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***NEBRASKA PUBLIC EMPLOYEES
RETIREMENT SYSTEM***

JUDGES RETIREMENT SYSTEM

**ACTUARIAL VALUATION REPORT
AS OF JULY 1, 2017**

**Fifty-Second Actuarial Report for
System Plan Year Beginning July 1, 2017
and
State Fiscal Year Ending June 30, 2019**





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November 8, 2017

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, 2017 for the purpose of determining the actuarial required contribution for the plan year ending June 30, 2018. It is our understanding that any required State contribution for this plan year will be made on July 1, 2018 (State fiscal year end 2019). The major findings of the valuation are contained in this report, which reflects the benefit and funding provisions in place on July 1, 2017. The 2017 Legislature passed LB 415, which affects only the benefit provisions for members hired on or after July 1, 2017. Since these changes do not affect current members, the adopted changes have no impact on the current valuation. The Judges System is funded, in part, by court fees. Current statutes provide for a scheduled increase in the court fees, effective July 1, 2017. This increase is reflected in the July 1, 2017 valuation results. At the Public Employees Retirement Board (PERB) meeting on October 17, 2016, the results of an experience study covering the four-year period ending June 30, 2015 were presented to the PERB. All of the recommended assumptions were adopted and are first used in this valuation. The net impact of the assumption changes was an increase in both the unfunded actuarial accrued liability and the actuarial contribution rate.

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.

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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.

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 Pension Actuary



SECTION 1 – BOARD SUMMARY

This report presents the results of the July 1, 2017 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, 2018 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 on the valuation date.
- Compare actual and expected experience under the System during the plan year ended June 30, 2017.
- Analyze and report on trends in System contributions, assets and liabilities over the past several years.

There were no changes in the benefit provisions from the last valuation. The Judges System is funded, in part, by court fees. Current statutes provide for a scheduled increase in the court fees, effective July 1, 2017. This increase in court fees is reflected in the July 1, 2017 valuation results and served to lower the amount of the additional State contribution.

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, 2017 actuarial valuation, the additional State contribution for the plan year ending June 30, 2018 is \$667,613.**

The 2017 Legislature passed LB 415, which affects only the benefit provisions for 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. Since these changes do not affect current members, they have no impact on the current valuation.

The results of an experience study covering the four-year period ending June 30, 2015 were presented to the Public Employee Retirement Board (PERB) on October 17, 2016. All of the recommended assumption changes were adopted and are first reflected in this valuation, including:

- price inflation decreased from 3.25% to 2.75%,
- long-term investment return decreased from 8.00% to 7.50%,
- general wage growth decreased from 4.00% to 3.50%,
- salary increase assumption decreased by 0.50% at each age,
- interest on employee contribution balances decreased from 4.25% to 3.00%,
- cost of living adjustment assumption decreased to 2.25% for Tier 1 members,
- mortality assumptions changed to reflect recent mortality improvements, and
- retirement rates changed to better fit the observed experience.

As a result of the assumption changes, the actuarial accrued liability (AAL) increased by \$12.7 million and the actuarial required contribution rate increased by 4.65% of pay. The changes to the investment return and mortality assumptions had the most significant impact on the valuation results. The impact of these changes on the July 1, 2017 valuation results is summarized in the following table (in millions):



SECTION 1 – BOARD SUMMARY

	Old Assumptions	New Assumptions	Difference
Actuarial Accrued Liability (AAL)	\$174.8	\$187.5	\$12.7
Actuarial Value of Assets (AVA)	<u>175.6</u>	<u>175.6</u>	<u>0.0</u>
Unfunded AAL (UAAL)	\$(0.8)	\$11.9	\$12.7
Funded Ratio	100.45%	93.64%	(16.81%)
Normal Cost Rate	22.30%	24.74%	2.44%
UAAL Amortization Rate	<u>(0.19%)</u>	<u>3.18%</u>	<u>3.37%</u>
Total Actuarial Required Contribution	22.11%	27.92%	5.81%
Member Contribution Rate	<u>(7.82%)</u>	<u>(7.82%)</u>	<u>0.00%</u>
Actuarial Required Contribution Rate	14.29%	20.10%	5.81%

Note: Numbers may not add due to rounding.

The actuarial valuation results provide a “snapshot” view of the System’s financial condition on July 1, 2017. The System’s unfunded actuarial accrued liability (UAAL) increased from \$3.2 million last year to \$11.9 million this year and the funded ratio decreased from 98% to 94%. Absent the impact of the new assumptions adopted by the PERB, the unfunded actuarial accrued liability would have been eliminated due to favorable experience and the funded ratio would have exceeded 100%.

The valuation results reflect net favorable experience for the past plan year as demonstrated by an UAAL that was lower than expected, taking into account the impact of the new set of assumptions. The UAAL on July 1, 2017 is \$11.9 million compared to an expected UAAL of \$15.5 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 2017 was 13.8%, 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. Note that the assumed rate of return for the year ended June 30, 2017 is the investment return assumption from the 2016 valuation (8.0%). The 7.5% assumption applies prospectively from July 1, 2017. The partial recognition of FY 2017 experience, coupled with the scheduled recognition of the deferred experience from recent years, resulted in a rate of return on the actuarial (smoothed) value of assets of 9.2%. This generated an experience gain of \$1.9 million on the actuarial value of assets. There was also an actuarial gain of \$1.7 million on System liabilities, largely as the result of a smaller cost of living adjustment (COLA) than expected being granted this year to members currently receiving benefits (1.50% actual versus 2.50% expected).

The actuarial required contribution rate increased from 23.11% of pay last year to 27.92% of pay in this year’s valuation, an increase of 4.81% 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 2018 were estimated based on the actual court fees of \$3.6 million for FY 2017 plus an expected increase of \$0.5 million from the scheduled increase, effective July 1, 2017, to arrive at expected court fees for FY 2018 of \$4.1 million. The court fees, combined with member contributions, are still insufficient to meet the employer actuarial required contribution for the plan year ending June 30, 2018. Therefore, an additional contribution of \$667,613 by the State is required.



SECTION 1 – BOARD SUMMARY

A summary of the key results from the July 1, 2017 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, 2017	July 1, 2016
Unfunded Actuarial Accrued Liability	\$11,925,125	\$3,203,387
Funded Ratio (Actuarial Assets)	93.64%	98.09%
Normal Cost Rate	24.74%	22.04%
UAAL Amortization Rate	3.18%	1.07%
Total Actuarial Required Contribution	27.92%	23.11%
Member Contribution Rate	(7.82%)	(7.57%)
Additional Required Contribution Rate	20.10%	15.54%
Additional Required Contribution	\$4,746,464	\$3,577,379
Estimated Court Fees	\$4,078,851	\$3,458,665
Additional Required State Contribution	\$667,613	\$118,714

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, 2016 and July 1, 2017. The components are examined in the following discussion.

ASSETS

As of June 30, 2017, the System had net assets of \$176.6 million, when measured on a market value basis. This was an increase of \$17.4 million from the prior year.

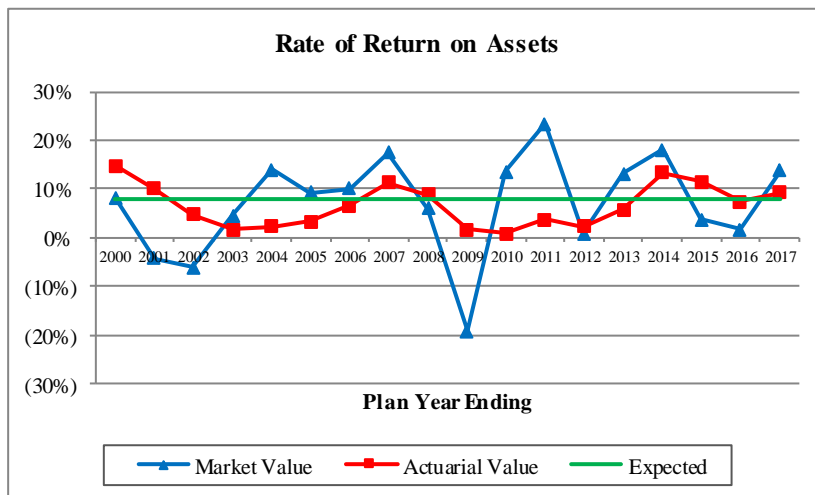
The market value of assets is not used directly in the calculation of the unfunded actuarial accrued liability and the actuarial required contribution rate. An asset valuation method, which smoothes the effect of market fluctuations, is applied to determine the value of assets used in the valuation. The resulting amount is called the actuarial value of assets. In this year’s valuation, the actuarial value of assets is \$175.6 million, an increase of \$10.7 million from the prior year. The components of change in the asset values are shown in the following table:



SECTION 1 – BOARD SUMMARY

	Market Value (\$M)		Actuarial Value (\$M)	
Net Assets, June 30, 2016	\$	159.24	\$	164.90
- Employer and Member Contributions	+	5.44	+	5.44
- Benefit Payments	-	9.69	-	9.69
- Net Investment Income	+	21.62	+	14.93
Net Assets, June 30, 2017	\$	176.61	\$	175.58
Estimated Rate of Return		13.8%		9.2%

The rate of return on the actuarial value of assets was 9.2%, which was higher than the 8.0% investment return assumption applicable for the year ended June 30, 2017 (set in the July 2016 valuation). As a result, there was an experience gain on assets of \$1.9 million. The investment return on the market value of assets for FY 2017 of 13.8% resulted in a change in the deferred investment experience from a net deferred investment loss of \$5.7 million in last year’s valuation to a net deferred investment gain of \$1.0 million in the current valuation. 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 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 is shown as of July 1, 2017 in the following table:



SECTION 1 – BOARD SUMMARY

	Actuarial Value of Assets	Market Value of Assets
Actuarial Accrued Liability	\$187,502,212	\$187,502,212
Value of Assets	<u>175,577,087</u>	<u>176,605,831</u>
Unfunded Actuarial Accrued Liability	\$11,925,125	\$10,896,381
Funded Ratio	93.64%	94.19%

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

The net change in the UAAL from July 1, 2016 to July 1, 2017 was an increase of \$8.7 million. As the following table illustrates, the change in assumptions was the reason for the increase in the UAAL. The various components of the net change are shown in the following table (in millions):

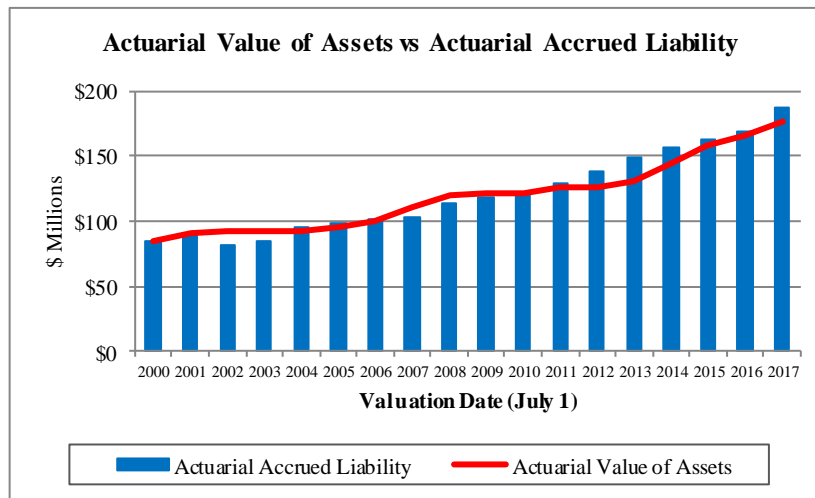
	(\$ Millions)
Unfunded Actuarial Accrued Liability, July 1, 2016	\$3.20
- Expected decrease from amortization method	0.00
- Investment experience	(1.87)
- Liability experience	(1.71)
- Assumption changes	12.71
- Other experience	(0.40)
Unfunded Actuarial Accrued Liability, July 1, 2017	\$11.93

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 a net actuarial gain of \$3.6 million. The net actuarial gain may be explained by considering the separate experience of assets and liabilities. As noted earlier, there was a \$1.87 million gain on the actuarial value of assets. Favorable experience on System liabilities, mainly due to a smaller cost of living adjustment than expected being granted for members currently receiving benefits, resulted in a \$1.71 million gain. The biggest impact on the UAAL was the change in the actuarial assumptions which increased the UAAL nearly \$13 million. A breakdown of the 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 shows, 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 several years of strong investment returns in recent years have improved 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).

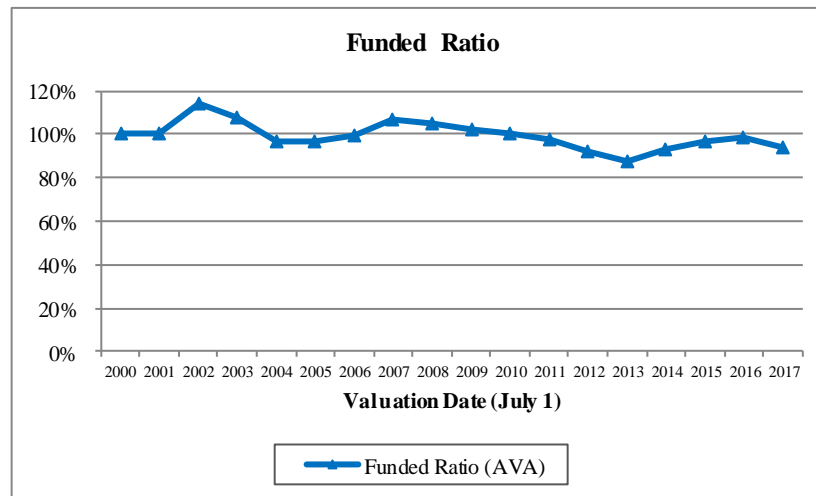
	7/1/2013	7/1/2014	7/1/2015	7/1/2016	7/1/2017
Funded Ratio	87.70%	92.58%	97.08%	98.09%	93.64%
UAAL/(Surplus)	\$18.27	\$11.60	\$4.73	\$3.20	\$11.93

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 recent 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, should help mitigate the need for supplemental State contributions.



SECTION 1 – BOARD SUMMARY



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 contributions for the plan year are 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.

The UAAL contribution rate is determined by calculating the amortization payment as a level percentage of payroll. 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.

Total expected funding from court fees for FY 2018 is \$4,078,851 (based on the actual court fees for FY 2017 plus an expected increase of \$0.5 million from the fee increase that is effective July 1, 2017). This amount, when combined with expected member contributions, is not sufficient to meet the actuarial required contribution for the plan year ending June 30, 2018. Therefore, an additional contribution of \$667,613 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:



SECTION 1 – BOARD SUMMARY

Contribution Rates	July 1, 2017	July 1, 2016
1. Normal Cost Rate	24.74%	22.04%
2. UAAL Contribution Rate	3.18%	1.07%
3. Total Actuarial Required Contribution Rate	27.92%	23.11%
4. Member Contribution Rate	(7.82%)	(7.57%)
5. Employer Required Contribution Rate [3 + 4]	20.10%	15.54%
6. Estimated Payroll	\$ 23,614,251	\$ 23,020,459
7. Employer Required Contribution [5 * 6]	4,746,464	3,577,379
8. Estimated Court Fees	4,078,851	3,458,665
9. Additional Required State Contribution [7 - 8, but not less than \$0]	\$ 667,613	\$ 118,714

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.

Plan Year	Total Required Contributions	Court Fees and State Appropriation	Additional State Contribution
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.



SECTION 1 – BOARD SUMMARY

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, 2017, will change each year as the deferred investment experience is recognized and other experience (both investment and demographic) impacts the System. Therefore, it is expected to change each year.

The major source of funding for the Judges Retirement System, other than member contributions, is court fees. As the following table illustrates, the amount of court fees had been declining prior to the passage of legislation by the 2015 Nebraska Legislature.

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

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

	<u>7/1/2017 Valuation</u>	<u>7/1/2016 Valuation</u>	<u>% Change</u>
1. PARTICIPANT DATA			
Number of:			
Active Members			
- Hired before July 1, 2015	132	142	(7.04%)
- Hired on or after July 1, 2015	15	7	114.29%
Total	<u>147</u>	<u>149</u>	(1.34%)
Retired Members and Beneficiaries	182	179	1.68%
Disabled Members	4	5	(20.00%)
Inactive Vested Members	4	2	100.00%
Total Members	<u>337</u>	<u>335</u>	0.60%
Projected Annual Salaries of Active Members	\$ 23,614,251	\$ 23,020,459	2.58%
Annual Retirement Payments for Retired Members, Disabled Members and Beneficiaries	\$ 9,893,854	\$ 9,502,065	4.12%
2. ASSETS AND LIABILITIES			
a. Market Value of Assets	\$ 176,605,831	\$ 159,240,849	10.90%
b. Actuarial Value of Assets	175,577,087	164,900,363	6.47%
c. Total Actuarial Accrued Liability	187,502,212	168,103,750	11.54%
d. Unfunded Actuarial Accrued Liability [c - b]	\$ 11,925,125	\$ 3,203,387	272.27%
e. Funded Ratio (Actuarial Value of Assets) [b / c]	93.64%	98.09%	(4.54%)
f. Funded Ratio (Market Value of Assets) [a / c]	94.19%	94.73%	(0.57%)
3. EMPLOYER CONTRIBUTION RATES AS A PERCENT OF PAYROLL			
Normal Cost	24.74%	22.04%	12.25%
Amortization of Unfunded Actuarial Accrued Liability	<u>3.18%</u>	<u>1.07%</u>	197.20%
Actuarial Required Contribution Rate	27.92%	23.11%	20.81%
Member Contribution Rate	<u>(7.82%)</u>	<u>(7.57%)</u>	3.30%
Employer Required Contribution Rate	20.10%	15.54%	29.34%
Employer Required Contribution Amount	\$ 4,746,464	\$ 3,577,379	32.68%
Expected Court Fees	<u>4,078,851</u>	<u>3,458,665</u>	17.93%
Additional Required State Contribution Amount	\$ 667,613	\$ 118,714	462.37%



SECTION 2 – SCOPE OF THE REPORT

This report presents the actuarial valuation results of the Judges Retirement System as of July 1, 2017. 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 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 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, 2017.
- 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, 2017. 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 is a comparison, at market values, of System assets as of July 1, 2017, and July 1, 2016, in total and by investment category. Table 2 summarizes the change in the market value of assets from July 1, 2016 to July 1, 2017.

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, 2017</u>	<u>June 30, 2016</u>
1. Cash and Equivalents	\$ 160,766	\$ 113,640
2. Investments	180,393,832	162,800,062
3. Capital Assets	80	38
4. Receivables and Prepaids	13,631,797	9,763,931
5. Accounts Payable	<u>(17,580,644)</u>	<u>(13,436,822)</u>
6. Net Assets Available for Pension Benefits	\$ 176,605,831	\$ 159,240,849



TABLE 2
JUDGES RETIREMENT SYSTEM
CHANGE IN MARKET VALUE OF ASSETS

	2017	2016
1. Market Value of Assets, Beginning of Year	\$ 159,240,849	\$ 160,800,009
2. Contributions		
(a) Member	\$ 1,743,103	\$ 1,651,432
(b) Court fees	3,578,851	3,458,665
(c) State appropriations	118,714	0
(d) Total	\$ 5,440,668	\$ 5,110,097
3. Expenditures		
(a) Benefit payments	\$ 9,690,310	\$ 9,052,110
(b) Administrative expenses	84,626	70,707
(c) Total	\$ 9,774,936	\$ 9,122,817
4. Investment Return, Net of Expenses		
(a) Investment income	\$ 2,194,596	\$ 2,098,225
(b) Securities lending income	45,891	35,848
(c) Securities lending expense	(20,864)	(12,158)
(d) Net appreciation/(depreciation) in fair value of investments	19,479,627	331,645
(e) Other	0	0
(f) Total investment return	\$ 21,699,250	\$ 2,453,560
5. Market Value of Assets, End of Year [1 + 2(d) - 3(c) + 4(f)]	\$ 176,605,831	\$ 159,240,849
6. Rate of Return, Net of Expenses*	13.8%	1.6%

* As reported by the Nebraska Investment Council



TABLE 3
JUDGES RETIREMENT SYSTEM
DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS

	Year End			
	6/30/2014	6/30/2015	6/30/2016	6/30/2017
1. Actuarial Value of Assets, Beginning of Year	\$ 130,308,955	\$ 144,729,946	\$ 157,369,088	\$ 164,900,363
2. Unrecognized Return Beginning of Year	\$ 6,713,024	\$ 14,060,165	\$ 3,430,921	\$ (5,659,514)
3. Contributions During Year				
(a) Member	\$ 1,518,801	\$ 1,610,529	\$ 1,651,432	\$ 1,743,103
(b) Court fees	3,102,864	2,977,205	3,458,665	3,578,851
(c) State appropriations	803,383	94,000	0	118,714
(d) Total	<u>\$ 5,425,048</u>	<u>\$ 4,681,734</u>	<u>\$ 5,110,097</u>	<u>\$ 5,440,668</u>
4. Benefit Payments	\$ 8,121,996	\$ 8,547,892	\$ 9,052,110	\$ 9,690,310
5. Expected Investment Income on (1), (2), (3) and (4)*	\$ 10,882,979	\$ 12,579,978	\$ 12,739,472	\$ 12,604,794
6. Actual Return on Market Value , Net of All Expenses	\$ 24,465,080	\$ 5,876,056	\$ 2,382,853	\$ 21,614,624
7. Return to be Spread, End of Year [6 - 5]	\$ 13,582,101	\$ (6,703,922)	\$ (10,356,619)	\$ 9,009,830

*Based on the investment return assumption applicable at the beginning of the year. The assumption was 8.0% for all years shown.



**TABLE 3
(continued)**

JUDGES RETIREMENT SYSTEM

DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS

8. Return to be Spread

<u>Plan Year</u> <u>Ending</u>	<u>Return to be</u> <u>Spread</u>	<u>Unrecognized</u> <u>Percent</u>	<u>Unrecognized</u> <u>Return</u>
2017	\$9,009,830	80%	\$7,207,864
2016	(10,356,619)	60%	(6,213,971)
2015	(6,703,922)	40%	(2,681,569)
2014	13,582,101	20%	2,716,420
			<hr/> \$1,028,744

9. Total Market Value of Assets as of July 1, 2017 \$176,605,831

10. Total Actuarial Value of Assets as of July 1, 2017 \$175,577,087
[9 - 8]

11. Asset Ratios

(a) Actuarial Value to Market Value [10 / 9]	99.42%
(b) Market Value to Actuarial Value [9 / 10]	100.59%



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, 2017. 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, 2017.

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, 2017

1. Active Employees		
(a) Retirement	\$	118,642,041
(b) Death		2,927,199
(c) Total	\$	<u>121,569,240</u>
2. Inactive Vested Members		2,297,476
3. Inactive Nonvested Members		0
4. Disabled Members		2,336,657
5. Retirees		84,503,161
6. Beneficiaries		<u>15,981,956</u>
7. Total Present Value of Future Benefits [1(c) + 2 + 3 + 4 + 5 + 6]	\$	226,688,490



TABLE 5
JUDGES RETIREMENT SYSTEM
ACTUARIAL ACCRUED LIABILITY
AS OF JULY 1, 2017

1. Present Value of Future Benefits for Active Members	\$	121,569,240
2. Present Value of Future Normal Costs for Active Members		
(a) Retirement	\$	37,823,265
(b) Death		1,363,013
(c) Total	\$	<u>39,186,278</u>
3. Actuarial Accrued Liability for Active Members [1 - 2(c)]	\$	82,382,962
4. Actuarial Accrued Liability for Inactive Members	\$	105,119,250
5. Total Actuarial Accrued Liability [3 + 4]	\$	187,502,212
6. Actuarial Value of Assets	\$	175,577,087
7. Unfunded Actuarial Accrued Liability [5 - 6]	\$	11,925,125



TABLE 6
JUDGES RETIREMENT SYSTEM
ACTUARIAL BALANCE SHEET
AS OF JULY 1, 2017

ASSETS

Actuarial Value of Assets	\$	175,577,087
Unfunded Actuarial Accrued Liability		11,925,125
Present Value of Future Normal Costs		<u>39,186,278</u>
Total Assets	\$	226,688,490

LIABILITIES

Present Value of Future Benefits			
Active members			
Retirement	\$	118,642,041	
Death		<u>2,927,199</u>	
Total			121,569,240
Inactive members			2,297,476
Retirees, disabilities and beneficiaries			<u>102,821,774</u>
Total	\$		226,688,490



TABLE 7
JUDGES RETIREMENT SYSTEM
ACTUARIAL GAIN/(LOSS)

Liabilities

1. Actuarial Accrued Liability as of July 1, 2016	\$ 168,103,750
2. Normal Cost for Plan Year Ending June 30, 2017	4,627,457
3. Benefit Payments During Plan Year Ending June 30, 2017	(9,690,310)
4. Interest at 8.0% (assumed rate on July 1, 2016)	13,470,582
5. Assumption Changes	<u>12,705,465</u>
6. Expected Actuarial Accrued Liability as of July 1, 2017	\$ 189,216,944
7. Actuarial Accrued Liability as of July 1, 2017	\$ 187,502,212

Assets

8. Actuarial Value of Assets as of July 1, 2016	\$ 164,900,363
9. Contributions During Plan Year Ending June 30, 2017	5,440,668
10. Benefit Payments During Plan Year Ending June 30, 2017	(9,690,310)
11. Interest at 8.0% (assumed rate on July 1, 2016)	<u>13,057,555</u>
12. Expected Actuarial Value of Assets as of July 1, 2017	\$ 173,708,276
13. Actuarial Value of Assets as of July 1, 2017	\$ 175,577,087

Gain / (Loss)

14. Actuarial Gain / (Loss) on Liabilities [6 - 7]	\$ 1,714,732
15. Actuarial Gain / (Loss) on Assets [13 - 12]	1,868,811
16. Total Actuarial Gain / (Loss) for Plan Year Ending June 30, 2017 [14 + 15]	\$ 3,583,543



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

Liability Sources	Gain/(Loss)
Retirement	\$ 164,830
Termination	154,780
Disability	0
Mortality	329,042
Salary	267,937
New Entrants/Rehires	(166,052)
COLA	884,778
Miscellaneous	79,417
Total Liability Gain/(Loss)	\$ 1,714,732
Asset Gain/(Loss)	\$ 1,868,811
Net Actuarial Gain/(Loss)	\$ 3,583,543

Note: The expected experience is based on the assumptions used in the July 1, 2016 actuarial valuation. New assumptions apply prospectively from July 1, 2017.



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>
2018	\$ 1,064,000	\$ 9,834,000	\$ 10,898,000
2019	1,950,000	9,797,000	11,747,000
2020	3,100,000	9,824,000	12,924,000
2021	3,928,000	9,771,000	13,699,000
2022	4,818,000	9,694,000	14,512,000
2023	5,702,000	9,619,000	15,321,000
2024	6,429,000	9,535,000	15,964,000
2025	7,359,000	9,437,000	16,796,000
2026	8,268,000	9,315,000	17,583,000
2027	9,027,000	9,169,000	18,196,000
2028	10,024,000	9,019,000	19,043,000
2029	10,764,000	8,851,000	19,615,000
2030	11,475,000	8,661,000	20,136,000
2031	12,132,000	8,446,000	20,578,000
2032	12,862,000	8,274,000	21,136,000
2033	13,469,000	8,011,000	21,480,000
2034	14,125,000	7,721,000	21,846,000
2035	14,937,000	7,402,000	22,339,000
2036	15,690,000	7,055,000	22,745,000
2037	16,199,000	6,677,000	22,876,000
2038	16,732,000	6,274,000	23,006,000
2039	17,230,000	5,846,000	23,076,000
2040	17,508,000	5,399,000	22,907,000
2041	17,865,000	4,938,000	22,803,000
2042	18,106,000	4,470,000	22,576,000
2043	18,323,000	4,003,000	22,326,000
2044	18,260,000	3,543,000	21,803,000
2045	18,028,000	3,100,000	21,128,000
2046	17,767,000	2,680,000	20,447,000
2047	17,477,000	2,290,000	19,767,000

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, 2017 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, 2018. Any State contributions are expected to be deposited on July 1, 2018 (State fiscal year 2019). 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, 2017, 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

Table with 6 columns: Amortization Bases, Original Amount, July 1, 2017 Remaining Payments, Date of Last Payment, Outstanding Balance as of July 1, 2017, Annual Contribution*. Rows include 2011 UAAL Base, 2012 Experience Base, 2012 Assumption Change Base, 2013 Experience Base, 2014 Experience Base, 2015 Experience Base, 2016 Experience Base, 2017 Experience Base, 2017 Assumption Change Base, and Total.

* Contribution amount reflects mid-year timing.

- 1. Total UAAL Amortization Payments \$ 750,024
2. Projected Payroll for FY 2018 \$ 23,614,251
3. UAAL Amortization Payment Rate 3.18%

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, 2018

1. Normal Cost	
(a) Amount	\$ 5,199,238
(b) Expected pay for current actives	21,017,769
(c) Normal Cost Rate as % of pay	24.74%
2. UAAL Amortization Rate (see Table 10)	3.18%
3. Total Actuarial Required Contribution Rate [1(c) + 2]	27.92%
4. Statutory Member Contribution Rate	7.82%
5. Employer Required Contribution Rate [3 - 4]	20.10%
6. Actuarial Required Employer Contribution	
(a) Projected pay for FY 2018	\$ 23,614,251
(b) Total required contribution [5 * 6(a)]	4,746,464
(c) Expected court fees	4,078,851
(d) Additional required State contribution amount as of July 1, 2018 [6(b) - 6(c), not less than 0]	\$ 667,613



SECTION 6 – OTHER INFORMATION

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 – 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, 2017.

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



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%

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, 2016	149	2	0	179	5	335
Changes in status						
a) Retirement	(7)	(1)	0	8	0	0
b) Death	0	0	0	(11)	(1)	(12)
c) Nonvested terminations	0	0	0	0	0	0
d) Vested terminations	(3)	3	0	0	0	0
e) Contribution refund	0	0	0	0	0	0
f) Beneficiaries in receipt	0	0	0	6	0	6
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	(10)	2	0	3	(1)	(6)
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	(2)	2	0	3	(1)	2
As of July 1, 2017	147	4	0	182	4	337



APPENDIX A – MEMBERSHIP DATA

SUMMARY OF MEMBERSHIP DATA

A. ACTIVE MEMBERS	July 1, 2017	July 1, 2016	% Change
1. Number of Active Members			
(a) Before assumed retirement age	144	145	(0.7%)
(b) Beyond assumed retirement age	3	4	(25.0%)
(c) Total*	<u>147</u>	<u>149</u>	(1.3%)
2. Annual Reported Salary			
(a) Before assumed retirement age	\$ 22,429,250	\$ 21,594,805	3.9%
(b) Beyond assumed retirement age	386,452	540,252	(28.5%)
(c) Total	<u>\$ 22,815,702</u>	<u>\$ 22,135,057</u>	3.1%
3. Accumulated Contributions	\$ 17,354,154	\$ 17,282,423	0.4%
4. Active Member Averages			
(a) Age	58.7	58.6	0.2%
(b) Service	12.7	13.1	(3.1%)
(c) Compensation	\$ 155,209	\$ 148,557	4.5%
B. INACTIVE MEMBERS			
1. Number of Inactive Members	4	2	100.0%
2. Accumulated Member Contributions	\$ 545,436	\$ 216,515	151.9%
3. Inactive Member Averages			
(a) Age	55.7	61.0	(8.7%)
(b) Accumulated member contributions	\$ 136,359	\$ 108,258	26.0%
C. RETIREES, DISABLEDS, AND BENEFICIARIES			
1. Number of Members			
(a) Retired	137	138	(0.7%)
(b) Disabled	4	5	(20.0%)
(c) Beneficiaries	45	41	9.8%
(d) Total	<u>186</u>	<u>184</u>	1.1%
2. Annual Benefits			
(a) Retired	\$ 7,813,365	\$ 7,462,907	4.7%
(b) Disabled	283,182	348,943	(18.8%)
(c) Beneficiaries	1,797,307	1,690,215	6.3%
(d) Total	<u>\$ 9,893,854</u>	<u>\$ 9,502,065</u>	4.1%

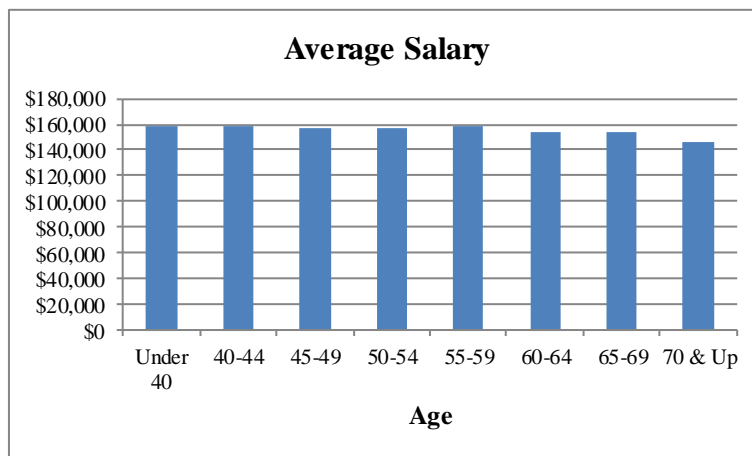
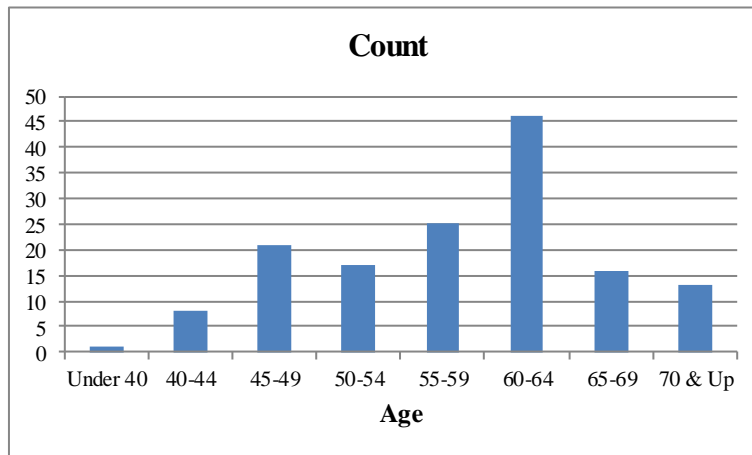
* As of July 1, 2017, there are 15 members in Tier 2, 102 members who were hired after July 1, 2004 or who elected the enhanced joint and survivor benefit option, and 30 members who were hired before July 1, 2004 and did not elect the enhanced joint and survivor benefit option.



APPENDIX A – MEMBERSHIP DATA

**ACTIVE MEMBERS
AS OF JULY 1, 2017**

Age	Count			Reported FY 2017 Earnings		
	Male	Female	Total	Male	Female	Total
Under 40	0	1	1	\$ 0	\$ 159,077	159,077
40-44	5	3	8	800,241	464,332	1,264,573
45-49	11	10	21	1,731,539	1,578,739	3,310,278
50-54	14	3	17	2,184,080	477,230	2,661,310
55-59	16	9	25	2,532,329	1,427,391	3,959,720
60-64	36	10	46	5,694,329	1,408,327	7,102,656
65-69	12	4	16	1,908,920	558,427	2,467,347
70 & Up	12	1	13	1,822,442	68,299	1,890,741
Total	106	41	147	\$ 16,673,880	\$ 6,141,822	\$ 22,815,702





APPENDIX A – MEMBERSHIP DATA

**AGE AND SERVICE DISTRIBUTION
AS OF JULY 1, 2017**

Age		0-4	5-9	10-14	15-19	20-24	Over 24	Total
Under 40	Number	1	0	0	0	0	0	1
	Total Salary	\$ 159,077	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 159,077
	Average Sal.	\$ 159,077	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 159,077
40-44	Number	5	3	0	0	0	0	8
	Total Salary	\$ 791,642	\$ 472,931	\$ 0	\$ 0	\$ 0	\$ 0	\$ 1,264,573
	Average Sal.	\$ 158,329	\$ 157,644	\$ 0	\$ 0	\$ 0	\$ 0	\$ 158,072
45-49	Number	15	5	1	0	0	0	21
	Total Salary	\$ 2,348,326	\$ 802,875	\$ 159,077	\$ 0	\$ 0	\$ 0	\$ 3,310,278
	Average Sal.	\$ 156,555	\$ 160,575	\$ 159,077	\$ 0	\$ 0	\$ 0	\$ 157,632
50-54	Number	8	3	4	2	0	0	17
	Total Salary	\$ 1,255,416	\$ 468,631	\$ 627,708	\$ 309,555	\$ 0	\$ 0	\$ 2,661,310
	Average Sal.	\$ 156,927	\$ 156,210	\$ 156,927	\$ 154,777	\$ 0	\$ 0	\$ 156,548
55-59	Number	5	9	5	5	1	0	25
	Total Salary	\$ 786,785	\$ 1,431,690	\$ 799,683	\$ 786,785	\$ 154,777	\$ 0	\$ 3,959,720
	Average Sal.	\$ 157,357	\$ 159,077	\$ 159,937	\$ 157,357	\$ 154,777	\$ 0	\$ 158,389
60-64	Number	4	8	13	8	13	0	46
	Total Salary	\$ 640,606	\$ 1,264,015	\$ 2,048,464	\$ 1,259,715	\$ 1,889,856	\$ 0	\$ 7,102,656
	Average Sal.	\$ 160,152	\$ 158,002	\$ 157,574	\$ 157,464	\$ 145,374	\$ 0	\$ 154,406
65-69	Number	0	1	2	4	9	0	16
	Total Salary	\$ 0	\$ 159,077	\$ 331,051	\$ 632,007	\$ 1,345,212	\$ 0	\$ 2,467,347
	Average Sal.	\$ 0	\$ 159,077	\$ 165,526	\$ 158,002	\$ 149,468	\$ 0	\$ 154,209
70 & Up	Number	0	0	1	4	8	0	13
	Total Salary	\$ 0	\$ 0	\$ 159,077	\$ 627,708	\$ 1,103,956	\$ 0	\$ 1,890,741
	Average Sal.	\$ 0	\$ 0	\$ 159,077	\$ 156,927	\$ 137,994	\$ 0	\$ 145,442
Total	Number	38	29	26	23	31	0	147
	Total Salary	\$ 5,981,852	\$ 4,599,219	\$ 4,125,060	\$ 3,615,770	\$ 4,493,801	\$ 0	\$ 22,815,702
	Average Sal.	\$ 157,417	\$ 158,594	\$ 158,656	\$ 157,207	\$ 144,961	\$ 0	\$ 155,209



APPENDIX A – MEMBERSHIP DATA

**INACTIVE VESTED MEMBERS
AS OF JULY 1, 2017**

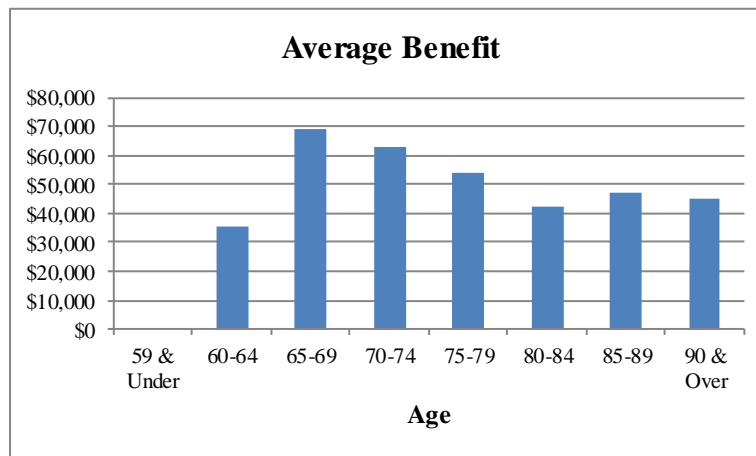
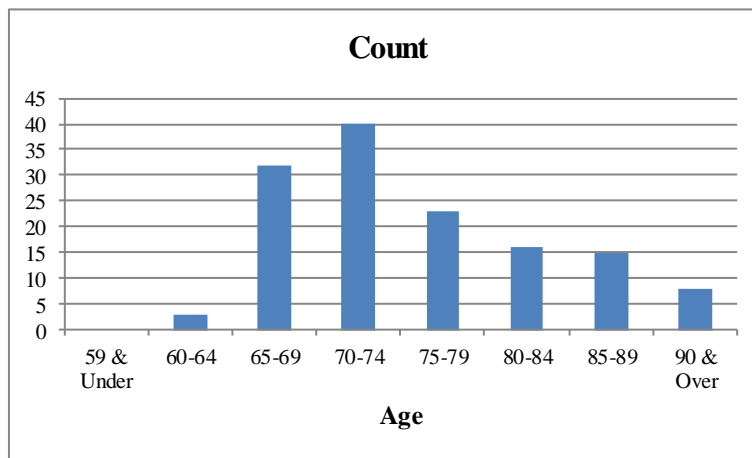
<u>Age</u>	<u>Count</u>			<u>Annual Benefits</u>		
	<u>Male</u>	<u>Female</u>	<u>Total</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
59 & Under	1	1	2	\$ 16,493	\$ 51,052	\$ 67,545
60-64	1	1	2	75,886	77,365	153,251
65-69	0	0	0	0	0	0
70-74	0	0	0	0	0	0
75-79	0	0	0	0	0	0
80-84	0	0	0	0	0	0
85-89	0	0	0	0	0	0
90 & Over	0	0	0	0	0	0
Total	2	2	4	\$ 92,379	\$ 128,417	\$ 220,796



APPENDIX A – MEMBERSHIP DATA

**RETIRED MEMBERS
AS OF JULY 1, 2017**

<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	90,568	16,467	107,035
65-69	20	12	32	1,582,536	616,449	2,198,985
70-74	32	8	40	2,185,852	331,465	2,517,317
75-79	14	9	23	980,407	264,258	1,244,665
80-84	10	6	16	564,370	111,136	675,506
85-89	10	5	15	609,642	100,803	710,445
90 & Over	8	0	8	359,412	0	359,412
Total	96	41	137	\$6,372,787	\$1,440,578	\$7,813,365

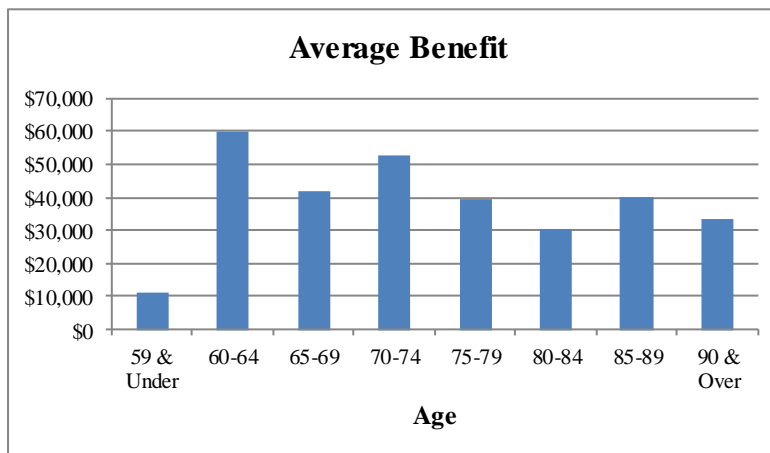
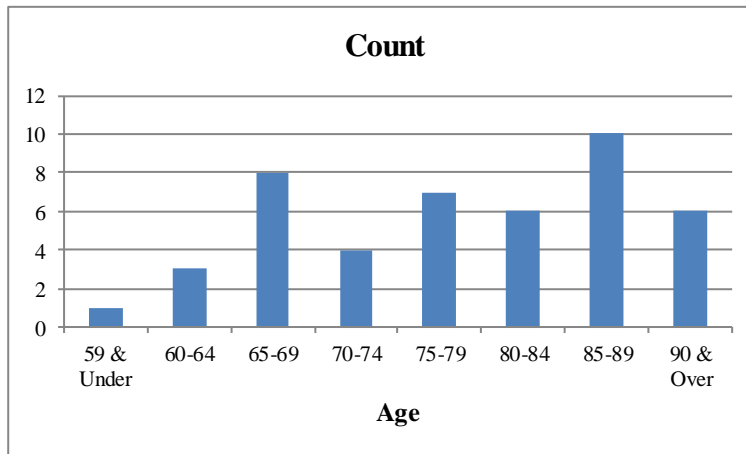




APPENDIX A – MEMBERSHIP DATA

**BENEFICIARIES RECEIVING BENEFITS
AS OF JULY 1, 2017**

<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	0	1	\$ 11,446	\$ 0	\$ 11,446
60-64	1	2	3	60,962	118,563	179,525
65-69	0	8	8	0	334,741	334,741
70-74	0	4	4	0	209,820	209,820
75-79	0	7	7	0	277,402	277,402
80-84	0	6	6	0	182,605	182,605
85-89	0	10	10	0	399,917	399,917
90 & Over	0	6	6	0	201,851	201,851
Total	2	43	45	\$ 72,408	\$1,724,899	\$1,797,307





APPENDIX A – MEMBERSHIP DATA

**DISABLED MEMBERS
AS OF JULY 1, 2017**

<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	95,257	0	95,257
70-74	1	1	2	92,136	8,336	100,472
75-79	1	0	1	87,453	0	87,453
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	\$ 274,846	\$ 8,336	\$ 283,182



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.

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



APPENDIX B – SUMMARY OF PLAN PROVISIONS

- 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 join 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, 2017

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

The 2017 Legislature passed LB 415, which grants the PERB the authority to set the actuarial assumptions used to determine the benefit amounts payable under optional forms of payment for members hired on or after July 1, 2017. Since these changes do not affect any members in the current valuation, the adopted changes have no impact on the valuation results.



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 percentage 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 and (2) the expected return of Actuarial Value. Effective July 1, 2000, the expected return on Actuarial Value 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 due a refund of the employee cash balance account.

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 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.
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 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

The results of an experience study covering the four-year period ending June 30, 2015 were presented to the Public Employee Retirement Board (PERB) on October 17, 2016. All of the recommended assumption changes were adopted and are first reflected in this valuation. The assumption changes include:

- price inflation decreased from 3.25% to 2.75%,
- long-term investment return decreased from 8.00% to 7.50%,
- general wage growth decreased from 4.00% to 3.50%,
- salary increase assumption decreased by 0.50% at each age,
- interest on employee contribution balances decreased from 4.25% to 3.00%,
- cost of living adjustment assumption decreased to 2.25% for Tier 1 members,
- mortality assumptions changed to reflect recent mortality improvements, and
- retirement rates changed to better fit the observed experience.

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.



APPENDIX C – SUMMARY OF ACTUARIAL ASSUMPTIONS

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	<p>The difference between actuarial accrued liability and the valuation assets. Sometimes referred to as “unfunded actuarial liability” or “unfunded accrued liability”.</p> <p>Most retirement systems have unfunded actuarial accrued liability. They arise each time new benefits are added and each time an actuarial loss is realized.</p>