DATA

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

<u>Age</u>	<u>Count</u>			<u>Annual Benefits</u>		
	<u>Male</u>	<u>Female</u>	<u>Total</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
59 & Under	0	0	0	\$ 0	\$ 0	\$ 0
60-64	0	0	0	0	0	0
65-69	1	0	1	97,639	0	97,639
70-74	1	0	1	94,439	0	94,439
75-79	1	1	2	89,639	8,586	98,225
80-84	0	0	0	0	0	0
85-89	0	0	0	0	0	0
90 & Over	0	0	0	0	0	0
Total	3	1	4	\$ 281,717	\$ 8,586	\$ 290,303



APPENDIX B – SUMMARY OF PLAN PROVISIONS

Member

Original A judge who first serves prior to December 25, 1969, and who does not elect to become a Future member on or before November 1, 1981.

Future A judge who first serves on or after December 25, 1969, or who elects to become a Future member on or before November 1, 1981.

Participation Date Date of becoming a member.

Definitions

Final average earnings For Judges who became members prior to July 1, 2015, the average of the highest three 12-month periods of covered pay, ending on the earlier of the participant's termination date or retirement date.

For Judges who became members on or after July 1, 2015, the average of the highest five 12-month periods of covered pay, ending on the earlier of the participant's termination date or retirement date.

Fiscal year Twelve month period ending June 30.

Member contributions All members hired after July 1, 2004, but before July 1, 2015, and members that elected an enhanced Joint and Survivor Benefit contribute 9% of pensionable pay up to 20 years of service, and 5% of pensionable pay thereafter. All other members contribute 7% of pensionable pay during the first twenty years of service, and 1% of pensionable pay thereafter. Such contributions are credited with interest based on the 1-year Treasury yield curve on July 1 of each year, as determined by State Statutes.

Judges who first became members on or after July 1, 2015 will contribute 10% of compensation.

Monthly pension benefit A monthly benefit equal to one-twelfth of 3.5% of final average salary times total years of service, subject to a maximum of 70% of final average salary. Effective July 1, 2001, an automatic annual cost-of-living adjustment (COLA) equal to the CPI-W index is provided for current and future retirees. Also provided is a minimum floor benefit equal to 75% of the purchasing power of the original benefit. The maximum increase for any one year is 2.5% for Judges who became members prior to July 1, 2015, and 1.0% for Judges who became members on or after July 1, 2015.

Normal Retirement Date (NRD) Attainment of age 65.



APPENDIX B – SUMMARY OF PLAN PROVISIONS

Pension service Length of service includes all service as a Supreme Court, District Court, Worker’s compensation Court, separate Juvenile Court, County Court, Municipal Court, or Appeals Court judge in Nebraska, computed to the nearest one-twelfth year and includes declared emergency service in the armed forces.

Eligibility for Benefits

Deferred vested Termination for reasons other than death, disability, or retirement. No service requirement for vesting.

Disability retirement Retirement by reason of permanent disability as determined by the Commission of Judicial qualifications.

Early retirement Retirement before NRD and after attaining age 55.

Normal retirement Retire on NRD.

Postponed retirement Retire after NRD.

Pre-retirement spouse benefit Death prior to retirement.

Monthly Benefits Paid Upon the Following Events

Normal retirement Monthly pension benefit determined as of NRD.

Early retirement Monthly pension benefit determined as of early retirement date, reduced by 3% if the member retires at age 64, 6% at age 63, or 9% at age 62, and actuarially reduced for each month that commencement of payment precedes age 62. The actuarial reduction is based on the 1994 Group Annuity Mortality Table, 25% female, 75% male and 8% interest for members hired prior to July 1, 2017. For members hired on or after July 1, 2017, the Public Employees Retirement Board sets the actuarial assumptions used for actuarial reduction, with guidance from the System’s actuary.

Postponed retirement Monthly pension benefit determined as of actual retirement date.

Termination with deferred vested benefit Members may elect to receive either (i) a refund of their contributions with regular interest, or (II) a deferred normal retirement benefit payable at age 65 and calculated based upon service and salary at the date of termination.

Disability retirement Monthly pension benefit determined as of disability retirement date.

Pre-retirement spouse benefits **1) With 5 or more years of service:** A life annuity is payable to the surviving spouse in the amount which would have been



APPENDIX B – SUMMARY OF PLAN PROVISIONS

payable had the member retired on the date of death and elected a joint and 100% survivor annuity.

- 2) **With less than 5 years of service:** A lump sum equal to the member's contributions plus regular interest.

Forms of payment

All members hired after July 1, 2004, and members who elected increased contributions are eligible to receive benefits paid in the normal form of an enhanced 50% Joint and Survivor Annuity. All other members receive benefits paid in the normal form of a modified cash refund annuity. Optional forms are: life annuity, life annuity with period certain, contingent annuity and joint annuity. Pre-retirement spouse benefits are payable only as described above.

Funding Arrangement

The Nebraska Retirement Fund for Judges is established in the State Treasury. The fund receives member contributions and pays benefits and expenses. Additional funds are received as follows:

Court Fees

Beginning July 1, 2017, a fee of \$6 (previously \$4 effective July 1, 2015) from each (a) civil cause of action, criminal cause of action, traffic misdemeanor or infraction, and city or village ordinance violation filed in the district courts, the county courts, and the separate juvenile courts, (b) filing in the district court of an order, award, or judgment of the Nebraska Workers' Compensation Court or any judge thereof pursuant to section 48-188, (c) appeal or other proceeding filed in the Court of Appeals, and (d) original action, appeal, or other proceeding filed in the Supreme Court will be re-directed from the General Fund to the Judges' Retirement Fund. In county courts, a sum shall be charged which is equal to 10% of each fee provided by Nebraska statutes sections 33-125 and 33-126.03, rounded to the nearest even dollar.

State

The State makes any additional contributions that are necessary each year to pay the excess of the actuarial contribution (normal cost plus an amortization payment to fund unfunded actuarial accrued liability bases) over member contributions, court fees, and state appropriations.

Benefits Reflected in Valuation

All benefits were valued, including future cost of living increases.

Plan Provision Effective After July 1, 2018

No future changes in plan provisions were recognized in determining the funded status or in determining the State's contribution amount.

Changes since the Prior Year

There have been no benefit provision changes since the prior valuation.



APPENDIX C – SUMMARY OF ACTUARIAL ASSUMPTIONS

A. ACTUARIAL METHODS

- 1. Calculation of Normal cost and Actuarial Accrued Liability:** The 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

Projected pension and preretirement spouse's death benefits were determined for all active members under age 72. Cost factors designed to produce annual costs as a level-percentage of each member's expected compensation in each year from the assumed entry age to the assumed retirement age were applied to the projected benefits to determine the normal cost (the portion of the total cost of the plan allocated to the current year under the method). The normal cost is determined by summing intermediate results for active members under age 72 and determining an average normal cost rate which is then related to the total payroll of active members under age 72. The actuarial assumptions shown in Appendix C were used in determining the projected benefits and cost factors. The actuarial accrued liability for active members (the portion of the total cost of the plan allocated to prior years under the method) was determined as the excess of the actuarial present value of projected benefits over the actuarial present value of future normal costs.

The actuarial accrued liability for retired members and their beneficiaries currently receiving benefits, active members age 72 and over, terminated vested members and disabled members not yet receiving benefits was determined as the actuarial present value of the benefits to be paid. No future normal costs are payable for these members.

The actuarial accrued liability under this method at any point in time is the theoretical amount of the fund that would have been accumulated had annual contributions equal to the normal cost been made in prior years (it does not represent the liability for benefits accrued to the valuation date). The unfunded actuarial accrued liability is the excess of the actuarial accrued liability over the actuarial value of plan assets measured on the valuation date. The initial unfunded actuarial accrued liability established July 1, 2004, is amortized with a level-dollar payment amount over 25 years. Intervening legislation made some periodic adjustments. Effective with the July 1, 2013 valuation, amortization payments were recalculated to amortize the remaining bases as a level-percent of expected payroll, and new bases are amortized over 30 years.

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



APPENDIX C – SUMMARY OF ACTUARIAL ASSUMPTIONS

2. Calculation of the Actuarial Value of Assets: The actuarial value of assets is based on a five-year smoothing method and is determined by spreading the effect of each year's investment return in excess of or below the expected return. The market value of assets as the valuation date is reduced by the sum of the following:

- i. 80% of the return to be spread during the first year preceding the valuation date,
- ii. 60% of the return to be spread during the second year preceding the valuation date,
- iii. 40% of the return to be spread during the third year preceding the valuation date, and
- iv. 20% of the return to be spread during the fourth year preceding the valuation date.

The return to be spread is the difference between (1) the actual investment return on market value of assets and (2) the expected return of actuarial value of assets. Effective July 1, 2000, the expected return on actuarial value of assets includes interest on the previous year's unrecognized return.

The passage of legislation in the 2013 session changed the amortization of the unfunded actuarial accrued liability (UAAL) from a level-dollar payment to a level-percent of payroll payment, where the dollar amount of the payment increases with the assumed payroll growth each year in the future. This change lowered the dollar amount of the UAAL payment in the 2013 valuation, but creates a payment schedule where the dollar amount of UAAL contribution increases 3.50% each year in the future. If actual payroll increases at the assumed rate of 3.50%, the UAAL contribution rate will remain level. If payroll increases are less than the 3.50% assumption, the UAAL contribution rate will increase.

B. VALUATION PROCEDURES

No actuarial liability is included for participants who terminated without being vested prior to the valuation date, except those who are owed a refund of the employee contribution account balance.

The compensation amounts used in the projection of benefits and liabilities for active members were prior plan year compensations.

Projected benefits were limited by the dollar limitation required by the Internal Revenue Code Section 415 as it applies to governmental plans and compensation limited by Section 401(a)(17).



APPENDIX C – SUMMARY OF ACTUARIAL ASSUMPTIONS

ACTUARIAL ASSUMPTIONS

Economic Assumptions

1. Investment Return 7.50% per annum, compounded annually, net of all expenses.
2. Inflation 2.75% per annum, compounded annually.
3. Salary Increases Salaries are assumed to increase 3.50% each year.
4. Payroll Growth 3.50% per year
5. Interest on Employee Contributions 3.00% per annum, compounded annually.
6. Increases in Compensation And Benefit Limits 2.75% per annum on the 401(a)(17) compensation limit and 415 benefit limit

Demographic Assumptions

1. Mortality

- a. Healthy lives - Active Members RP-2014 White Collar Table for Employees (100% of male rates for males, 55% of female rates for females), projected generationally with MP-2015.
- b. Healthy lives - Retired Members and Beneficiaries RP-2014 White Collar Table for Employees, set back two years, with further adjustments, projected generationally with NPERS Projection Scale
- c. Disabled Members RP-2014 Disabled Lives Table (static table)
- d. Healthy mortality rates and projection scale are shown below at sample ages:

2014 Base Table Sample Age	Pre-retirement Mortality Mortality Rate	
	Males	Females
20	0.03%	0.01%
30	0.03	0.01
40	0.04	0.02
50	0.12	0.05
60	0.33	0.11



APPENDIX C – SUMMARY OF ACTUARIAL ASSUMPTIONS

2013 Base Table Sample Age	Post-retirement Mortality Mortality Rate	
	Males	Females
50	0.23%	0.17%
60	0.47	0.31
70	1.03	0.82
80	3.65	2.28
90	14.57	12.63

Sample Age	Projection Scale – Post-retirement Mortality					
	Scale (2020)		Scale (2030)		Scale (2040)	
	Males	Females	Males	Females	Males	Females
50	0.0252	0.0144	0.0080	0.0052	0.0050	0.0050
60	0.0083	0.0051	0.0066	0.0059	0.0050	0.0050
70	0.0088	0.0121	0.0061	0.0057	0.0050	0.0050
80	0.0114	0.0104	0.0057	0.0058	0.0050	0.0050
90	0.0109	0.0104	0.0057	0.0057	0.0046	0.0046

e. Disabled mortality rates are shown below at sample ages:

Sample Age	Males	Females
30	0.79%	0.30%
40	1.10	0.55
50	2.04	1.19
60	2.66	1.70
70	4.03	2.82
80	7.66	6.10

2. Retirement

Rates vary by age. Rates are as follows:

Rates by Age	
Age	Rate
55-59	1.5%
60-61	3.0
62-63	7.0
64	15.0
65	20.0
66-71	15.0
72	100.0

3. Termination

None.

4. Disability

None.



APPENDIX C – SUMMARY OF ACTUARIAL ASSUMPTIONS

Other Assumptions

- | | |
|------------------------------|--|
| 1. Form of Payment | Modified Cash Refund Annuity under prior plan benefit provisions. A 50% Joint & Survivor Benefit for members electing this provision, and new members hired on or after July 1, 2004. Deferred vesteds are assumed to take the greater of the present value of an annuity at age 63 or a refund of contributions.

For members hired on or after July 1, 2017, the Public Employee Retirement Board sets the actuarial assumptions used to determine the benefit amounts payable under optional forms of payment, with guidance from the System's actuary. |
| 2. Marital Status | |
| a. Percent married | 100% married |
| b. Spouse's age | Females assumed to be three years younger than males. |
| 3. Administrative Expense | Investment return is assumed to be net of expenses. |
| 4. Cost of Living Adjustment | 2.25% per annum, compounded annually for Tier 1 members, 1.00% per annum for Tier 2 and Tier 3 members. |
| 5. State Contribution | State contributions for the current plan year are assumed to be contributed in a lump sum on the July 1 following the plan year end. These amounts from the prior plan year are treated as a contribution receivable on the plan's financial statements. |

Changes in Assumptions since the Prior Year

There were no changes in the assumptions from the prior year.

TECHNICAL VALUATION PROCEDURES

Data Procedures

Client data caps active service at 20 years. While capping the benefit amount at 20 years of service, we keep a record of actual service beyond 20 years in order to remain consistent with the Entry Age Method.

Salaries for first year members are annualized by using the client's Calculated Salary field. For continuing active members, the Accumulated Salary field is used.

Other Valuation Procedures

Salary increases are assumed to apply to annual amounts.

Decrements 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%. Standard adjustments are made for multiple decrements.



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.”