



**Cavanaugh Macdonald**  
CONSULTING, LLC

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# **GASB STATEMENT NO. 68 REPORT**

**FOR THE**

**NEBRASKA PUBLIC EMPLOYEES**

**RETIREMENT SYSTEM**

**SERVICE ANNUITY PLAN**

**MEASUREMENT DATE: JUNE 30, 2017**





# Cavanaugh Macdonald

CONSULTING, LLC

*The experience and dedication you deserve*

July 31, 2018

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

Dear Members of the Board:

Presented in this report is information to assist the Nebraska Public Employees Retirement System in providing information required under the Governmental Accounting Standards Board (GASB) Statement No. 68 to the State of Nebraska. GASB Statement No. 68 establishes accounting and financial reporting requirements for governmental employers who provide pension benefits to their employees through a trust. This report, which has been prepared as of June 30, 2017, is intended for use in the State's financial reporting for fiscal year 2018. Please note that although the funding for both the Nebraska School Retirement System and Service Annuity Fund are commingled in one trust, separate reporting has been prepared under GASB 68. This report includes only the relevant GASB 68 information and schedules for the Service Annuity Fund. Please note that the discount rate used to determine the Total Pension Liability (TPL) changed from 8.00% at the Prior Measurement Date to 7.50% at the current Measurement Date.

The annual actuarial valuation used as the basis for much of the information presented in this report was performed as of July 1, 2017. The valuation was based upon data, furnished by the Nebraska Public Employees Retirement System staff with the agreement of the Omaha School Employees' Retirement System, concerning active, inactive and retired members along with pertinent financial information. This information was reviewed for completeness and internal consistency, but was not audited by us. The valuation results depend on the integrity of the data. If any of the information is inaccurate or incomplete, our results may be different and our calculations may need to be revised. Please see the actuarial valuation for additional details on the funding requirements for the System including actuarial assumptions and methods and the Plan's funding policy.

To the best of our knowledge, the information contained in this report is complete and accurate. Certain information about the Plan and where additional information can be found was provided by the Nebraska Public Employees Retirement System and used in this report. The calculations were performed by qualified actuaries according to generally accepted actuarial principles and practices, as well as in conformity with Actuarial Standards of Practice issued by the Actuarial Standards Board. The calculations are based on the current provisions of the System, and on actuarial assumptions that are internally consistent and individually reasonable based on the actual experience of the System. In addition, the calculations were completed in compliance with applicable law and, in our opinion, meet the requirements of GASB 68.



Board of Trustees  
July 31, 2018  
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These results are only for financial reporting and may not be appropriate for funding purposes or other types of analysis. Calculations for purposes other than satisfying the requirements of GASB 68 may produce significantly different results. Future actuarial results may differ significantly from the current results presented in this report due to such factors as changes in plan experience or changes in economic or demographic assumptions.

We, Patrice A. Beckham, FSA and Brent A. Banister, FSA, 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 this report or to provide explanations or further details as may be appropriate.

Respectfully submitted,

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

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

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

Brent A. Banister, PhD, FSA, EA, FCA, MAAA  
Chief Actuary



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**GASB STATEMENT NO. 68**  
**NEBRASKA PUBLIC EMPLOYEES RETIREMENT SYSTEM**

**OMAHA SERVICE ANNUITY**

**SECTION I - SUMMARY OF PRINCIPAL RESULTS**

| <b>Valuation Date (VD):</b>                                      | July 1, 2017      |
|--|-------------------|
| <b>Prior Measurement Date:</b>                                   | June 30, 2016     |
| <b>Measurement Date (MD):</b>                                    | June 30, 2017     |
| <b>Membership Data:</b>  |                   |
| Inactive Vested Members  | 1,035             |
| Active Employees   | <u>7,466</u>      |
| Total  | 8,501             |
| <b>Single Equivalent Interest Rate (SEIR):</b>                   |                   |
| Long-Term Expected Rate of Return                                | 7.50%             |
| Municipal Bond Index Rate at Prior Measurement Date              | 3.01%             |
| Municipal Bond Index Rate at Measurement Date                    | 3.56%             |
| Year in which Fiduciary Net Position is Projected to be Depleted | N/A               |
| Single Equivalent Interest Rate at Prior Measurement Date        | 8.00%             |
| Single Equivalent Interest Rate at Measurement Date              | 7.50%             |
| <b>Net Pension Liability:</b>                                    |                   |
| Total Pension Liability (TPL)                                    | \$16,645,042      |
| Fiduciary Net Position (FNP)                                     | <u>11,132,943</u> |
| Net Pension Liability (NPL = TPL – FNP)                          | \$5,512,099       |
| FNP as a percentage of TPL                                       | 66.88%            |
| <b>Pension Expense:</b>  | \$1,148,365       |
| <b>Deferred Outflows of Resources:</b>                           | \$2,755,941       |
| <b>Deferred Inflows of Resources:</b>                            | \$884,352         |



## **SECTION II – INTRODUCTION**

The Governmental Accounting Standards Board issued Statement No. 68 (GASB 68), “*Accounting and Financial Reporting for Pensions*” in June 2012. GASB 68’s effective date for employers was the first fiscal year beginning after June 15, 2014.

For purposes of reporting under GASB 68, the School Employees Retirement Plan and Service Annuity Fund (Plan) are reported separately because they have separate benefit structures and separate funding of those benefits. Therefore, the liability and expense calculations should be made in a manner that reflects those separate relationships. The Service Annuity Fund is treated as a single employer defined benefit pension plan under GASB 68 because only employees of the Omaha Public School District are covered by the Plan.

This report, prepared as of June 30, 2017 (the Measurement Date), presents information to assist the Nebraska Public Employees Retirement System in providing the required information under GASB 68 to the State of Nebraska for their use in financial reporting for the fiscal year ending June 30, 2018. GASB 68 permits the measurement date as of a date no earlier than the end of the employer’s prior fiscal year. Because the fiscal year for the Omaha Public School District ends August 31, 2018, it is our understanding that this report cannot be used by the Omaha Public School District for their fiscal year ending August 31, 2018.

Much of the material provided in this report is based on the results of the July 1, 2017 Actuarial Valuation report for the School Employees Retirement Plan, which was issued November 8, 2017. See that report for more information on the member data, actuarial assumptions and methods used in developing these results.

GASB 68 requires the inclusion of a Net Pension Liability (NPL) on the employer’s Statement of Net Position and a determination of a Pension Expense (PE) in the Notes to the Financial Statements, that may bear little relationship to the employer’s funding requirements. In fact, it is possible in some years for the NPL to be an asset or the PE to be an income item. The NPL is set equal to the Total Pension Liability (TPL) minus the Fiduciary Net Position (FNP). The benefit provisions recognized in the calculation of the TPL are summarized in Appendix B.

PE includes amounts for Service Cost (the Normal Cost under Entry Age Normal (EAN) for the year), interest on the TPL, employee contributions, administrative expenses, other cash flows during the year, recognition of increases/decreases in the TPL due to changes in the benefit structure, actual versus expected experience, actuarial assumption changes, and recognition of investment gains/losses. The actual experience and assumption change impacts are recognized over the average expected remaining service life of the Plan membership as of the beginning of the measurement period, while investment gains/losses are recognized equally over five years. The development of the PE is shown in Section III. The unrecognized portions of each year’s experience, assumption changes and investment gains/losses are used to develop Deferred Inflows of Resources and Deferred Outflows of Resources, which also must be included on the employer’s Statement of Net Position.



Among the items needed for the TPL calculation is a discount rate, as defined by GASB, or a Single Equivalent Interest Rate (SEIR). To determine the SEIR, the FNP must be projected into the future for as long as there are anticipated benefits payable under the plan's provision applicable to the membership and beneficiaries of the Plan on the Measurement Date. If the FNP is not projected to be depleted at any point in the future, the long-term expected rate of return on plan investments expected to be used to finance the benefit payments may be used as the SEIR.

If, however, the FNP is projected to be depleted at a future measurement date, the SEIR is determined as the single rate that will generate a present value of benefit payments equal to the sum of the present value determined by discounting all projected benefit payments through the date of depletion by the long-term expected rate of return, and the present value determined by discounting those benefits after the depletion date by a 20-year tax-exempt municipal bond (rating AA/Aa or higher) rate (Municipal Bond Index Rate). The rate used, if necessary, for this purpose is the monthly average of the Bond Buyer General Obligation 20-year Municipal Bond Index (formerly published monthly by the Board of Governors of the Federal Reserve System).

Our calculations indicated that the FNP is not projected to be depleted, so the Municipal Bond Index Rate is not used in the determination of the SEIR for either the June 30, 2016 or the June 30, 2017 TPL. The SEIR for the Prior Measurement Date was 8.00% and the SEIR for the current Measurement Date is 7.50%, the long-term assumed rate of return on investments. The SEIR for both the Measurement Date and Prior Measurement Date meets the requirements of GASB 67 and 68.

The FNP projections are based upon the Service Annuity Fund's financial status on the Measurement Date, the indicated set of methods and assumptions, and the requirements of GASB 67 and 68. As such, the FNP projections are not reflective of the cash flows and asset accumulations that would occur on an ongoing plan basis, reflecting the impact of future members. Therefore, the results of this test do not necessarily indicate whether or not the fund will actually run out of money, the financial condition of the Service Annuity Fund, or the Fund's ability to make benefit payments in future years.

The benefits provided to both members of the Nebraska School Retirement System (whose membership includes school employees in all school districts in the state other than the Omaha Public School District) and the Service Annuity Fund (which covers only employees of the Omaha Public School District) are funded through one trust. However, separate contribution amounts are determined for each plan on a standalone basis. Paragraph 49 of GASB 68 provides "to the extent that different contribution rates are assessed based on separate relationships that constitute the NPL, the determination of the employer's proportionate share of the NPL should be made in a manner that reflects those separate relationships." Therefore, the calculation of NPL, PE, and Deferred Inflows of Resources and Deferred Outflows of Resources was performed separately for each of the two groups: School Employees Retirement System and the Service Annuity Fund. Only the information for the Service Annuity Fund is reported here. A separate report has been prepared for the School Retirement System.

The sections that follow provide the results of all the required calculations, presented in the order laid out in GASB 68 for note disclosure and Required Supplementary Information (RSI). Some of this information was provided by the Nebraska Public Employees Retirement System for use in this report. These sections, not prepared by Cavanaugh Macdonald LLC, are: Paragraphs 37, 38, 40(a)-(b), 40(d)-(e), 43 and 45(e)-(f).



### **SECTION III – PENSION EXPENSE**

As noted earlier, the Pension Expense (PE) consists of a number of different items. GASB 68 refers to the first item as Service Cost, which is the Normal Cost using the Entry Age Normal (EAN) actuarial funding method. The second item is interest on the TPL at 8.00%, the SEIR in effect as of the Prior Measurement Date.

The next three items refer to any changes that occurred in the TPL due to:

- benefit changes,
- actual versus expected experience, or
- changes in actuarial assumptions or other inputs.

Benefit changes, which are reflected immediately, will increase PE if there is a benefit improvement for existing Plan members, or decrease PE if there is a benefit reduction. For the year ended June 30, 2017 there were no benefit changes to be recognized.

The next item to be recognized is the portion of current year changes in TPL due to actual versus expected experience for the year. The portion to recognize in the current year is determined by spreading the total change over the average expected remaining service life of the entire Plan membership at the beginning of the measurement period. The average expected remaining service life of active members is the average number of years the active members are expected to remain in covered employment. At the beginning of the measurement period this number is 10.87 years. The average expected remaining service life of the inactive members is zero. Therefore, the recognition period is the weighted average of these two amounts, or 9.59 years.

The last item under changes in TPL is changes in actuarial assumptions or other inputs. There were a number of changes in the actuarial assumptions or other inputs since the Prior Measurement Date. These changes will be recognized over the average expected remaining service life of the entire Plan membership, using the same approach applied to experience gains and losses as described in the prior paragraph.

Employee contributions for the year and projected earnings on the FNP at the long-term expected rate of return are subtracted from the amount determined thus far. One-fifth of current-period differences between projected and actual earnings on the FNP is recognized in the PE.

The current year portions of previously determined experience, assumption changes and earnings amounts, recognized as Deferred Outflows of Resources and Deferred Inflows of Resources are included next. Deferred Outflows of Resources are added from the PE while Deferred Inflows of Resources are subtracted from the PE. Finally, administrative expenses and other miscellaneous items are included.

The calculation of the PE for the year ended June 30, 2017 is shown in the following table.





**Pension Expense  
For the Year Ended**

| June 30, 2017   |                    |
|---|--------------------|
| Service Cost at end of year   | \$720,729          |
| Interest on the Total Pension Liability   | 1,087,339          |
| Benefit term changes  | 0                  |
| Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability | (9,801)            |
| Expensed portion of current-period assumption changes   | 237,370            |
| Employee contributions  | 0                  |
| Projected earnings on plan investments  | (810,858)          |
| Expensed portion of current-period differences between projected and actual earnings on plan investments            | (109,407)          |
| Administrative expenses   | 0                  |
| Other changes   | 0                  |
| Recognition of beginning Deferred Outflows of Resources   | 251,677            |
| Recognition of beginning Deferred Inflows of Resources  | (218,684)          |
| <b>Total Pension Expense</b>  | <b>\$1,148,365</b> |

Note: Average expected remaining service life for all members is 9.59 years.



## **SECTION IV – NOTES TO FINANCIAL STATEMENTS**

The material presented herein will follow the order presented in GASB 68. Paragraph numbers are provided for ease of reference.

**Paragraph 37:** This information is available in the State CAFR online at:

[http://das.nebraska.gov/accounting/financial\\_reports/cafrcon.html](http://das.nebraska.gov/accounting/financial_reports/cafrcon.html)

**Paragraph 38:** The State of Nebraska is the plan sponsor for the Service Annuity Fund, the Schools' Retirement System, the Judges' Retirement System, the State Patrol Retirement System, and the State Employees' Retirement System Cash Balance Benefit Fund. All are single-employer defined benefit pension plans. Information for paragraphs 39 to 45 for the Service Annuity Fund (which provides benefits only to the employees of the Omaha Public School District) can be found on the following pages. Similar information for the Judges Retirement System, State Patrol Retirement System and the State Employees' Cash Balance Benefit Fund can be found in the GASB 68 report for those systems.

**Paragraph 39:** Not Applicable.

**Paragraph 40(a):** The name of the pension plan is the Service Annuity Fund and it is administered by the Nebraska Public Employees Retirement Board which was created in 1971 to administer all of the Nebraska retirement plans. The Service Annuity Fund is a single-employer defined benefit pension plan that provides benefits for the employees of the Omaha Public School District. A special funding situation exists because the benefits provided to the employees of the Omaha Public School District are funded exclusively by the state of Nebraska (considered a non-employer contributing entity for GASB 68 purposes).

The Service Annuity Fund has been created in accordance with Internal Revenue Code Sections 401(a) and 414(h), and 414(k). Please refer to Neb. Rev. Stat. § 79-916 (Reissue 2014, Cum. Supp. 2016) for the establishment of the Fund within the NPERS trust. Benefit and contribution provisions are established by State law and may be amended only by the Nebraska Legislature.

**Paragraph 40(b):**

**(1) Classes of employees covered:** The membership includes employees of the Omaha Public School District.

**(2) Types of benefits:** The benefit provided is a retirement benefit (called a service annuity) that is equal to \$3.50 times years of service.

**(3) Key elements of the pension formulas:** Retirement is at age 65 with five years of service. Early retirement is at age 55 with 10 years of service, five of which must be with the Omaha Public School District. The benefit vests when the member has five years of service.

**(4) Terms with respect to automatic postemployment benefit changes, including automatic COLAs and ad hoc COLAs:** There is no automatic COLA with this benefit.



**(5) Authority under which benefit terms are established or may be amended:** Benefit and contribution provisions are established by State law (Neb. Rev. Stat. §§ 79-901 through 79-977.03 (Reissue 2014, Cum. Supp. 2016, Supp. 2017) and may be amended only by the Nebraska Legislature.

**Paragraph 40(c):** The data required regarding the membership of the Plan were furnished by the Omaha School Employees’ Retirement System at the request of NPERS. The following table summarizes the membership of the Plan as of July 1, 2017 (the Valuation Date). The July 1, 2017 valuation was used to determine the June 30, 2017 TPL.

**Membership**

| Number as of July 1, 2017                                   |              |
|---|--------------|
| Inactive Members Entitled To But Not Yet Receiving Benefits | 1,035        |
| Active Members  | <u>7,466</u> |
| Total   | 8,501        |

**Paragraph 40(d):**

- (1) **Basis for determining the employer’s contributions to the plan:** Pursuant to state statute, the State pays an amount equal to the actuarial required contribution for the Service Annuity Fund.
- (2) **Identification of the authority under which contribution requirements of the employer and employees are established or may be amended:** contribution provisions are established by State law (Neb. Rev. Stat. §§ 79-901 through 79-977.03 (Reissue 2014, Cum. Supp. 2016, Supp. 2017) and may be amended only by the Nebraska Legislature.
- (3) **The contribution rates (in dollars or as a percentage of covered payroll) of those entities for the reporting period:**

**Members:** No member contributions are required.

**State contributions:** An amount equal to the actuarial required contribution for the Service Annuity benefit for employees of the Omaha Public School District.

**Amount of contributions recognized by the pension plan from the employer during the reporting period (only the total amounts recognized as additions to the plan’s fiduciary net position are reflected here):** For the fiscal year ending June 30, 2017 the plan received \$992,451 in non-employer contributions from the State. There are no employer contributions made to the Plan.



**Paragraph 40(e): Whether the pension plan issues a stand-alone financial report (or the pension plan is included in the report of a public employee retirement system or another government) that is available to the public and, if so, how to obtain the report:** Annually, the Nebraska Public Employees Retirement System prepares stand-alone financial statements for the Service Annuity Fund. The audited financial statement reports can be found at:

<http://www.nebraska.gov/auditor/FileSearch/entityresults.cgi?id=Retirement%20Systems%2C%20Public%20Employees>

**Paragraph 41:** This paragraph requires information to be disclosed regarding the significant actuarial assumptions and other inputs used to measure the TPL. The complete set of actuarial assumptions and other inputs utilized in developing the TPL are outlined in Appendix C. The TPL as of June 30, 2017 was determined by an actuarial valuation performed as of July 1, 2017, using the following key actuarial assumptions and other inputs:

|   |   |
|---|---|
| Price Inflation   | 2.75 percent  |
| Wage Inflation  | 3.50 percent  |
| Salary increases, including wage inflation  | 3.50 – 8.50 percent   |
| Long-term Rate of Return, net of investment expense, including price inflation        | 7.50 percent  |
| Cost-of-Living-Adjustment   | None  |
| Municipal Bond Index Rate   | 3.56 percent  |
| Year FNP is projected to be depleted  | N/A   |
| Single Equivalent Interest Rate, net of investment expense, including price inflation | 7.50 percent  |
| Mortality   | Pre-retirement mortality rates were based on the RP-2014 White Collar Table for Employees (100% of male rates for males, 55% of female rates for females), projected generationally with MP-2015.<br><br>Post-retirement mortality rates were based on the RP-2014 White Collar Table for Employees, set back two years, scaled (males: |



under 80, 1.008; over 80, 1.449; females: under 85, 0.924; over 85, 1.5855; geometrically blended), projected generationally with a SOA projection scale tool using 0.5% ultimate rate in 2035.

Disabled mortality rates were based on the RP-2014 Disabled Lives Table (static table).

The actuarial assumptions used in the valuation are based on the results of the actuarial experience study, which covered the four-year period ending June 30, 2015. The experience study report is dated November 17, 2016.

**Paragraph 42:**

**(a): Discount rate (SEIR).** The discount rate used to measure the TPL at June 30, 2017 was 7.50 percent. The discount rate used to measure the TPL at June 30, 2016 was 8.00 percent.

**(b): Projected cash flows.** The projection of cash flows used to determine the discount rate assumed that plan contributions from the State of Nebraska will be made at the current contribution rates as set out in state statute:

- a. State contribution amount: The actuarially determined contribution amount based on the funding policy in state statute.

Based on those assumptions, the Plan's FNP was projected to be available to make all projected future benefit payments of current Plan members. Therefore, the long-term expected rate of return on Plan investments of 7.50% was applied to all periods of projected benefit payments to determine the TPL.

The FNP projections are based upon the Plan's financial status on the Measurement Date, the indicated set of methods and assumptions, and the requirements of GASB 68. As such, the FNP projections are not reflective of the cash flows and asset accumulations that would occur on an ongoing plan basis, reflecting the impact of future members. Therefore, the results of this test do not necessarily indicate whether or not the fund will actually run out of money, the financial condition of the Plan, or the Plan's ability to make benefit payments in future years.

**(c): Long-term rate of return.** The long-term expected rate of return on pension plan investments is reviewed regularly as part of the experience study. The experience analysis was performed and results provided in a report dated November 17, 2016. Generally, several factors are considered in evaluating the long-term rate of return assumption including long-term historical data, estimates inherent in current market data, and an analysis in which best-estimate ranges of expected future real rates of return (expected returns, net of investment expense and inflation), along with estimates of variability and correlations for each asset class, were developed by the System's investment consultant. These ranges were combined to develop the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and then



adding expected inflation. The capital market assumptions developed by investment consultants are often intended for use over a 10-year investment horizon and are not always useful in setting the long-term rate of return for funding pension plans which covers a longer timeframe. The long-term rate of return assumption is intended to be a long-term assumption (30 to 50 years) and is not expected to change absent a significant change in the asset allocation, a change in the inflation assumption, or a fundamental change in the market that alters expected returns in future years.

**(d): Municipal bond rate.** A municipal bond rate was not used in determining the discount rate. If it were required, the rate would be 3.56% on the Measurement Date.

**(e): Periods of projected benefit payments.** Projected future benefit payments for all current plan members were projected through 2116.

**(f): Assumed asset allocation.** The target asset allocation and best estimates of arithmetic real rates of return for each major asset class as of the most recent experience study, as provided by the System's investment consultant, Aon Hewitt Investment Consulting, Inc., are summarized in the following table:

| Asset Class                    | Target Allocation | Long-Term Expected Real Rate of Return* |
|--------------------------------|-------------------|---|
| Large Cap U.S. Equity          | 26.1%             | 5.83%                                   |
| Small Cap U.S. Equity          | 2.9%              | 7.56%                                   |
| Global Equity                  | 15.0%             | 6.51%                                   |
| International Developed Equity | 10.8%             | 6.80%                                   |
| Emerging Markets               | 2.7%              | 10.55%                                  |
| Core Bonds                     | 20.0%             | 1.63%                                   |
| High Yield                     | 3.5%              | 5.22%                                   |
| Bank Loans                     | 5.0%              | 2.78%                                   |
| International Bonds            | 1.5%              | 1.41%                                   |
| Private Equity                 | 5.0%              | 9.70%                                   |
| Real Estate                    | <u>7.5%</u>       | 5.18%                                   |
| Total                          | 100.0%            |   |

\*Arithmetic mean, net of investment expenses



**(g): Sensitivity analysis.** This paragraph requires disclosure of the sensitivity of the NPL to changes in the discount rate. The following presents the NPL of the System, calculated using the discount rate of 7.50 percent, as well as the System’s NPL calculated using a discount rate that is 1-percentage-point lower (6.50 percent) or 1-percentage-point higher (8.50 percent) than the current rate.

|                       | 1% Decrease<br>(6.50%) | Current Discount<br>Rate (7.50%) | 1% Increase<br>(8.50%) |
|-----------------------|------------------------|----------------------------------|------------------------|
| Net Pension Liability | \$8,019,230            | \$5,512,099                      | \$3,417,560            |

**Paragraph 43:** The Plans’ financial statements were prepared on the accrual basis of accounting. Under this method, revenues are recorded when earned and expenses are recorded when a liability is incurred. Employee and employer contributions are recognized in the period in which employee services are performed. Benefits and refunds are recognized when due and payable in accordance with the terms of the Plan.

Investments as reported in the financial statements include long-term investments. Law or legal instruments may restrict these investments. All investments are stated at fair value, based on quoted market prices. For investments where no readily ascertainable fair value exists, management has received an estimate of fair value from the investment fund manager based, in part, on real estate appraisals. The State Treasurer is the custodian of all funds; however, investment of funds is under the responsibility of the Nebraska Investment Council.

There have been no changes since the measurement date that would materially alter the pension plans’ financial report.

This information can be found in the published financials online at: <http://npers.ne.gov/SelfService/>. Go to ‘Related Links’ and click on ‘Retirement Plan Audits’.



**Paragraph 44 (a) – (c):** This paragraph requires a schedule of changes in NPL. The necessary information is provided in the table below for fiscal year ended June 30:

|  | Total Pension<br>Liability<br>(a) | Plan Fiduciary Net<br>Position<br>(b) | Net Pension<br>Liability<br>(a) – (b) |
|--|-----------------------------------|---------------------------------------|---------------------------------------|
| <b>Balances at June 30, 2016</b>                   | \$14,354,771                      | \$10,482,787                          | \$3,871,984                           |
| <b>Changes for the year:</b>                       |                                   |                                       |                                       |
| Service Cost at end of year                        | 720,729                           |                                       | 720,729                               |
| Interest on TPL                                    | 1,087,339                         |                                       | 1,087,339                             |
| Benefit term changes                               | 0                                 |                                       | 0                                     |
| Differences between expected and actual experience | (93,993)                          |                                       | (93,993)                              |
| Assumption changes                                 | 2,276,382                         |                                       | 2,276,382                             |
| Employer contributions                             |                                   | 0                                     | 0                                     |
| Non-Employer contributions                         |                                   | 992,451                               | (992,451)                             |
| Employee contributions                             |                                   | 0                                     | 0                                     |
| Net investment income                              |                                   | 1,357,891                             | (1,357,891)                           |
| Benefit payments, including member refunds         | (1,700,186)                       | (1,700,186)                           | 0                                     |
| Administrative expenses                            |                                   | 0                                     | 0                                     |
| Other changes                                      |                                   | 0                                     | 0                                     |
| <b>Net changes</b>                                 | <u>2,290,271</u>                  | <u>650,156</u>                        | <u>1,640,115</u>                      |
| <b>Balances at June 30, 2017</b>                   | \$16,645,042                      | \$11,132,943                          | \$5,512,099                           |

**Paragraph 44(d):** (1) The non-employer contributing entity is the State, whose proportionate share of the collective NPL is 100%.  
 (2) The employer is the Omaha Public School District and their proportionate share of the collective NPL is 0%.





**Paragraph 45:**

**(a):** The Measurement Date of the NPL is June 30, 2017. The TPL as of June 30, 2017 was determined based upon an actuarial valuation performed as of the Valuation Date, July 1, 2017.

**(b):** The employer's proportion of the collective NPL is 0%. The State pays for 100% of the cost of providing the Service Annuity benefit for the Omaha Public School District's employees, and, therefore, has a 100% proportionate share of the collective NPL. There has been no change in proportionate share since the Prior Measurement Date.

**(c):** There were a number of changes in the actuarial assumptions since the Prior Measurement Date. These changes are detailed in Appendix C of this report.

**(d):** There were no changes in the benefit terms since the Prior Measurement Date.

**(e):** There were no benefit payments in the measurement period attributable to the purchase of allocated insurance contracts.

**(f):** Based on the available information, the Nebraska Public Employees Retirement System believes that there are no changes between the Measurement Date of the NPL (June 30, 2017) and the employer's reporting date (June 30, 2018) that are expected to have a significant effect on the NPL.

**(g):** Please see Section III of this report for the development of the PE.

**(h):** Since certain expense items are recognized over closed periods each year, the deferred portions of these items must be tracked annually. If the amounts serve to reduce PE they are labeled Deferred Inflows of Resources. If they will increase PE they are labeled Deferred Outflows of Resources. The recognition of these amounts is accomplished on a level dollar basis, with no interest included in the deferred amounts. Experience gains/losses and the impact of changes in actuarial assumptions, if any, are recognized over the average expected remaining service life of the active and inactive Plan members at the beginning of the measurement period. Investment gains and losses are recognized equally over a five-year period.



The following tables provide a summary of the amounts of the Deferred Outflows of Resources and Deferred Inflows of Resources as of the Measurement Date (June 30, 2017). Per GASB 68, reporting of the differences between projected and actual earnings should be on a net basis, with only one Deferred Outflow or Inflow. This information is provided in the following table:

|   | Deferred Outflows<br>of Resources | Deferred Inflows<br>of Resources | Net Deferred<br>Outflows/(Inflows)<br>of Resources |
|---|-----------------------------------|----------------------------------|--|
| Differences between expected<br>and actual experience | \$100,802                         | \$249,838                        | (\$149,036)  |
| Changes of assumptions                                | 2,039,012                         | 0                                | 2,039,012  |
| Differences between projected<br>and actual earnings  | 616,127                           | 634,514                          | (18,387)   |
| Changes in proportion                                 | <u>0</u>                          | <u>0</u>                         | <u>0</u>   |
| Total   | \$2,755,941                       | \$884,352                        | \$1,871,589  |



The following tables show the Deferred Outflows of Resources and Deferred Inflows of Resources separately to provide additional detail.

| <b>Deferred Outflows of Resources</b>                     |                      |                     |                    |                      |  |
|---|----------------------|---------------------|--------------------|----------------------|--|
|   | <b>June 30, 2016</b> | <b>Additions</b>    | <b>Recognition</b> | <b>June 30, 2017</b> |  |
| <b>Differences between expected and actual experience</b> |                      |                     |                    |                      |  |
| 2014 Base   | \$ 21,338            | \$ 0                | \$ 3,070           | \$ 18,268            |  |
| 2015 Base   | 94,707               | 0                   | 12,173             | 82,534               |  |
| 2016 Base   | 0                    | 0                   | 0                  | 0                    |  |
| 2017 Base   | <u>0</u>             | <u>0</u>            | <u>0</u>           | <u>0</u>             |  |
| Total   | \$ 116,045           | \$ 0                | \$ 15,243          | \$ 100,802           |  |
| <b>Changes of assumptions</b>                             |                      |                     |                    |                      |  |
| 2014 Base   | \$ 0                 | \$ 0                | \$ 0               | \$ 0                 |  |
| 2015 Base   | 0                    | 0                   | 0                  | 0                    |  |
| 2016 Base   | 0                    | 0                   | 0                  | 0                    |  |
| 2017 Base   | <u>0</u>             | <u>2,276,382</u>    | <u>237,370</u>     | <u>2,039,012</u>     |  |
| Total   | \$ 0                 | \$ 2,276,382        | \$ 237,370         | \$ 2,039,012         |  |
| <b>Differences between projected and actual earnings</b>  |                      |                     |                    |                      |  |
| 2014 Base   | \$ 0                 | \$ 0                | \$ 0               | \$ 0                 |  |
| 2015 Base   | 279,528              | 0                   | 93,176             | 186,352              |  |
| 2016 Base   | 573,033              | 0                   | 143,258            | 429,775              |  |
| 2017 Base   | <u>0</u>             | <u>0</u>            | <u>0</u>           | <u>0</u>             |  |
| Total   | \$ 852,561           | \$ 0                | \$ 236,434         | \$ 616,127           |  |
| <b>Changes in proportion</b>                              |                      |                     |                    |                      |  |
| 2014 Base   | \$ 0                 | \$ 0                | \$ 0               | \$ 0                 |  |
| 2015 Base   | 0                    | 0                   | 0                  | 0                    |  |
| 2016 Base   | 0                    | 0                   | 0                  | 0                    |  |
| 2017 Base   | <u>0</u>             | <u>0</u>            | <u>0</u>           | <u>0</u>             |  |
| Total   | \$ 0                 | \$ 0                | \$ 0               | \$ 0                 |  |
| <b>Total</b>  | <b>\$ 968,606</b>    | <b>\$ 2,276,382</b> | <b>\$ 489,047</b>  | <b>\$ 2,755,941</b>  |  |



| Deferred Inflows of Resources                      |               |                |                |               |                |
|--|---------------|----------------|----------------|---------------|----------------|
|  | June 30, 2016 | Additions      | Recognition    | June 30, 2017 |                |
| Differences between expected and actual experience |               |                |                |               |                |
| 2014 Base  | \$ 0          | \$ 0           | \$ 0           | \$            | 0              |
| 2015 Base  | 0             | 0              | 0              |               | 0              |
| 2016 Base  | 187,441       | 0              | 21,795         |               | 165,646        |
| 2017 Base  | <u>0</u>      | <u>93,993</u>  | <u>9,801</u>   |               | <u>84,192</u>  |
| Total  | \$ 187,441    | \$ 93,993      | \$ 31,596      | \$            | 249,838        |
| Changes of assumptions                             |               |                |                |               |                |
| 2014 Base  | \$ 0          | \$ 0           | \$ 0           | \$            | 0              |
| 2015 Base  | 0             | 0              | 0              |               | 0              |
| 2016 Base  | 0             | 0              | 0              |               | 0              |
| 2017 Base  | <u>0</u>      | <u>0</u>       | <u>0</u>       |               | <u>0</u>       |
| Total  | \$ 0          | \$ 0           | \$ 0           | \$            | 0              |
| Differences between projected and actual earnings  |               |                |                |               |                |
| 2014 Base  | \$ 393,777    | \$ 0           | \$ 196,889     | \$            | 196,888        |
| 2015 Base  | 0             | 0              | 0              |               | 0              |
| 2016 Base  | 0             | 0              | 0              |               | 0              |
| 2017 Base  | <u>0</u>      | <u>547,033</u> | <u>109,407</u> |               | <u>437,626</u> |
| Total  | \$ 393,777    | \$ 547,033     | \$ 306,296     | \$            | 634,514        |
| Changes in proportion                              |               |                |                |               |                |
| 2014 Base  | \$ 0          | \$ 0           | \$ 0           | \$            | 0              |
| 2015 Base  | 0             | 0              | 0              |               | 0              |
| 2016 Base  | 0             | 0              | 0              |               | 0              |
| 2017 Base  | <u>0</u>      | <u>0</u>       | <u>0</u>       |               | <u>0</u>       |
| Total  | \$ 0          | \$ 0           | \$ 0           | \$            | 0              |
| Total  | \$ 581,218    | \$ 641,026     | \$ 337,892     | \$            | 884,352        |



**(i):** Amounts reported as Deferred Outflows of Resources and Deferred Inflows of Resources related to pensions will be recognized in PE in future fiscal years as follows:

| <b>Fiscal Year<br/>Ending June 30:</b> | <b>Deferred Outflows<br/>of Resources</b> | <b>Deferred Inflows<br/>of Resources</b> | <b>Net Deferred<br/>Outflows/(Inflows)<br/>of Resources</b> |
|--|---|--|---|
| 2019                                   | \$489,047                                 | \$337,891                                | \$151,156   |
| 2020                                   | 489,047                                   | 141,003                                  | 348,044   |
| 2021                                   | 395,872                                   | 141,003                                  | 254,869   |
| 2022                                   | 252,613                                   | 141,001                                  | 111,612   |
| 2023                                   | 252,613                                   | 31,596                                   | 221,017   |
| Thereafter                             | 876,749                                   | 91,858                                   | 784,891   |

**(j):** The amount of revenue the Omaha Public School District receives from the non-employer contributing entity (the State) for the Service Annuity benefit is 100% of the Pension Expense.



## **SECTION V – REQUIRED SUPPLEMENTARY INFORMATION**

There are several tables of Required Supplementary Information (RSI) that need to be included in the Plan's financial statements:

**Paragraphs 46(a) - (c):** The required tables of schedules are provided in Appendix A.

**Paragraph 47:** Significant methods and assumptions used in calculating the Actuarially Determined Contributions, if any, should be presented as notes to the schedule required by paragraph 46(c). In addition, for each of the schedules required by paragraph 46, information should be presented about factors that significantly affect trends in the amounts reported.

***Changes of benefit and funding terms:*** The following changes to the plan provisions were made by the Nebraska Legislature and reflected in the valuation performed as of July 1 listed below:

None

### ***Changes in actuarial assumptions:***

9/1/2017 valuation:

- Price inflation decreased from 3.25% to 2.75%.
- Long-term investment return decreased from 8.00% to 7.50%.
- Covered payroll growth assumption decreased from 4.00% to 3.50%.
- Salary increase assumption decreased by 0.50% at each age.
- Mortality assumptions changed to reflect recent mortality experience and future projected improvements.
- Retirement rates changed to better fit the observed experience.
- Termination rates changed to better fit the observed experience.
- Disability rates changed to better fit the observed experience.

9/1/2012 valuation:

- Salary increases were changed to rates grading down from 9.00% for less than one year of service to 4.00% at 40 years of service. Prior valuation rates graded from 7.46% for less than one year to 4.55% at 40 years of service.
- Retirement rates are based on age and retirement eligibility. 100% retirement age was extended to age 80 from age 70. Unreduced rates were decreased at age 63.
- Pre-retirement healthy mortality assumptions were changed from the 1994 Group Annuity Mortality (GAM) table projected to 2010 (for pre-retirement males rates were 65% of rates and female rates were 50% of rates) to the 1994 GAM table, with a 1 year age setback, projected to 2015 (pre-retirement rates are adjusted by 55% for males and 40% for females).
- Termination rates are service based and were decreased from the prior valuation based on actual experience.
- Disability rates were decreased by 50% from the prior valuation.
- Price inflation assumption was lowered to 3.25% from 3.50%.
- Economic productivity assumption was lowered to 0.75% from 1.00%.



***Method and assumptions used in calculations of Actuarially Determined Contributions.***

The Plan is funded with contribution amounts from the State which are actuarially determined to fund the Service Annuity benefit. The Actuarially Determined Contributions in the *Schedule of Employer Contributions* are calculated as of the beginning of the fiscal year in which contributions are reported.

The following actuarial methods and assumptions were used to determine the Actuarially Determined Contribution reported for the most recent Measurement Date, June 30, 2018 (based on the July 1, 2017 actuarial valuation).

|  |   |
|--|---|
| Actuarial cost method  | Entry Age Normal  |
| Amortization method  | Level percentage of payroll, closed   |
| Remaining amortization period  | Range from 19 to 30 years (Single Equivalent Amortization Period is 19 years) |
| Asset valuation method   | 5-year smoothed market  |
| Price Inflation  | 2.75 percent  |
| Wage Inflation   | 3.50 percent  |
| Salary increases, including wage inflation                                   | 3.50 to 8.50 percent  |
| Long-term rate of return, net of investment expense, and including inflation | 7.50 percent  |
| Cost-of-Living-Adjustment  | None  |

Please see the information presented earlier in regard to Paragraph 47 for detailed information on the benefit changes and assumption changes that may have impacted the Actuarially Determined Contributions shown in the *Schedule of Employer Contributions*.



**APPENDIX A**

**Exhibit A**

**GASB 68 Paragraphs 46(a) – (b)  
SCHEDULE OF CHANGES IN THE NET PENSION LIABILITY**

**Fiscal Year Ended June 30**

|   | 2017               | 2016               | 2015               | 2014               |
|---|--------------------|--------------------|--------------------|--------------------|
| <b>Total Pension Liability</b>  |                    |                    |                    |                    |
| Service Cost  | \$720,729          | \$731,466          | \$734,712          | \$728,208          |
| Interest  | 1,087,339          | 1,104,435          | 1,096,269          | 1,089,529          |
| Benefit term changes  | 0                  | 0                  | 0                  | 0                  |
| Differences between expected and actual experience                                | (93,993)           | (209,236)          | 119,053            | 30,548             |
| Assumption changes  | 2,276,382          | 0                  | 0                  | 0                  |
| Benefit payments, including member refunds  | <u>(1,700,186)</u> | <u>(1,954,480)</u> | <u>(1,904,983)</u> | <u>(1,505,548)</u> |
| <b>Net change in Total Pension Liability</b>                                      | \$2,290,271        | (\$327,815)        | \$45,051           | \$342,737          |
| <b>Total Pension Liability - beginning</b>  | \$14,354,771       | \$14,682,586       | \$14,637,535       | \$14,294,798       |
| <b>Total Pension Liability - ending (a)</b>                                       | \$16,645,042       | \$14,354,771       | \$14,682,586       | \$14,637,535       |
| <b>Plan Fiduciary Net Position</b>  |                    |                    |                    |                    |
| Employer contributions  | \$0                | \$0                | \$0                | \$0                |
| Non-Employer contributions  | 992,451            | 997,118            | 997,858            | 909,638            |
| Employee contributions  | 0                  | 0                  | 0                  | 0                  |
| Net investment income   | 1,357,891          | 149,410            | 439,224            | 1,805,028          |
| Benefit payments, including member refunds  | <u>(1,700,186)</u> | <u>(1,954,480)</u> | <u>(1,904,983)</u> | <u>(1,505,548)</u> |
| Administrative expenses   | 0                  | 0                  | 0                  | 0                  |
| Other changes   | <u>0</u>           | <u>0</u>           | <u>0</u>           | <u>0</u>           |
| <b>Net change in Plan Fiduciary Net Position</b>                                  | \$650,156          | (\$807,952)        | (\$467,901)        | \$1,209,118        |
| <b>Plan Fiduciary Net Position – beginning</b>                                    | \$10,482,787       | \$11,290,739       | \$11,758,640       | \$10,549,522       |
| <b>Plan Fiduciary Net Position - ending (b)</b>                                   | \$11,132,943       | \$10,482,787       | \$11,290,739       | \$11,758,640       |
| <b>Net Pension Liability - ending (a) - (b)</b>                                   | \$5,512,099        | \$3,871,984        | \$3,391,847        | \$2,878,895        |
| <b>Plan Fiduciary Net Position as a percentage of the Total Pension Liability</b> | 66.88%             | 73.03%             | 76.90%             | 80.33%             |
| <b>Covered payroll</b>  | TBD                | TBD                | TBD                | TBD                |
| <b>Employers' Net Pension Liability as a percentage of covered payroll</b>        | TBD                | TBD                | TBD                | TBD                |

Note: Schedule is intended to show 10-year trend. Additional years will be reported as they become available.





**Exhibit B**  
**GASB 68 Paragraphs 46(c)**  
**SCHEDULE OF EMPLOYER CONTRIBUTIONS**  
**Fiscal Year Ended June 30**

|  | 2018       | 2017           | 2016           | 2015           | 2014           | 2013           | 2012             | 2011           | 2010           | 2009           |
|--|------------|----------------|----------------|----------------|----------------|----------------|------------------|----------------|----------------|----------------|
| Actuarially determined contribution                              | TBD        | 992,451        | 997,118        | 997,858        | 909,638        | 969,396        | 1,030,017        | 967,145        | 884,106        | 772,674        |
| Actual non-employer contributions                                | <u>TBD</u> | <u>992,451</u> | <u>997,118</u> | <u>997,858</u> | <u>909,638</u> | <u>969,396</u> | <u>1,030,017</u> | <u>967,145</u> | <u>884,106</u> | <u>772,674</u> |
| Annual contribution deficiency (excess)                          | <u>TBD</u> | <u>0</u>       | <u>0</u>       | <u>0</u>       | <u>0</u>       | <u>0</u>       | <u>0</u>         | <u>0</u>       | <u>0</u>       | <u>0</u>       |
| Covered-employee payroll   | TBD        | TBD            | TBD            | TBD            | TBD            | TBD            | TBD              | TBD            | TBD            | TBD            |
| Actual contributions as a percentage of covered-employee payroll | TBD        | TBD            | TBD            | TBD            | TBD            | TBD            | TBD              | TBD            | TBD            | TBD            |

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



## **APPENDIX B**

### **SUMMARY OF PLAN PROVISIONS**

Monthly pension benefit                      A service annuity equal to \$3.50 per year of service.

Normal Retirement Date  
(NRD)    Age 65 and five years of creditable Omaha service.

#### **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 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**                Monthly pension benefit determined as of NRD. Earlier commencement of a reduced benefit is available.



## APPENDIX C

### STATEMENT OF ACTUARIAL ASSUMPTIONS

#### Economic Assumptions

- 1. Investment Return 7.50% per annum, compounded annually, net of expenses.
- 2. Inflation 2.75% per annum, compounded annually
- 3. Salary Increases Rates vary by service. Sample rates are as follows:

| Rates by Service |       |
|------------------|-------|
| Years            | Rate  |
| <1               | 8.50% |
| 1                | 8.00  |
| 5                | 6.46  |
| 10               | 5.18  |
| 15               | 4.71  |
| 20               | 4.45  |
| 25               | 4.24  |
| 30               | 4.07  |
| 35               | 3.82  |
| 40+              | 3.50  |

- 4. Payroll Growth 3.50% per annum
- 5. Investment on Employee Contributions 3.00% per annum compounded annually.
- 6. Increase 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, scaled (males: under 80, 1.008; over 80, 1.449; females: under 85, .924; over 85, 1.5855; geometrically blended), projected generationally from 2013 with a SOA projection scale tool using 0.5% ultimate 2035 rate in 2035.
  - c. Disabled lives RP-2014 Disabled Lives Table (static table)



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

| <b>Pre-retirement Mortality</b>    |              |                |
|------------------------------------|--------------|----------------|
| <b>Mortality Rate (Base Rates)</b> |              |                |
| <b>Sample Age</b>                  | <b>Males</b> | <b>Females</b> |
| 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           |

| <b>Post-retirement Mortality</b>   |              |                |
|------------------------------------|--------------|----------------|
| <b>Mortality Rate (Base Rates)</b> |              |                |
| <b>Sample Age</b>                  | <b>Males</b> | <b>Females</b> |
| 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          |

| <b>Projection Scale – Post-retirement Mortality</b> |                     |                |                     |                |                     |                |
|---|---------------------|----------------|---------------------|----------------|---------------------|----------------|
| <b>Sample Age</b>                                   | <b>Scale (2020)</b> |                | <b>Scale (2030)</b> |                | <b>Scale (2040)</b> |                |
|   | <b>Males</b>        | <b>Females</b> | <b>Males</b>        | <b>Females</b> | <b>Males</b>        | <b>Females</b> |
| 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 and life expectancies are shown below at sample ages:

| <b>Sample Age</b> | <b>Males</b> | <b>Females</b> |
|-------------------|--------------|----------------|
| 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 and eligibility for benefits.  
Rates are as follows:

| <b>Retirement Rates When Eligible<br/>for Unreduced Benefits</b> |             |
|--|-------------|
| <b>Age</b>   | <b>Rate</b> |
| 55   | 18%         |
| 56   | 15          |
| 57   | 15          |
| 58   | 15          |
| 59   | 15          |
| 60   | 25          |
| 61   | 25          |
| 62   | 30          |
| 63   | 25          |
| 64   | 25          |
| 65   | 30          |
| 66   | 30          |
| 67   | 30          |
| 68   | 25          |
| 69   | 25          |
| 70   | 25          |
| 71   | 25          |
| 72   | 25          |
| 73   | 25          |
| 74   | 25          |
| 75   | 25          |
| 76   | 25          |
| 77   | 25          |
| 78   | 35          |
| 79   | 35          |
| 80   | 100         |

| <b>Retirement Rates When Eligible<br/>for Reduced Benefits</b> |             |
|--|-------------|
| <b>Age</b>   | <b>Rate</b> |
| 60   | 10%         |
| 61   | 12          |
| 62   | 12          |
| 63   | 12          |
| 64   | 15          |



3. Termination

Rates vary by service.  
Sample rates are as follows:

| Rates by Service |       |        |
|------------------|-------|--------|
| Years            | Male  | Female |
| <1               | 27.5% | 31.7%  |
| 1                | 15.0  | 19.0   |
| 5                | 6.0   | 8.0    |
| 10               | 3.5   | 4.7    |
| 15               | 2.3   | 3.1    |
| 20               | 1.0   | 2.0    |
| 25+              | 1.0   | 1.0    |

4. Disability

Rates vary by age.  
Sample rates are as follows:

| Age      | Male | Female |
|----------|------|--------|
| Under 35 | .00% | .00%   |
| 35       | .02  | .01    |
| 40       | .02  | .01    |
| 45       | .03  | .03    |
| 50       | .05  | .04    |
| 55       | .07  | .06    |
| 60       | .10  | .08    |

**Other Assumptions**

1. Form of Payment

Life annuity

Members who terminated vested are assumed to take a refund of contributions if it is more valuable than their deferred benefit.

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 | None   |
| 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**

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

- The inflation assumption decreased from 3.25% to 2.75%.
- The investment return assumption declined from 8.00% to 7.50%.
- The cost of living adjustment assumption decreased from 2.50% to 2.25% for members hired before January 1, 2013.
- The covered payroll growth assumption decreased from 4.00% to 3.50%.
- The individual salary increase assumption was lowered by 0.50% in order to remain consistent with the inflation assumption.
- The assumed interest rate credited on employee contributions was lowered from 4.25% to 3.00%.
- The mortality assumption was changed to the RP-2014 White Collar Mortality Table, with adjustments made to better reflect observed experience. Generational mortality improvements are modeled using a System-specific projection scale.
- Retirement rates were adjusted to better reflect observed experience.
- Termination rates were adjusted to better reflect observed experience.
- Disability rates were adjusted to better reflect observed experience.