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NEBRASKA PUBLIC EMPLOYEES RETIREMENT SYSTEM

SCHOOL RETIREMENT SYSTEM

ACTUARIAL VALUATION REPORT
as of July 1, 2016

**Sixty-Fourth Actuarial Report for
System Plan Year Beginning July 1, 2016
and
State Fiscal Year Ending June 30, 2018**

Cavanaugh Macdonald
CONSULTING, LLC
The experience and dedication you deserve

November 16, 2016

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 performed an actuarial valuation of the School Retirement System as of July 1, 2016 for the purpose of determining the actuarial required contribution rate for the plan year ending June 30, 2017. It is our understanding that any required additional State contributions for this plan year will be made on July 1, 2017 (State fiscal year end 2018). The major findings of the valuation are contained in this report, which reflects the benefit provisions in place on July 1, 2016. There were no changes to the actuarial assumptions and methods or the plan provisions from the prior valuation. However, the results of an experience study covering the four-year period ending June 30, 2015 were recently presented to the Board. At their meeting on October 17, 2016, all of the recommended assumptions were adopted and will first be used for the July 1, 2017 actuarial valuation, based on the date of adoption selected by the Board.

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 School 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.

The 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 Standard No. 67 will be presented in a completely separate report.

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,

Patrice A. Beckham, FSA, EA, FCA, MAAA   Brent A. Banister Ph.D., FSA, EA, MAAA, FCA
Principal and Consulting Actuary   Chief Pension Actuary

This report presents the results of the July 1, 2016 actuarial valuation of the School Retirement System. The primary purposes of performing this actuarial valuation are to:

- Determine whether the employer, member and State contribution rates defined in the Nebraska state statutes are sufficient to fund the total Formula Annuity for the Nebraska School System, and whether additional State contributions are required along with the State contribution for the Omaha Service Annuity for the plan year ending June 30, 2017;

- Disclose asset and liability measurements as well as the current funded status of the System on the valuation date;

- Compare the actual and expected experience of the System during the plan year ended June 30, 2016; and

- 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 from the last valuation. However, the results of an experience study covering the four-year period ending June 30, 2015 were recently presented to the Board. At their meeting on October 17, 2016, all of the recommended assumptions were adopted and will first be used for the July 1, 2017 actuarial valuation, based on the date of adoption selected by the Board. The assumption changes will significantly increase actuarial liabilities in the 2017 valuation. Based on estimates provided in the experience study report, which were based on the July 1, 2015 actuarial valuation, the unfunded actuarial accrued liability is expected to increase by approximately $900 million and the funded ratio is expected to decline around 5 to 10%. No additional State contributions are expected to be required, if all actuarial assumptions are met in the future.

The Nebraska statutes require the State to make an additional contribution if the regular, payroll-related contributions by members, employers, and the State are insufficient to meet the actuarial required contribution for the plan year. Based on the results of the July 1, 2016 actuarial valuation, no additional State contribution is necessary for this plan year.

The actuarial valuation results provide a "snapshot" view of the System's financial condition on July 1, 2016. The System's unfunded actuarial accrued liability (UAAL) decreased from $1.293 billion last year to $1.161 billion this year and the funded ratio increased from 88% to 90%. In addition, the actuarial required contribution rate decreased from 17.03% of pay last year to 16.59% of pay in this year's valuation, a decrease of 0.44% of pay.

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, 2016 is $1.161 billion as compared to an expected UAAL of $1.208 billion. The favorable experience was due to the net impact of an experience gain on the System liabilities that exceeded the experience loss on the actuarial value of assets. The rate of return on the market value of assets for FY 2016 was 1.6%, as reported by the Nebraska Investment Council. However, the asset smoothing method only recognizes 20% of the shortfall between the 8.0% assumed rate of return and the actual return. The partial recognition of FY 2016 experience, coupled with the recognition of part of the deferred gains from recent years, resulted in a rate of return on the actuarial (smoothed) assets of 7.4%. This generated an experience loss of $61.7 million on the actuarial value of assets. There was an experience gain of $108 million on System liabilities, largely as the result of a

smaller COLA than expected being granted this year to members currently receiving benefits along with lower salary increases than expected (0.64% actual versus 2.50% expected).

LB 553, which was passed by the 2013 Legislature, made changes to the benefit structure for members hired on or after July 1, 2013 (Tier Two), including changing final average salary to the highest 60 months rather than the highest 36 months of service and changing the maximum cost of living adjustment from 2.5% to 1.0%. There were 9,232 members in Tier Two as of July 1, 2016, about 22% of the active membership, compared to 15% in the prior valuation. The small impact of Tier Two members is even more evident when considering that they represent only 17% of total covered payroll. It will be many years before Tier Two has a meaningful impact on the valuation results.

A summary of the key results from the July 1, 2016 actuarial valuation, excluding the Omaha State Service annuity, is shown in the following table. As the table indicates, the statutory contribution rates are sufficient to meet the actuarial required contribution rate and no additional State appropriation is required for the current year. Further detail on the valuation results can be found in the following sections of this Board Summary.

	July 1, 2016 Valuation Results	July 1, 2015 Valuation Results
Unfunded Actuarial Accrued Liability ($M)	$1,161	$1,293
Funded Ratio (Actuarial Assets)	89.64%	88.01%
Normal Cost Rate	12.04%	12.11%
UAAL Amortization Rate	4.55%	4.92%
Total Actuarial Required Contribution	16.59%	17.03%
Member Contribution Rate	(9.78%)	(9.78%)
Employer Contribution Rate	(9.88%)	(9.88%)
State Contribution Rate	(2.00%)	(2.00%)
Total Contribution Rate	(21.66%)	(21.66%)
Shortfall/(Margin)	(5.07%)	(4.63%)
Additional Required State Contribution	$0	$0

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, 2015 and July 1, 2016. The components are examined in the following discussion.

ASSETS

As of June 30, 2016, the System had net assets of $9.699 billion, when measured on a market value basis, an increase of $13 million from the prior year value.

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 used 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 $10.04 billion, an increase of $560 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, 2015	$	9,685.82	$	9,485.59
- Employer and Member Contributions	+	395.14	+	395.14
- Benefit Payments	-	528.50	-	528.50
- Net Investment Income	+	146.12	+	693.70
Net Assets, June 30, 2016	$	9,698.58	$	10,045.93
Rate of Return, Net of Expenses		1.6%		7.4%

The rate of return on the actuarial value of assets was 7.4%, which was lower than the 8.0% investment return assumption. As a result, there was an experience loss on assets of $61.7 million. The investment return on the market value of assets for FY 2016 of 1.6% changed the deferred investment experience from a net deferred gain of $200 million in last year's valuation to a net deferred loss $347 million in the current valuation. Please see Section 3 of this report for more detailed information on the market and actuarial value of assets.
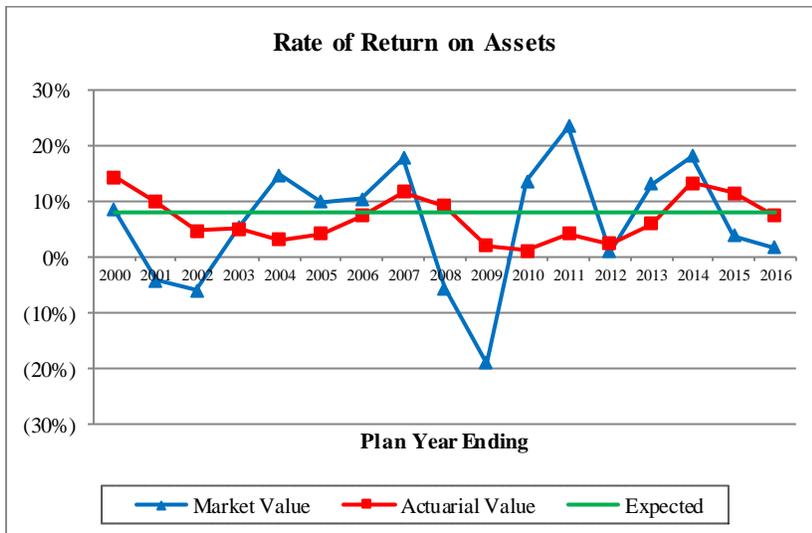
The rate of return of the actuarial value of assets has been less volatile than the market value return, illustrating the benefit of using an asset smoothing method.

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, 2016 in the following table:

	Actuarial Value of Assets	Market Value of Assets
Actuarial Accrued Liability	$11,207,298,169	$11,207,298,169
Value of Assets	10,045,925,478	9,698,584,810
Unfunded Actuarial Accrued Liability	$1,161,372,691	$1,508,713,359
Funded Ratio	89.64%	86.54%

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, 2015 to July 1, 2016 was a decrease of $131.3 million. The components of this net change are shown in the following table:

	($ Millions)
Unfunded Actuarial Accrued Liability, July 1, 2015	$1,292.7
- Expected increase from amortization method	8.7
- Actual vs. Expected Contributions	(88.8)
- Investment experience	61.7
- Liability experience	(108.3)
- Other experience	(4.6)
Unfunded Actuarial Accrued Liability, July 1, 2016	$1,161.4

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 $46.6 million. The actuarial gain may be explained by considering the separate experience of assets and liabilities. As noted earlier, there was a $108.3 million experience gain on the System liabilities and an experience loss of $61.7 million on the actuarial value of assets. The liability gain was the net result of various components of actuarial gains and losses, the largest of which were a gain from salary increases that were lower than expected and a gain from a smaller COLA than expected being granted to members currently receiving benefits. A breakdown of the components of experience gains and losses can be found in Table 8 of this report.

As the following graph of historical actuarial assets and accrued liabilities shows, the System's liabilities had been growing at a faster pace than the System's assets for the five-year period beginning after the FY 2009 market downturn. As a result, the funded ratio declined over that period. Recently, the System's assets have been growing at a faster rate than the System's liabilities and the funded ratio has been improving.

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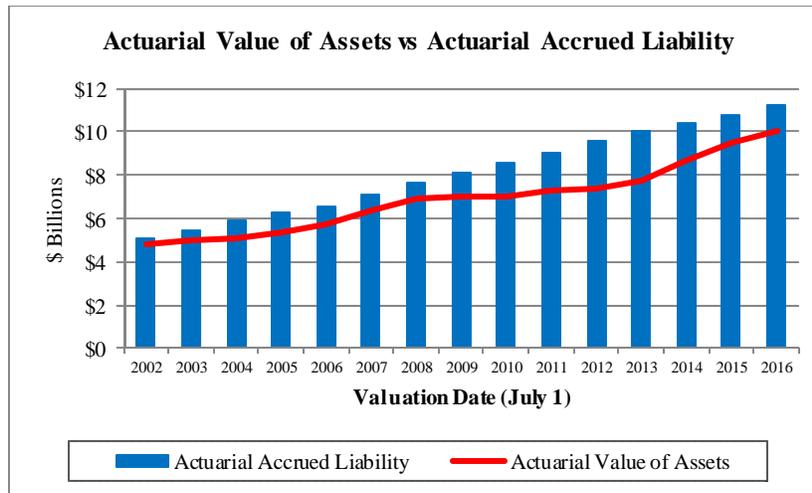
An evaluation of the UAAL on a pure dollar basis may not provide a complete analysis since only the difference between the assets and liabilities (which are both very large numbers) is reflected. Another way to evaluate the UAAL and the progress made in its funding is to track the funded ratio, the ratio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

	7/1/2012	7/1/2013	7/1/2014	7/1/2015	7/1/2016
Funded Ratio	76.6%	77.1%	82.7%	88.0%	89.6%
UAAL	$2,250.2	$2,281.8	$1,804.1	$1,292.7	$1,161.4

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. If the funded ratios were shown using the market value of assets, the results would differ.

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

Funded Ratio
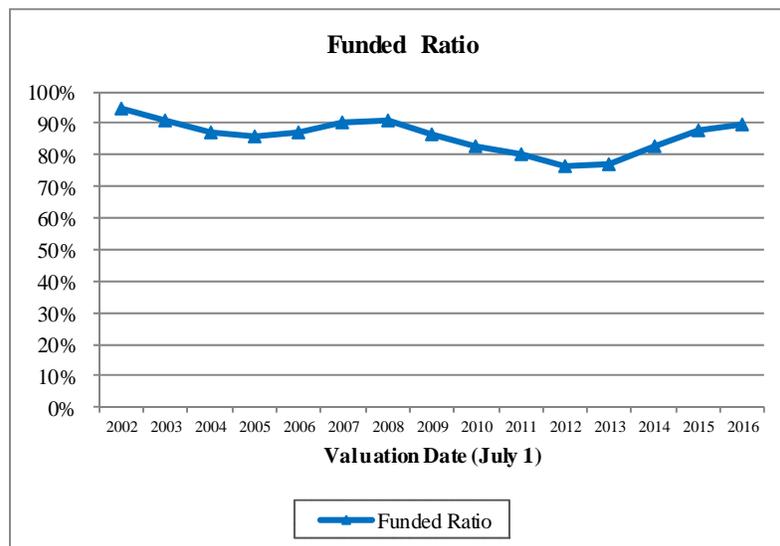
ACTUARIAL REQUIRED CONTRIBUTION RATE

The System is funded by statutory contribution rates for members (9.78% of pay), employers (101% of the member rate) and the State (2.00% of pay). State statutes require the State to make an additional contribution if the regular, payroll-related contributions by employees, employers and the State are insufficient to meet the actuarial required contribution for the plan year. The additional State contributions for the plan year are made on the July 1 following the plan year end. Based on the results of the July 1, 2016 actuarial valuation, no additional State contribution is necessary for the current plan year.

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

- A "normal cost" for the portion of projected liabilities allocated by the actuarial cost method to service of members during the year following the valuation date.

- 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 payments 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 4%. Because the UAAL contribution rate is determined as a level percent of payroll, the dollar amount of the UAAL contribution is scheduled to increase 4% each year in the future even if all actuarial assumptions are met.

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, 2016	July 1, 2015
1. Normal Cost Rate	12.04%	12.11%
2. UAAL Contribution Rate	4.55%	4.92%
3. Total Actuarial Required Contribution Rate	16.59%	17.03%
4. Member Contribution Rate	(9.78%)	(9.78%)
5. Employer Contribution Rate	(9.88%)	(9.88%)
6. State Contribution Rate	(2.00%)	(2.00%)
7. Total Contribution Rate	(21.66%)	(21.66%)
8. Shortfall/(Margin) [3 + 7]	(5.07%)	(4.63%)
9. Estimated Payroll	$ 1,901,967,362	$ 1,845,979,997
10. Additional State Required Contribution [8 * 9, but not less than $0]	$ 0	$ 0

Note: Contribution rates exclude State funding of Omaha Service Annuity.

The actuarial required contribution rate for the current plan year is 16.59%. The member contribution rate of 9.78%, School District contributions of 9.88% (101% of 9.78%), and State contributions of 2.00%

of pay result in total statutory contributions of 21.66% of pay. As a result, there is a contribution margin of 5.07% which indicates that the System will reach fully funded status sooner than targeted by the amortization schedule, if all actuarial assumptions are met in future years.

A history of actuarial required contribution rates and any resulting additional required State contributions, whether or not actually contributed, is shown below:

History of Required Contribution Rates and Additional State Funding		
Fiscal Year	Required Contribution Rate	Additional State Contributions*
2017/2018	16.59%	$ 0
2016/2017	17.03%	0
2015/2016	18.39%	0
2014/2015	19.94%	0
2013/2014	23.27%	48,092,426
2012/2013	20.45%	23,465,817
2011/2012	19.21%	18,871,705
2010/2011	17.24%	0
2009/2010	15.46%	0
2008/2009	15.64%	0
2007/2008	16.58%	0
2006/2007	17.95%	12,847,537
2005/2006	16.97%	15,415,949
2004/2005	15.26%	0
2003/2004	13.45%	0

* Excludes funding of Omaha Service Annuity.

The actuarial required contribution rate, which is determined based on the snapshot of the System taken on the valuation date of July 1, 2016 will change each year as the deferred investment experience is recognized and other experience (both investment and demographic) impacts the System. While there is a contribution margin for the current plan year, this should not be viewed an unnecessary or excess contribution. In order for the financing of the System on a fixed contribution rate basis to succeed, contributions above the actuarial required contribution rate must be made to offset years where the fixed contribution rate will be below the actuarial required contribution rate.

SUMMARY OF PRINCIPAL RESULTS

	7/1/2016 Valuation	7/1/2015 Valuation	% Change
1. PARTICIPANT DATA			
Number of:			
Active Members			
- Tier One	32,211	34,814	(7.48%)
- Tier Two	9,232	6,180	49.39%
- Total	41,443	40,994	1.10%
Retired Members and Beneficiaries	22,530	21,512	4.73%
Disabled Members	327	324	0.93%
Inactive Members	21,585	21,013	2.72%
Total Members	85,885	83,843	2.44%
Projected Annual Salaries of Active Members	$ 1,901,967,362	$ 1,845,979,997	3.03%
Annual Retirement Payments for Retired Members, Disabled Members and Beneficiaries	$ 519,410,038	$ 488,367,407	6.36%
2. ASSETS AND LIABILITIES			
a. Market Value of Assets	$ 9,698,584,810	$ 9,685,816,053	0.13%
b. Actuarial Value of Assets	10,045,925,478	9,485,594,650	5.91%
c. Total Actuarial Accrued Liability	11,207,298,169	10,778,303,637	3.98%
d. Unfunded Actuarial Accrued Liability [c - b]	$ 1,161,372,691	$ 1,292,708,987	(10.16%)
e. Funded Ratio (Actuarial Value of Assets) [b / c]	89.64%	88.01%	1.85%
f. Funded Ratio (Market Value of Assets) [a / c]	86.54%	89.86%	(3.69%)
3. CONTRIBUTION RATES AS A PERCENT OF PAYROLL (excluding Omaha Service Annuity)			
Normal Cost	12.04%	12.11%	(0.58%)
Amortization of Unfunded Actuarial Accrued Liability	4.55%	4.92%	(7.52%)
Actuarial Required Contribution Rate	16.59%	17.03%	(2.58%)
Member Contribution Rate	(9.78%)	(9.78%)	0.00%
Employer Required Contribution Rate*	(9.88%)	(9.88%)	0.00%
State Contribution Rate	(2.00%)	(2.00%)	0.00%
Shortfall/(Margin)	(5.07%)	(4.63%)	9.50%
Additional Required State Contribution Amount	$ 0	$ 0	0.00%

* 101% of employee contribution rate

This report presents the actuarial valuation results of the School Retirement System as of July 1, 2016. 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, 2016.

- 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.

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, 2016. 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, 2016, and July 1, 2015, in total and by investment category. Table 2 summarizes the change in the market value of assets from July 1, 2015 to July 1, 2016.

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

SCHOOL RETIREMENT SYSTEM

MARKET VALUE OF ASSETS
by Investment Category

	June 30, 2016	June 30, 2015*
1. Cash and Equivalents	$ 5,363,084	$ 6,253,892
2. Investments	9,874,183,106	9,864,963,140
3. Capital Assets	2,655	3,929
4. Receivables and Prepaids	642,154,771	792,866,002
5. Accounts Payable	(823,118,806)	(978,270,910)
6. Net Assets Available for Pension Benefits	$ 9,698,584,810	$ 9,685,816,053

* Restated after the actuarial report was published.

TABLE 2

SCHOOL RETIREMENT SYSTEM

CHANGE IN MARKET VALUE OF ASSETS

		Nebraska School System Formula Annuity	Omaha Service Annuity	Total
1. Market Value of Assets, Beginning of Year	$	9,674,525,314	$ 11,290,739	$ 9,685,816,053
2. Contributions				
(a) Member (includes purchased service)	$	178,613,265	$ 0	$ 178,613,265
(b) Employer		178,608,695	0	178,608,695
(c) State appropriations		36,919,600	997,118	37,916,718
(d) Total	$	394,141,560	$ 997,118	$ 395,138,678
3. Expenditures				
(a) Benefit payments	$	526,544,587	$ 1,954,480	$ 528,499,067
(b) Expenses and fees		3,182,464	0	3,182,464
(c) Total	$	529,727,051	$ 1,954,480	$ 531,681,531
4. Investment Return, Net of Expenses				
(a) Investment income	$	126,665,075	$ 142,424	$ 126,807,499
(b) Securities lending income		2,172,125	2,139	2,174,264
(c) Securities lending expense		(736,712)	(726)	(737,438)
(d) Net appreciation/(depreciation) in fair value of investments		21,033,605	5,573	21,039,178
(e) Other		28,107	0	28,107
(f) Total investment return	$	149,162,200	$ 149,410	$ 149,311,610
5. Market Value of Assets, End of Year [1 + 2(d) - 3(c) + 4(f)]	$	9,688,102,023	$ 10,482,787	$ 9,698,584,810
6. Rate of Return, Net of Expenses*				1.6%

* As reported by the Nebraska Investment Council

TABLE 3

SCHOOL RETIREMENT SYSTEM

DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS

	Year End			
	6/30/2013	**6/30/2014**	**6/30/2015**	**6/30/2016**
1. Actuarial Value of Assets, Beginning of Year	$ 7,358,964,135	$ 7,703,084,507	$ 8,622,023,999	$ 9,485,594,650
2. Unrecognized Return Beginning of Year	$ (112,652,354)	$ 389,868,523	$ 828,957,724	$ 200,221,403
3. Contributions During Year				
(a) Member	$ 164,077,967	$ 169,200,529	$ 174,797,341	$ 178,613,265
(b) Employer	161,922,831	167,710,406	173,013,848	178,608,695
(c) State appropriations	17,843,931	35,613,157	36,491,449	37,916,718
(d) Total	$ 343,844,729	$ 372,524,092	$ 384,302,638	$ 395,138,678
4. Benefit Payments	$ 427,885,060	$ 466,161,224	$ 502,190,816	$ 528,499,067
5. Expected Investment Income on (1), (2), (3) and (4) at 8%	$ 577,831,647	$ 645,313,812	$ 753,124,603	$ 771,391,900
6. Actual Return on Market Value, Net of All Expenses	$ 930,681,580	$ 1,451,665,825	$ 352,722,508	$ 146,129,146
7. Return to be Spread, End of Year [6 - 5]	$ 352,849,933	$ 806,352,013	$ (400,402,095)	$ (625,262,754)

TABLE 3
(continued)

SCHOOL RETIREMENT SYSTEM

DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS

8.   Return to be Spread

Plan Year Ending	Return to be Spread	Unrecognized Percent	Unrecognized Return
2016	($625,262,754)	80%	($500,210,203)
2015	(400,402,095)	60%	(240,241,257)
2014	806,352,013	40%	322,540,805
2013	352,849,933	20%	70,569,987
			($347,340,668)

9. Total Market Value of Assets as of July 1, 2016 $9,698,584,810

10. Total Actuarial Value of Assets as of July 1, 2016 $10,045,925,478
     [9 - 8]

11. Asset Ratios
   (a) Actuarial Value to Market Value [10 / 9]   103.58%
   (b) Market Value to Actuarial Value [9 / 10]   96.54%

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 School Retirement System as of the valuation date, July 1, 2016. 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, 2016.

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

SCHOOL RETIREMENT SYSTEM

**PRESENT VALUE OF FUTURE BENEFITS (PVFB)
AS OF JULY 1, 2016**

	Nebraska School System Formula Annuity	Omaha Service Annuity	Total
1. Active Employees			
(a) Retirement	$ 6,241,184,164	$ 15,947,615	$ 6,257,131,779
(b) Withdrawal	564,987,435	1,887,308	566,874,743
(c) Death	71,236,260	143,101	71,379,361
(d) Disability	40,169,913	174,685	40,344,598
(e) Total	$ 6,917,577,772	$ 18,152,709	$ 6,935,730,481
2. Inactive Vested Members	328,487,682	1,219,745	329,707,427
3. Inactive Nonvested Members	39,604,642	0	39,604,642
4. Disabled Members	41,204,049	0	41,204,049
5. Retirees	5,623,040,339	0	5,623,040,339
6. Beneficiaries	206,817,520	0	206,817,520
7. Total Present Value of Future Benefits [1(e) + 2 + 3 + 4 + 5 + 6]	$ 13,156,732,004	$ 19,372,454	$ 13,176,104,458

TABLE 5

SCHOOL RETIREMENT SYSTEM

ACTUARIAL ACCRUED LIABILITY
AS OF JULY 1, 2016

	Nebraska School System Formula Annuity	Omaha Service Annuity	Total
1. Present Value of Future Benefits for Active Members	$ 6,917,577,772	$ 18,152,709	$ 6,935,730,481
2. Present Value of Future Normal Costs for Active Members			
(a) Retirement benefit	$ 1,418,649,725	$ 3,623,173	$ 1,422,272,898
(b) Termination benefit	510,477,352	1,289,895	511,767,247
(c) Pre-Retirement death benefit	21,595,188	38,956	21,634,144
(d) Disability benefit	13,066,341	65,659	13,132,000
(e) Total	$ 1,963,788,606	$ 5,017,683	$ 1,968,806,289
3. Actuarial Accrued Liability for Active Members [1 - 2(e)]	$ 4,953,789,166	$ 13,135,026	$ 4,966,924,192
4. Actuarial Accrued Liability for Inactive Members	6,239,154,232	1,219,745	6,240,373,977
5. Total Actuarial Accrued Liability [3 + 4]	11,192,943,398	14,354,771	11,207,298,169
6. Actuarial Value of Assets	10,035,067,265	10,858,213	10,045,925,478
7. Unfunded Actuarial Accrued Liability [5- 6]	$ 1,157,876,133	$ 3,496,558	$ 1,161,372,691

TABLE 6

SCHOOL RETIREMENT SYSTEM

ACTUARIAL BALANCE SHEET

ASSETS

Actuarial Value of Assets	$	10,045,925,478
Unfunded Actuarial Accrued Liability		1,161,372,691
Present Value of Future Normal Costs		1,968,806,289
Total Assets	$	13,176,104,458

LIABILITIES

Present Value of Future Benefits			
Active members			
Retirement	$ 6,241,184,164		
Withdrawal	564,987,435		
Death	71,236,260		
Disability	40,169,913		
Total		$	6,917,577,772
Inactive members			
Currently receiving benefits	5,871,061,908		
Not currently receiving benefits	368,092,324		
Total		$	6,239,154,232
Omaha Service Annuity			
Active	18,152,709		
Inactive vested	1,219,745		
Total		$	19,372,454
Total Liabilities		$	13,176,104,458

TABLE 7

SCHOOL RETIREMENT SYSTEM

ACTUARIAL GAIN/(LOSS)

Liabilities

1. Actuarial Accrued Liability as of July 1, 2015	$	10,778,303,637
2. Normal Cost for Plan Year Ending June 30, 2016		206,042,025
3. Benefit Payments During Plan Year Ending June 30, 2016		(528,499,067)
4. Interest at 8.0%		859,772,786
5. Expected Actuarial Accrued Liability as of July 1, 2016	$	11,315,619,381
6. Actuarial Accrued Liability as of July 1, 2016	$	11,207,298,169

Assets

7. Actuarial Value of Assets as of July 1, 2015	$	9,485,594,650
8. Contributions During Plan Year Ending June 30, 2016		395,138,678
9. Benefit Payments During Plan Year Ending June 30, 2016		(528,499,067)
10. Interest at 8.0%		755,374,187
11. Expected Actuarial Value of Assets as of July 1, 2016	$	10,107,608,448
12. Actuarial Value of Assets as of July 1, 2016	$	10,045,925,478

Gain / (Loss)

13. Actuarial Gain / (Loss) on Liabilities [5 - 6]	$	108,321,212
14. Actuarial Gain / (Loss) on Assets [12 - 11]	$	(61,682,970)
15. Total Actuarial Gain / (Loss) for Plan Year Ending June 30, 2016 [13 + 14]	$	46,638,242

TABLE 8

SCHOOL RETIREMENT SYSTEM

GAIN/(LOSS) ANALYSIS BY SOURCE

Liability Sources		Gain/(Loss)
Retirement	$	(9,761,562)
Termination		(42,349,895)
Disability		(1,334,851)
Mortality		(5,086,142)
Salary		86,941,000
New Entrants/Rehires		(20,912,478)
COLA		100,300,450
Miscellaneous		524,690
Total Liability Gain/(Loss)	$	108,321,212
Asset Gain/(Loss)	$	(61,682,970)
Net Actuarial Gain/(Loss)	$	46,638,242

TABLE 9

SCHOOL RETIREMENT SYSTEM

PROJECTED BENEFIT PAYMENTS
AS OF JULY 1, 2016

Plan Year Ending June 30	Current Active Members	Current In-Pay Members	Total
2017	$ 50,171,000	$ 517,048,000	$ 567,219,000
2018	84,702,000	522,494,000	607,196,000
2019	119,766,000	527,353,000	647,119,000
2020	155,737,000	531,424,000	687,161,000
2021	192,777,000	534,571,000	727,348,000
2022	230,999,000	536,988,000	767,987,000
2023	270,295,000	538,222,000	808,517,000
2024	310,955,000	538,484,000	849,439,000
2025	353,290,000	537,650,000	890,940,000
2026	397,735,000	535,327,000	933,062,000
2027	444,022,000	531,584,000	975,606,000
2028	491,678,000	526,453,000	1,018,131,000
2029	541,443,000	519,715,000	1,061,158,000
2030	593,218,000	511,494,000	1,104,712,000
2031	646,634,000	501,628,000	1,148,262,000
2032	702,076,000	490,659,000	1,192,735,000
2033	759,525,000	478,445,000	1,237,970,000
2034	817,157,000	464,527,000	1,281,684,000
2035	874,787,000	452,046,000	1,326,833,000
2036	933,013,000	437,647,000	1,370,660,000
2037	992,661,000	421,327,000	1,413,988,000
2038	1,052,882,000	403,122,000	1,456,004,000
2039	1,113,282,000	383,116,000	1,496,398,000
2040	1,173,487,000	361,468,000	1,534,955,000
2041	1,232,784,000	338,388,000	1,571,172,000
2042	1,290,339,000	314,137,000	1,604,476,000
2043	1,346,153,000	289,035,000	1,635,188,000
2044	1,399,775,000	263,437,000	1,663,212,000
2045	1,450,566,000	237,730,000	1,688,296,000
2046	1,496,990,000	212,302,000	1,709,292,000

Note: Cash flows are the expected future non-discounted payments to current members. These numbers exclude refund payouts to any current vested or nonvested inactives and assume future retirees elect the normal form of payment. Also excludes Omaha appropriations.

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, 2016 actuarial valuation will be used to determine the actuarial required employer contribution rate to the School Retirement System for the plan year ending June 30, 2017. Any State contributions are expected to be deposited on July 1, 2017 (State fiscal year 2018). 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, as of July 1, 2016, is developed. Table 11 develops the actuarial required contribution rate for the System and the amount of required State contributions.

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

TABLE 10

SCHOOL RETIREMENT SYSTEM

SCHEDULE OF AMORTIZATION BASES

Amortization Bases	Original Amount	July 1, 2016 Remaining Payments	Date of Last Payment	Outstanding Balance as of July 1, 2016	Annual Contribution*
2006 UAAL Base	$ 845,226,412	20	7/1/2036	$ 799,912,164	$ 58,102,893
2007 UAAL Base	(163,793,512)	21	7/1/2037	(158,298,366)	(11,132,468)
2008 UAAL Base	54,258,200	22	7/1/2038	53,450,574	3,647,228
2009 UAAL Base	370,759,908	23	7/1/2039	371,679,938	24,656,055
2010 UAAL Base	427,955,512	24	7/1/2040	435,933,755	28,163,782
2011 UAAL Base	287,237,896	25	7/1/2041	296,913,521	18,712,060
2012 UAAL Base	497,977,442	26	7/1/2042	521,725,243	32,121,863
2013 UAAL Base	57,652,106	27	7/1/2043	61,153,155	3,683,314
2014 UAAL Base	(514,341,070)	28	7/1/2044	(535,566,464)	(31,596,680)
2015 UAAL Base	(534,298,489)	29	7/1/2045	(545,505,439)	(31,560,280)
2016 UAAL Base	(140,025,390)	30	7/1/2046	(140,025,390)	(7,952,989)
Total				**$ 1,161,372,691**	**$ 86,844,778**

* Contribution amount reflects mid-year timing.

1. Total UAAL Amortization Payments	$	86,844,778
2. Projected Payroll for FY 2017	$	1,901,967,362
3. UAAL Amortization Payment Rate		4.57%

Note: Beginning with the July 1, 2013 valuation, the payments on each UAAL base are determined as a level percent of payroll using a 4% payroll growth assumption.

TABLE 11

SCHOOL RETIREMENT SYSTEM

ACTUARIAL REQUIRED CONTRIBUTION
and
DEVELOPMENT OF ADDITIONAL STATE CONTRIBUTION

1. Normal Cost - Nebraska School System Formula Annuity		
(a) Amount	$	210,345,057
(b) Expected pay for current actives		1,747,196,803
(c) Normal Cost Rate as % of pay		12.04%
2. Amortization Cost - Nebraska School System Formula Annuity		
(a) Amount		86,583,313
(b) Expected pay for all actives		1,901,967,362
(c) Amortization Rate as % of pay		4.55%
3. Total Actuarial Required Contribution Rate - Nebraska School System Formula Annuity [1(c) + 2(c)]		16.59%
4. Statutory Contribution Rates - Nebraska School System Formula Annuity		
(a) Member		9.78%
(b) Employer (101% of Member)		9.88%
(c) State		2.00%
(d) Total		21.66%
5. Shortfall/(Margin) - Nebraska School System Formula Annuity [3 - 4(d)]		(5.07%)
6. Expected pay for all actives for FY 2017		1,901,967,362
7. Additional Required State Contribution payable July 1, 2017 [5 * 6 , but not less than 0]	$	0
8. State Contribution due July 1, 2017		
(a) State Statutory Amount due July 1, 2017 [2% x Expected pay]	$	38,039,347
(b) Omaha Service Annuity due July 1, 2017		
(i) Normal Cost amount	$ 720,729	
(ii) Amortization amount	271,722	
(iii) Total amount		992,451
(d) Additional Contribution		0
(e) Total	$	39,031,798

HISTORICAL FUNDING AND OTHER INFORMATION

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

The information required for financial reporting by the System and participating employers is established by the Governmental Accounting Standards Board (GASB). GASB Statement No. 67 is effective for plan years ending on or after June 15, 2014. GASB 67 basically separates accounting and financial reporting from funding requirements by creating disclosure and reporting requirements that are independent of the basis used for funding the System. A separate report that contains all of the information and exhibits of an actuarial nature that are necessary for the System's financial reporting under GASB 67 for fiscal year 2016 will be issued in the future.

GASB Statement No. 68 establishes standards for the measurement, recognition, and display of pension expense and related liabilities. Annual pension cost is measured and disclosed on the accrual basis of accounting. GASB 68 was first effective for fiscal year-end 2015 for the state of Nebraska. A separate report containing all of the pertinent information under GASB 68 reporting for fiscal year 2016 will also be prepared in the future.

TABLE 12

SCHOOL RETIREMENT SYSTEM

HISTORICAL FUNDING INFORMATION

SCHEDULE OF FUNDING PROGRESS

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded Actuarial Accrued Liability (UAAL) (b - a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as a % of Covered Payroll [(b - a) / c]
June 30, 2003	$4,952,902,870	$5,464,572,876	$511,670,006	90.6%	$1,138,776,241	44.9%
June 30, 2004	5,118,011,165	5,868,266,970	750,255,805	87.2%	1,170,601,127	64.1%
June 30, 2005	5,335,197,409	6,234,657,830	899,460,421	85.6%	1,214,227,197	74.1%
June 30, 2006	5,739,048,994	6,584,275,406	845,226,412	87.2%	1,247,684,378	67.7%
June 30, 2007	6,396,336,863	7,070,308,583	673,971,720	90.5%	1,325,616,322	50.8%
June 30, 2008	6,932,918,638	7,654,536,359	721,617,721	90.6%	1,389,124,819	51.9%
June 30, 2009	7,007,581,825	8,092,339,318	1,084,757,493	86.6%	1,481,568,432	73.2%
June 30, 2010	7,040,908,599	8,542,119,000	1,501,210,401	82.4%	1,543,930,532	97.2%
June 30, 2011	7,267,497,259	9,039,744,995	1,772,247,736	80.4%	1,590,225,983	111.4%
June 30, 2012	7,358,964,135	9,609,157,134	2,250,192,999	76.6%	1,593,184,929	141.2%
June 30, 2013	7,703,084,507	9,984,898,998	2,281,814,491	77.1%	1,735,175,956	131.5%
June 30, 2014	8,622,023,999	10,426,112,609	1,804,088,610	82.7%	1,774,679,549	101.7%
June 30, 2015	9,485,594,650	10,778,303,637	1,292,708,987	88.0%	1,845,979,997	70.0%
June 30, 2016	10,045,925,478	11,207,298,169	1,161,372,691	89.6%	1,901,967,362	61.1%

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

TABLE 13

SCHOOL RETIREMENT SYSTEM

HISTORICAL FUNDING INFORMATION

SCHEDULE OF CONTRIBUTIONS FROM EMPLOYERS
AND OTHER CONTRIBUTING ENTITIES

| Plan Year Ending | Actuarial Required Contributions* | | | Percent Contributed |
	School	State	Total	
June 30, 2005	$90,178,025	$30,274,438	$120,452,463	87%
June 30, 2006	102,089,105	28,056,703	130,145,808	100%
June 30, 2007	102,849,748	15,219,871	118,069,619	104%
June 30, 2008	101,368,968	15,832,941	117,201,909	104%
June 30, 2009	105,497,775	20,620,548	126,118,323	104%
June 30, 2010	121,277,758	21,380,352	142,658,110	105%
June 30, 2011	135,328,339	40,779,653	176,107,992	89%
June 30, 2012	145,582,040	45,866,350	191,448,390	88%
June 30, 2013	161,922,831	64,966,961	226,889,792	79%
June 30, 2014	138,544,708	34,703,519	173,248,227	117%
June 30, 2015	115,776,948	35,493,591	151,270,539	138%
June 30, 2016	94,929,605	36,919,600	131,849,205	163%

* Excludes Omaha appropriations.

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

MEMBER DATA RECONCILIATION

	Active Members	Inactive Vested	Inactive Non-vested	Retirees and Beneficiaries	Disabled Members	Total
As of July 1, 2015	40,994	5,891	15,122	21,512	324	83,843
Changes in status						
a) Retirement	(1,229)	(249)	0	1,478	0	0
b) Death	(41)	(16)	0	(515)	(16)	(588)
c) Non-vested termination	(1,513)	0	1,513	0	0	0
d) Vested termination	(835)	835	0	0	0	0
e) Contribution refund	(754)	(226)	(991)	0	0	(1,971)
f) Beneficiary in receipt	0	0	0	135	0	135
g) Disability retirement	(11)	(8)	0	0	19	0
h) Return to active service	671	(216)	(455)	0	0	0
i) Expired benefit	0	0	0	(89)	0	(89)
j) Data adjustment	0	0	0	9	0	9
Total changes in status	(3,712)	120	67	1,018	3	(2,504)
New entrants	4,161	0	385	0	0	4,546
Net Change	449	120	452	1,018	3	2,042
As of July 1, 2016	41,443	6,011	15,574	22,530	327	85,885

SUMMARY OF MEMBERSHIP DATA

NEBRASKA SCHOOLS

A. ACTIVE MEMBERS	July 1, 2016	July 1, 2015	% Change
1. Number of Active Members			
(a) Tier 1	32,211	34,814	(7.5%)
(b) Tier 2	9,232	6,180	49.4%
(c) Total	41,443	40,994	1.1%
2. Annual Reported Salary			
(a) Tier 1	$ 1,538,919,963	$ 1,580,711,383	(2.6%)
(b) Tier 2	255,145,088	160,807,883	58.7%
(c) Total	$ 1,794,065,051	$ 1,741,519,266	3.0%
3. Accumulated Contributions	$ 1,634,092,305	$ 1,593,713,305	2.5%
4. Active Member Averages			
(a) Age	45.3	45.5	(0.4%)
(b) Service	11.3	11.4	(0.9%)
(c) Compensation	$ 43,290	$ 42,482	1.9%
B. INACTIVE MEMBERS			
1. Number of Inactive Members			
(a) System vested	6,011	5,891	2.0%
(b) System nonvested (refund only)	15,574	15,122	3.0%
(d) Total	21,585	21,013	2.7%
2. Accumulated Member Contributions (excluding Omaha)	$ 197,803,267	$ 191,628,861	3.2%
3. Inactive Member Averages (excluding Omaha)			
(a) Age (vesteds only)	52.0	52.0	0.0%
(b) Accumulated member contributions	$ 9,164	$ 9,120	0.5%
C. RETIREES, DISABLEDS, AND BENEFICIARIES			
1. Number of Members			
(a) Retired	21,258	20,247	5.0%
(b) Disabled	327	324	0.9%
(c) Beneficiaries	1,272	1,265	0.6%
(d) Total	22,857	21,836	4.7%
2. Annual Benefits			
(a) Retired	$ 491,371,424	$ 461,540,854	6.5%
(b) Disabled	4,470,019	4,410,671	1.3%
(c) Beneficiaries	23,568,595	22,415,882	5.1%
(d) Total	$ 519,410,038	$ 488,367,407	6.4%

SUMMARY OF MEMBERSHIP DATA

OMAHA SCHOOLS

A. ACTIVE MEMBERS	September 1, 2015	September 1, 2014	% Change
1. Number of Active Members	7,393	7,415	(0.3%)
2. Average Age	44.5	44.7	(0.4%)
3. Average Service	9.9	10.0	(1.0%)
B. INACTIVE VESTED MEMBERS			
1. Number of Inactive Members	984	937	5.0%
2. Average Age	46.0	45.8	0.4%
3. Average Service	8.9	9.0	(1.1%)

Note: Data was provided by the Omaha Schools Employee Retirement System (OSERS) for use in estimating the Service Annuity obligation. The data provided is from the prior OSERS valuation.

ACTIVE MEMBERS
AS OF JULY 1, 2016

Tier 1 Members

	Count of Members			Reported FY 2016 Earnings for Current Members		
Age	Male	Female	Total	Male	Female	Total
24 & Under	8	25	33	$ 113,861	$ 429,686	$ 543,547
25-29	390	1,323	1,713	16,880,872	53,692,909	70,573,781
30-34	917	2,618	3,535	47,146,609	119,448,966	166,595,575
35-39	969	2,719	3,688	58,801,431	131,560,680	190,362,111
40-44	965	2,944	3,909	62,542,149	141,325,802	203,867,951
45-49	1,028	3,339	4,367	69,005,055	157,531,715	226,536,770
50-54	1,092	3,459	4,551	70,427,533	152,395,232	222,822,765
55-59	1,089	3,792	4,881	65,619,226	167,690,629	233,309,855
60-64	948	2,613	3,561	49,693,104	109,664,626	159,357,730
65 & Up	696	1,277	1,973	23,611,149	41,338,729	64,949,878
Total	8,102	24,109	32,211	$ 463,840,989	$ 1,075,078,974	$ 1,538,919,963
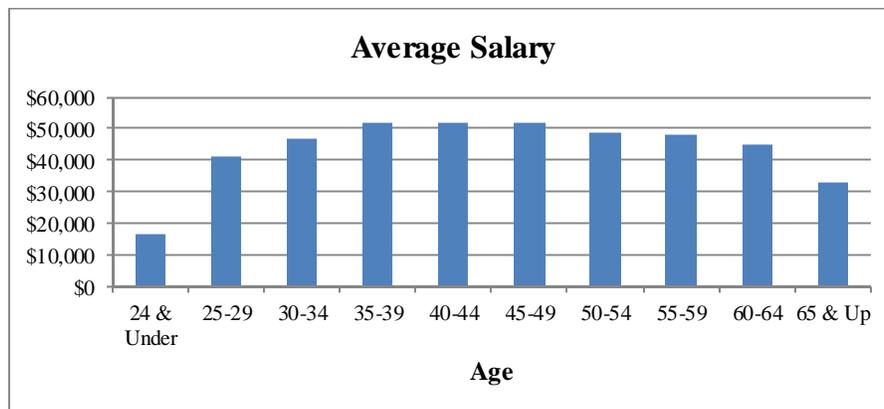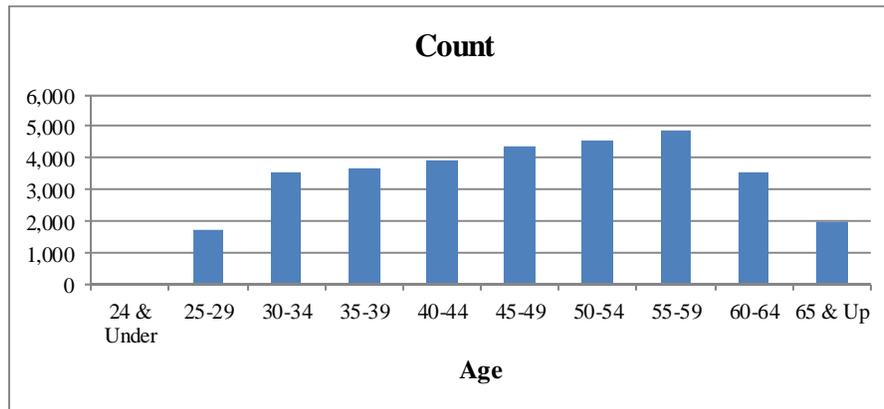
ACTIVE MEMBERS
AS OF JULY 1, 2016

Tier 2 Members

	Count of Members			Reported FY 2016 Earnings for Current Members		
Age	Male	Female	Total	Male	Female	Total
24 & Under	228	916	1,144	$ 6,580,357	$ 23,214,825	$ 29,795,182
25-29	697	2,006	2,703	25,992,881	66,089,914	92,082,795
30-34	259	902	1,161	9,635,308	23,623,179	33,258,487
35-39	195	841	1,036	7,834,697	18,656,771	26,491,468
40-44	143	678	821	5,462,432	14,696,622	20,159,054
45-49	125	545	670	4,287,078	11,794,509	16,081,587
50-54	128	435	563	3,963,573	8,605,284	12,568,857
55-59	134	360	494	4,359,254	8,008,016	12,367,270
60-64	127	219	346	3,355,529	3,793,050	7,148,579
65 & Up	122	172	294	2,315,774	2,876,035	5,191,809
Total	2,158	7,074	9,232	$ 73,786,883	$ 181,358,205	$ 255,145,088
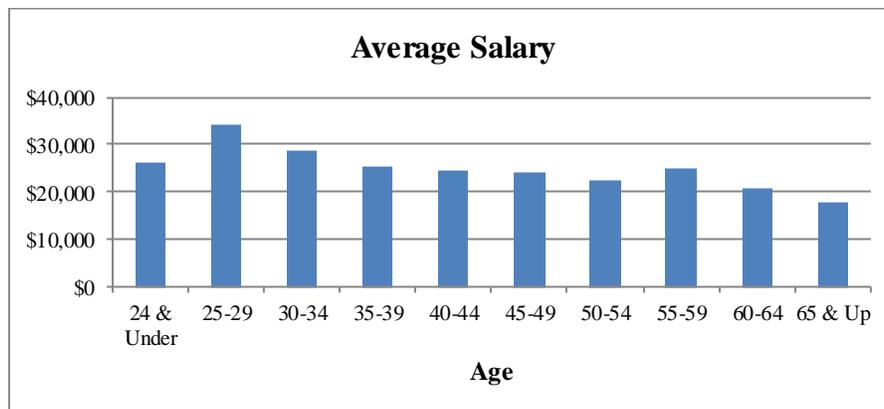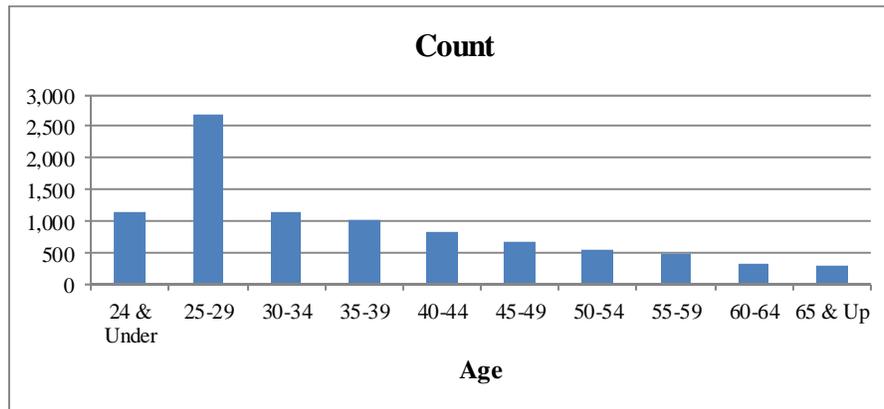
ACTIVE MEMBERS
AS OF JULY 1, 2016

All Members

Age	Count of Members			Reported FY 2016 Earnings for Current Members		
	Male	Female	Total	Male	Female	Total
24 & Under	236	941	1,177	$ 6,694,218	$ 23,644,511	$ 30,338,729
25-29	1,087	3,329	4,416	42,873,753	119,782,823	162,656,576
30-34	1,176	3,520	4,696	56,781,917	143,072,145	199,854,062
35-39	1,164	3,560	4,724	66,636,128	150,217,451	216,853,579
40-44	1,108	3,622	4,730	68,004,581	156,022,424	224,027,005
45-49	1,153	3,884	5,037	73,292,133	169,326,224	242,618,357
50-54	1,220	3,894	5,114	74,391,106	161,000,516	235,391,622
55-59	1,223	4,152	5,375	69,978,480	175,698,645	245,677,125
60-64	1,075	2,832	3,907	53,048,633	113,457,676	166,506,309
65 & Up	818	1,449	2,267	25,926,923	44,214,764	70,141,687
Total	10,260	31,183	41,443	$ 537,627,872	$ 1,256,437,179	$ 1,794,065,051

Count

Average Salary
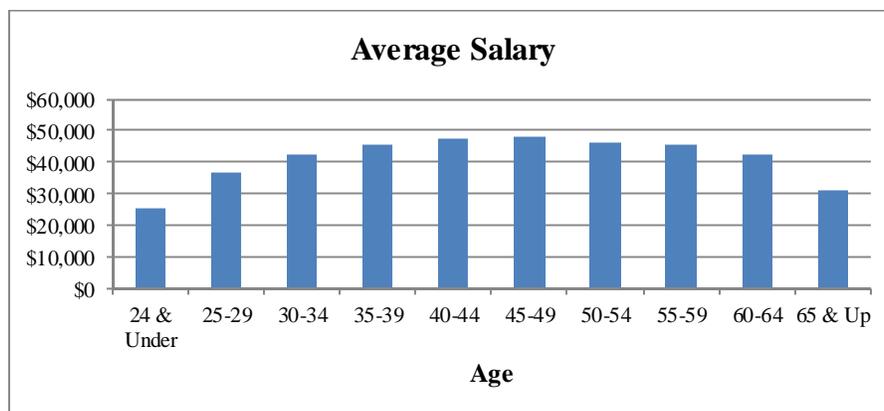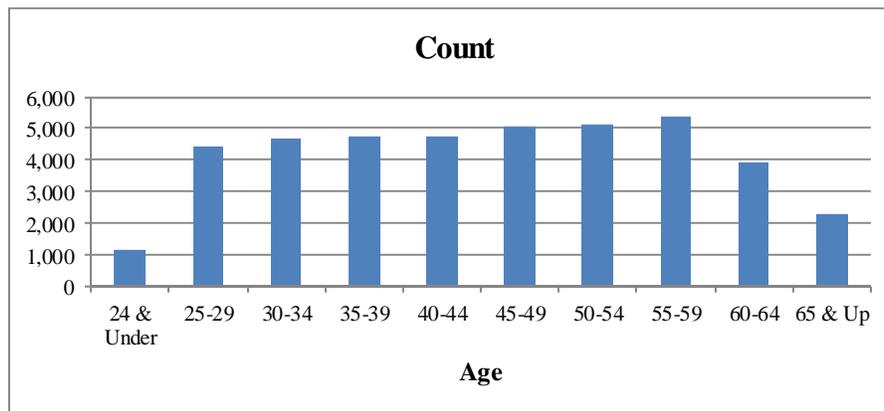
AGE AND SERVICE DISTRIBUTION
AS OF JULY 1, 2016

Age		0-4	5-9	10-14	15-19	20-24	25-29	30-34	Over 34	Total
24 & Under	Number	1,176	1	0	0	0	0	0	0	1,177
	Total Salary	$ 30,317,166	$ 21,563	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 30,338,729
	Average Sal.	$ 25,780	$ 21,563	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 25,776
25-29	Number	3,631	782	3	0	0	0	0	0	4,416
	Total Salary	$ 128,074,726	$ 34,419,052	$ 162,798	$ 0	$ 0	$ 0	$ 0	$ 0	$ 162,656,576
	Average Sal.	$ 35,273	$ 44,014	$ 54,266	$ 0	$ 0	$ 0	$ 0	$ 0	$ 36,833
30-34	Number	1,802	2,299	595	0	0	0	0	0	4,696
	Total Salary	$ 56,012,225	$ 111,335,336	$ 32,506,501	$ 0	$ 0	$ 0	$ 0	$ 0	$ 199,854,062
	Average Sal.	$ 31,083	$ 48,428	$ 54,633	$ 0	$ 0	$ 0	$ 0	$ 0	$ 42,558
35-39	Number	1,507	1,174	1,638	402	3	0	0	0	4,724
	Total Salary	$ 41,269,105	$ 54,616,747	$ 94,778,300	$ 26,052,790	$ 136,637	$ 0	$ 0	$ 0	$ 216,853,579
	Average Sal.	$ 27,385	$ 46,522	$ 57,862	$ 64,808	$ 45,546	$ 0	$ 0	$ 0	$ 45,905
40-44	Number	1,301	892	819	1,442	276	0	0	0	4,730
	Total Salary	$ 33,347,530	$ 34,745,092	$ 43,712,348	$ 92,951,153	$ 19,270,882	$ 0	$ 0	$ 0	$ 224,027,005
	Average Sal.	$ 25,632	$ 38,952	$ 53,373	$ 64,460	$ 69,822	$ 0	$ 0	$ 0	$ 47,363
45-49	Number	1,090	987	764	812	1,098	286	0	0	5,037
	Total Salary	$ 27,774,146	$ 34,635,016	$ 36,241,640	$ 47,433,682	$ 75,907,691	$ 20,626,182	$ 0	$ 0	$ 242,618,357
	Average Sal.	$ 25,481	$ 35,091	$ 47,437	$ 58,416	$ 69,133	$ 72,120	$ 0	$ 0	$ 48,167
50-54	Number	941	847	822	703	609	911	280	1	5,114
	Total Salary	$ 21,732,623	$ 26,934,404	$ 32,510,717	$ 34,176,231	$ 37,816,062	$ 62,385,727	$ 19,786,735	$ 49,123	$ 235,391,622
	Average Sal.	$ 23,095	$ 31,800	$ 39,551	$ 48,615	$ 62,095	$ 68,480	$ 70,667	$ 49,123	$ 46,029
55-59	Number	827	759	779	852	609	603	693	253	5,375
	Total Salary	$ 21,144,593	$ 23,436,111	$ 28,705,404	$ 36,896,252	$ 32,121,148	$ 37,290,696	$ 48,312,782	$ 17,770,139	$ 245,677,125
	Average Sal.	$ 25,568	$ 30,878	$ 36,849	$ 43,305	$ 52,744	$ 61,842	$ 69,715	$ 70,238	$ 45,707
60-64	Number	677	511	464	584	526	420	257	468	3,907
	Total Salary	$ 15,294,724	$ 16,578,029	$ 15,813,810	$ 24,831,175	$ 24,418,105	$ 22,009,692	$ 15,085,133	$ 32,475,641	$ 166,506,309
	Average Sal.	$ 22,592	$ 32,442	$ 34,081	$ 42,519	$ 46,422	$ 52,404	$ 58,697	$ 69,392	$ 42,617
65 & Up	Number	655	460	298	220	201	169	113	151	2,267
	Total Salary	$ 11,238,776	$ 11,036,234	$ 9,189,921	$ 7,065,799	$ 8,110,244	$ 8,206,784	$ 5,614,965	$ 9,678,964	$ 70,141,687
	Average Sal.	$ 17,158	$ 23,992	$ 30,839	$ 32,117	$ 40,349	$ 48,561	$ 49,690	$ 64,099	$ 30,940
Total	Number	13,607	8,712	6,182	5,015	3,322	2,389	1,343	873	41,443
	Total Salary	$ 386,205,614	$ 347,757,584	$ 293,621,439	$ 269,407,082	$ 197,780,769	$ 150,519,081	$ 88,799,615	$ 59,973,867	$ 1,794,065,051
	Average Sal.	$ 28,383	$ 39,917	$ 47,496	$ 53,720	$ 59,537	$ 63,005	$ 66,120	$ 68,699	$ 43,290

INACTIVE VESTED MEMBERS
AS OF JULY 1, 2016

	Count of Members			Account Balances		
Age	Male	Female	Total	Male	Female	Total
24 & Under	0	0	0	$ 0	$ 0	$ 0
25-29	11	30	41	172,065	402,997	575,062
30-34	53	276	329	1,068,029	5,154,145	6,222,174
35-39	101	416	517	2,691,489	9,401,953	12,093,442
40-44	105	424	529	3,866,209	10,361,878	14,228,087
45-49	151	557	708	5,660,419	14,225,941	19,886,360
50-54	150	809	959	6,586,197	19,530,385	26,116,582
55-59	220	1,163	1,383	9,521,606	30,245,998	39,767,604
60-64	168	992	1,160	6,685,275	24,066,289	30,751,564
65 & Up	57	328	385	1,934,924	6,622,826	8,557,750
Total	1,016	4,995	6,011	$ 38,186,213	$ 120,012,412	$ 158,198,625

Count

Average Account Balance
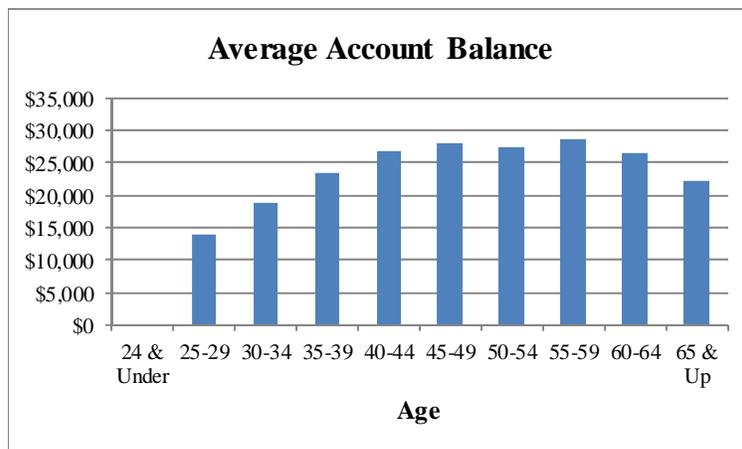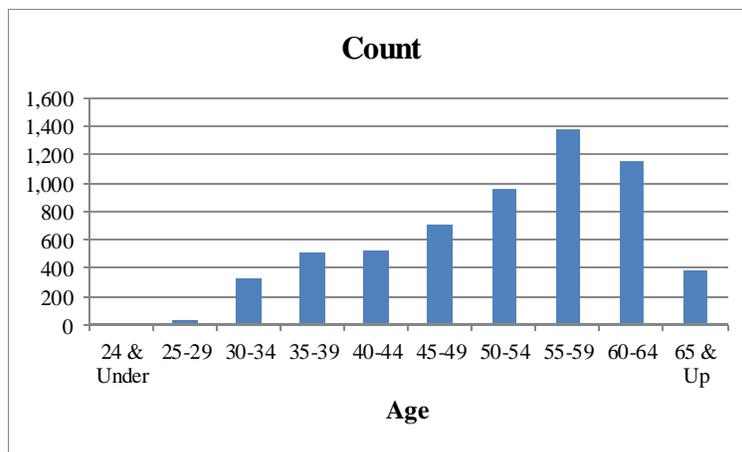
RETIRED MEMBERS
AS OF JULY 1, 2016

	Count of Members				Annual Benefits		
Age	Male	Female	Total		Male	Female	Total
59 & Under	210	473	683	$ 8,961,706	$ 18,006,224	$ 26,967,930
60-64	773	2,266	3,039		29,562,034	64,841,787	94,403,821
65-69	1,793	4,469	6,262		57,829,062	105,525,787	163,354,849
70-74	1,564	2,900	4,464		43,838,604	52,221,551	96,060,155
75-79	936	1,948	2,884		24,225,591	30,207,242	54,432,833
80-84	614	1,404	2,018		13,607,930	18,318,167	31,926,097
85-89	349	910	1,259		6,162,419	11,297,813	17,460,232
90 & Over	114	535	649		1,865,256	4,900,251	6,765,507
Total	6,353	14,905	21,258	$ 186,052,602	$ 305,318,822	$ 491,371,424

Count

Average Benefit
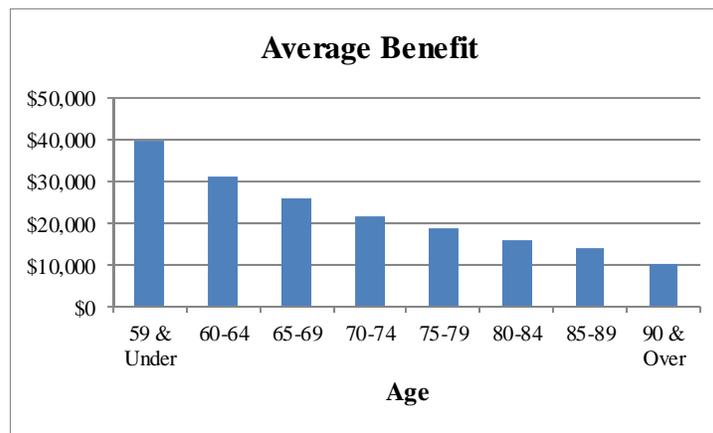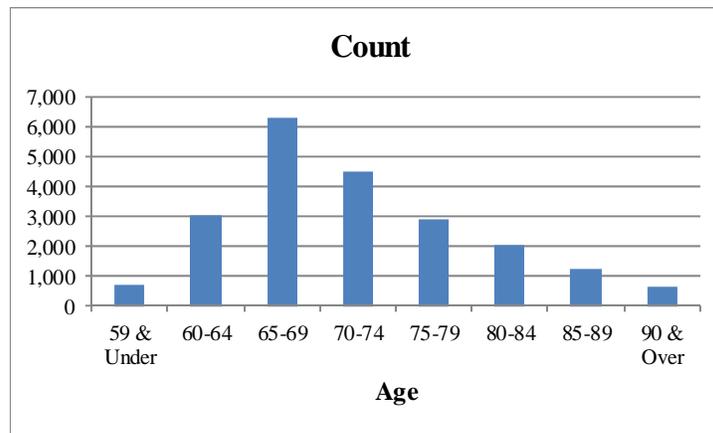
BENEFICIARIES RECEIVING BENEFITS
AS OF JULY 1, 2016

	Count of Members				Annual Benefits		
Age	Male	Female	Total		Male	Female	Total
59 & Under	119	129	248		$ 1,101,438	$ 1,567,524	$ 2,668,962
60-64	47	68	115		887,542	1,470,513	2,358,055
65-69	70	117	187		1,397,166	2,814,825	4,211,991
70-74	72	131	203		1,326,702	3,063,893	4,390,595
75-79	58	135	193		845,602	3,322,047	4,167,649
80-84	39	116	155		636,402	2,411,186	3,047,588
85-89	21	80	101		333,744	1,446,773	1,780,517
90 & Over	12	58	70		160,712	782,526	943,238
Total	438	834	1,272		$ 6,689,308	$ 16,879,287	$ 23,568,595

Count

Average Benefit
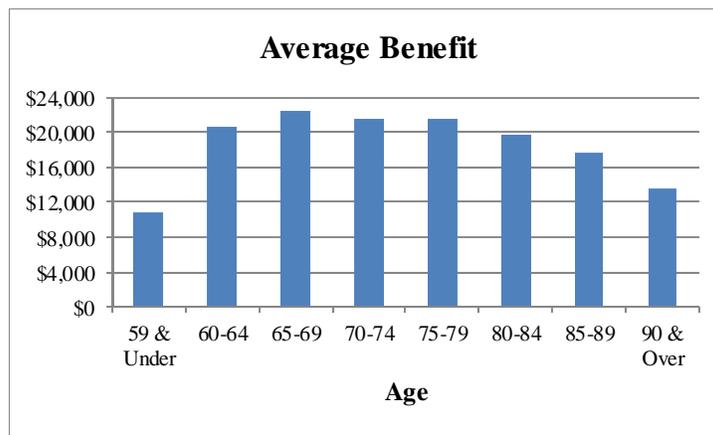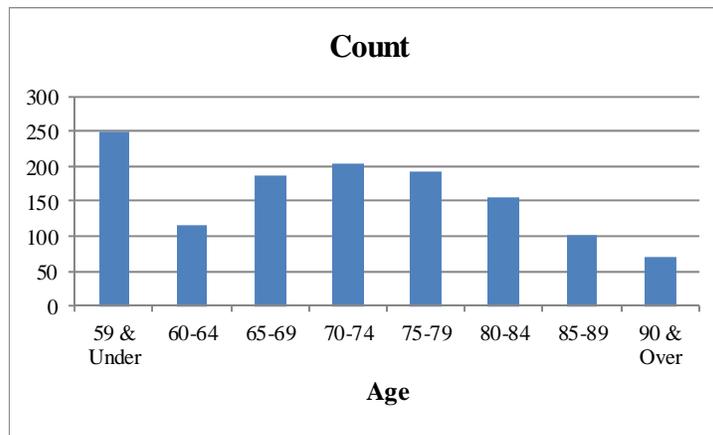
DISABLED MEMBERS
AS OF JULY 1, 2016

	Count of Members				Annual Benefits		
Age	Male	Female	Total		Male	Female	Total
59 & Under	20	52	72	$	264,142	$ 733,719	$ 997,861
60-64	15	52	67		205,676	837,890	1,043,566
65-69	25	53	78		297,992	645,188	943,180
70-74	16	25	41		223,073	336,175	559,248
75-79	14	21	35		187,033	251,249	438,282
80-84	7	16	23		111,849	218,989	330,838
85-89	5	4	9		55,198	60,426	115,624
90 & Over	1	1	2		22,579	18,841	41,420
Total	103	224	327	$	1,367,542	$ 3,102,477	$ 4,470,019

Count

Average Benefit

Member	Any person employed by a public school 20 or more hours per week shall be a member of the system. Employees at the date of establishment could have elected not to participate, and those covered under another system do not participate. The Tier Two benefit structure covers members joining the System on or after July 1, 2013.
Participation Date	Date of becoming a member.

Definitions

Final average earnings	The average of the three highest twelve month periods of service during the period ending on the earlier of the participant's termination date or retirement date. For employees who become a member on or after July 1, 1996, earnings will be capped at the maximum earning defined in Code 401(a) (17). For Tier Two members, it is the average of the five highest twelve month periods of service.
Fiscal year	Twelve month period ending June 30.
Contributions	Members contribute 9.78% of pay. 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. The School Districts contribute at a rate equal to 101% of the members' rate. The State contributes 2% of pay, effective July 1, 2014 (previously 1%).
Monthly pension benefit	The greater of (1) or (2).

(1) Amount: A monthly benefit equal to the sum of:

    (a) A savings annuity which is the actuarial equivalent of the member's accumulated contributions, and

    (b) A service annuity equal to $3.50 per year of service.

(2) Amount: Members employed by a class I, II, III, IV, VI School District may receive a formula annuity. The formula annuity is a monthly amount equal to the product of 2.00% of final average earnings times total years of service for those members who are employed on or after July 1, 2001.

To receive this benefit, retirement must occur after meeting the Rule of 85 requirements (minimum age 55) or attaining age 65. |

An automatic annual cost-of-living adjustment (COLA) equal to the change in the CPI-W index, with a maximum increase of 2.5% in any one year 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. For Tier Two members, whom are hired on or after July 1, 2013, an automatic cost-of-living adjustment (COLA) equal to the change in the CPI-W index, not to exceed 1.0% in any one year. No purchasing power COLA applies.

Normal Retirement Date (NRD)

First of month coinciding with or next following the attainment of age 65 and one-half year of service.

Service

Length of service includes all service as a school employee for which contributions have been made. This service only includes years for which the member was employed on at least a half-time basis, and includes declared emergency service in the armed forces, provided certain conditions are met. Special provisions allow credit for service prior to 1945 and for up to ten years of service in another State upon payment of the actuarial cost of the additional benefit granted.

Pensionable pay

Gross earnings subject to contributions.

Eligibility for Benefits

Deferred vested

Termination for reasons other than death or disability retirement after completing five years of service.

Disability retirement

Retirement by reason of disability.

Early retirement

Retirement before NRD and on or after both attaining age 60 and completing five years of service, or attaining 35 years of service regardless of age, or attaining age 55 and age plus service equals at least 85 (Rule of 85).

Normal retirement

Retire on NRD.

Postponed retirement

Retire after NRD.

Pre-retirement spouse benefit

Death prior to retirement.

Monthly Benefits Payable

Normal retirement

Monthly pension benefit determined as of NRD.

Early retirement	Monthly pension benefit determined as of early retirement date, reduced by 3% for each year that commencement of payment precedes age 65 (members must be age 60 with five years of service). Unreduced benefits are available to members who have attained age 55 and whose age plus service is greater than or equal to 85. Benefits payable upon retirement prior to age 60 (based on the 35 year service rule) are actuarially reduced from age 65. The service annuity is a life annuity actuarially reduced before age 65 using 8% interest and the 1994 Group annuity Mortality Table, 25% male, 75% female.
Postponed retirement	Monthly pension benefit determined as of actual retirement date.
Termination with deferred vested benefit	Monthly pension benefit determined as of termination date, reduced by 3% for each year that commencement of payment precedes age 65 (Early Commencement requires attainment of age 60).
Disability retirement	Monthly pension benefit determined as of disability retirement date.
Death with pre-retirement benefits	Survivor portion of 100% Joint and Survivor Annuity paid to spouse assuming retirement by member at death if the member is age 65 or has 20 years of service at death. If the member has met the 5-year vesting service requirement, has less than 20 years of service and is under age 65, the spouse may choose between the following two options:

(1) a lump sum equal to the member's contributions with interest plus 101% of the member's contributions with interest, and

(2) an annuity which equals the survivor portion of the 100% Joint and Survivor value of the member's accrued benefit, payable immediately, reduced for commencement before age 65 and the 100% joint and survivor form of payment.

Forms of payment	Pre-retirement death benefits are payable only as described above.
	Monthly pension benefits are paid under the form of payment elected by the retiree at retirement. Payment forms include: life annuity, 5-year certain and life annuity, 100% joint and survivor annuity (spouse only), 10-year certain and life annuity, 15-year certain and life annuity, or a modified cash refund annuity. The normal form of payment for the formula annuity is a 5-year certain and life annuity.

Funding Arrangement

Pursuant to LB 407 enacted in 2002, the School Retirement Fund is created. Balances existing on June 30, 2002 in the School Employers Deposit Account, the School Employees Savings Account, the Service Annuity Account, the Annuity Reserve Account, and the School Employees Retirement System Reserve Fund (RSRF) shall be combined and transferred into the School Retirement Fund.

There are four funds established in the State Treasury, which receive monies and pay the expenses and benefits of the retirement system, as follows:

1. School Retirement Fund – receives required deposits of the employers, the State, and employees. Upon retirement, the fund pays all savings annuities, service annuities, and formula annuities.

2. Contingent Account – receives all interest, dividends, and miscellaneous income, pays all regular interest allocated to the other accounts or funds, and meets any deficiencies occurring in the other accounts or funds.

3. Expense Fund – pays all expenses connected with the operation and administration of the system, and receives annual contributions to cover anticipated expenses.

4. Omaha Service Annuity Fund – pays service annuity benefits to Omaha members.

Benefits Reflected in Valuation

All benefits were valued, including future cost-of-living increases granted by statute.

Plan Provisions Effective after July 1, 2016

No future changes in plan provisions were recognized in determining the funded status or in determining the sufficiency of statutory contribution levels.

Changes in Plan Provisions Since the Prior Year

There have been no changes to plan provisions since the prior year.

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 80. Cost factors designed to produce annual costs as a constant 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 80 and determining an average normal cost rate which is then related to the total payroll of active members. The actuarial assumptions shown on the following page 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 80 and over, terminated vested members and disabled members not yet receiving benefits was determined as the actuarial present value of the benefits expected 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. At subsequent valuation dates, amortization bases equal to changes in the unfunded actuarial accrued liability are established and amortized with a level dollar payment over a 25-year period. Beginning July 1, 2006, the unfunded liability was reinitialized as of July 1, 2006 and amortized over a 30-year period. At subsequent valuation dates, amortization bases equal to changes in the unfunded actuarial accrued liability are established and amortized over a level dollar payment over a 30-year period. If the unfunded actuarial accrued liability is $0 or less on the valuation date, all previous amortization bases are considered fully amortized. Effective with the July 1, 2013 valuation, amortization payments were recalculated to amortize the remaining bases as a level percentage of expected payroll, per LB 553.

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

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 on 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.

Changes in Methods and Procedures since the Prior Year

There have been no changes to the methods and procedures since last year.

ACTUARIAL ASSUMPTIONS

Economic Assumptions

1. Investment Return   8.00% per annum, compounded annually, net of expenses.

2. Inflation   3.25% per annum, compounded annually

3. Salary Increases   Rates vary by service. Sample rates are as follows:

Rates by Service	
Years	Rate
<1	9.00%
1	8.50
5	6.96
10	5.68
15	5.21
20	4.95
25	4.74
30	4.57
35	4.32
40+	4.00

4. Payroll Growth   4.00% per annum

5. Investment on Employee Contributions   4.25% per annum compounded annually.

6. Increase in Compensation   3.25% per annum on the 401(a)(17) compensation limit and
    And Benefit Limits   415 benefit limit

Demographic Assumptions

1. Mortality   The mortality assumption includes an appropriate level of conservatism that reflects expected future mortality improvement.

   a. Healthy lives - Active members   1994 Group Annuity Mortality Table, projected to 2015 using scale AA, set-back 1 year (55% of male rates for males, 40% of female rates for females)

   b. Healthy lives – Retired members   1994 Group Annuity Mortality Table, projected to 2015
      and beneficiaries   using scale AA, set-back 1 year (sex distinct)

   c. Disabled lives   1983 Railroad Retirement Board Disabled Annuitants Mortality set-back 1 year (unisex)

d. Healthy mortality rates and life expectancies are shown below at sample ages:

	Pre-retirement Mortality			
	Mortality Rate		Life Expectancy (Years)	
Sample Age	Males	Females	Males	Females
20	0.02%	0.01%	68.3	74.7
30	0.04	0.01	58.5	64.8
40	0.05	0.02	48.7	54.9
50	0.09	0.04	39.0	45.0
60	0.28	0.14	29.5	35.3
70	0.89	0.46	20.8	26.1

	Post-retirement Mortality			
	Mortality Rate		Life Expectancy (Years)	
Sample Age	Males	Females	Males	Females
50	0.16%	0.09%	33.4	36.4
60	0.51	0.35	24.1	26.9
70	1.62	1.14	16.0	18.4
80	4.43	3.05	9.2	11.0
90	12.55	9.82	4.5	5.4

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

Sample Age	Mortality Rate	Life Expectancy
30	1.02%	30.7
40	1.29	23.8
50	3.00	17.7
60	4.14	13.5
70	6.38	9.5
80	9.97	6.2

2. Retirement

Rates vary by age and eligibility for benefits. Rates are as follows:

Retirement Rates When Eligible for Unreduced Benefits	
Age	**Rate**
55	25%
56	20
57	20
58	20
59	20
60	25
61	25
62	30
63	25
64	25
65	30
66	25
67	20
68	20
69	20
70	20
71	20
72	20
73	20
74	25
75	25
76	25
77	25
78	35
79	35
80	100

Retirement Rates When Eligible for Reduced Benefits	
Age	**Rate**
60	10%
61	12
62	15
63	12
64	18

3. Termination

Rates vary by service.
Sample rates are as follows:

Rates by Service		
Years	Male	Female
<1	27.5%	31.7%
1	17.0	20.3
5	6.7	8.4
10	4.3	4.7
15	2.5	3.1
20+	2.0	2.0

4. Disability

Rates vary by age.
Sample rates are as follows:

Age	Rate
25	.00%
30	.00
35	.02
40	.02
45	.03
50	.04
55	.07
60	.09

Other Assumptions

1. Form of Payment

Service annuity – Life annuity
Formula annuity – Five year certain and life annuity.

2. Marital Status
   a. Percent married
   b. Spouse's age

85% married
Females assumed to be two years younger than males.

3. Administrative Expense

Investment return is assumed to be net of expenses.

4. Commencement age for deferred vested benefit

Age 62

5. Cost of Living Adjustment

Service annuity – none
Formula annuity – For members hired before January 1, 2013, it is 2.50% per annum, compounded annually and 3.25% per annum, compounded annually, after reaching 75% purchasing power floor benefit. For members hired on or after January 1, 2013, it is 1.00% per annum, compounded annually, and there is no floor for the purchasing power of the benefit.

6. 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.

TECHNICAL VALUATION PROCEDURES

Data Procedures

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.

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

Future monthly benefit amounts are not calculated or available for deferred vested members. The benefit liability for deferred vested members was calculated by loading the accumulated member contribution balances for deferred vested members by 100% to estimate the value of deferred benefit payments.

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

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

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