

**ST. PAUL TEACHERS' RETIREMENT FUND ASSOCIATION**  
**ACTUARIAL VALUATION**  
**AS OF JULY 1, 2015**

December 7, 2015

Ms. Jill E. Schurtz  
Executive Director  
St. Paul Teachers' Retirement Fund Association  
1619 Dayton Avenue, Room 309  
St. Paul, MN 55104-6206

Dear Ms. Schurtz:

We are pleased to present the report of the actuarial valuation of the St. Paul Teachers' Retirement Fund Association ("Fund") as of July 1, 2015. This report provides among other things, the required annual contribution rate of the Fund for the Plan Year commencing July 1, 2015 and ending on June 30, 2016.

The valuation was based upon information furnished by the Fund staff, concerning Retirement Fund benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. Their efforts in furnishing the materials needed are gratefully acknowledged. We checked for internal and year-to-year consistency, but did not otherwise audit the data. We are not responsible for the accuracy or completeness of the information provided by the Fund.

The report has been prepared at the request of the Fund's Board of Trustees in accordance with Section 356.215 of the Minnesota Statutes as well as the Standards for Actuarial Work established by the State of Minnesota Legislative Commission on Pensions and Retirement. To the best of our knowledge, this report is complete and accurate, and has been prepared in accordance with generally accepted actuarial principles and practice. This report is intended for use by the Fund and those determined or approved by the Fund's Board of Trustees. This report may be provided to parties other than the Fund only in its entirety and only with the permission of the Board. GRS is not responsible for unauthorized use of this report.

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 such future measurements.

This report should not be relied on for any purpose other than the purpose described in this report. Determinations of financial results associated with the benefits described in this report in a manner other than the intended purpose may produce significantly different results.

Actuarial assumptions, including discount rates, mortality tables and others identified in this report, are prescribed by Minnesota Statutes Section 356.215, the Legislative Commission on Pensions and Retirement (LCPR), and the Board of Trustees. These parties are responsible for selecting the plan's funding policy, actuarial valuation methods, asset valuation methods, and assumptions. The policies, methods and assumptions used in this valuation are those that have been so prescribed and are described in the Actuarial Basis of this report. The Fund is solely responsible for communicating to GRS any changes required thereto.

Bonita J. Wurst and James D. Anderson are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions herein. The signing actuaries are independent of the plan sponsor.

We will be pleased to review this report with you at your convenience.

Respectfully submitted,



Bonita J. Wurst, ASA, EA, MAAA



James D. Anderson, FSA, EA, MAAA

BJW/JDA:sc

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## SUMMARY OF VALUATION RESULTS

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This report sets forth the results of the actuarial valuation of the St. Paul Teachers' Retirement Fund Association ("Fund") as of July 1, 2015. The purposes of this valuation are:

1. To develop the Actuarially Determined Contribution (ADEC) rates.
2. To compare the ADEC rates with the current funding policy in place.
3. To review the funding status of the Fund.

The funding status, in basic terms, is a comparison of the Fund's liabilities to assets expressed as either an unfunded liability (i.e., the difference between the assets and liabilities) or as a ratio of assets to liabilities. This comparison can be measured in various ways. Fund liabilities are dependent on the actuarial assumptions and actuarial cost method. Fund assets can be measured at market value, book value, or some variation to smooth the fluctuations that invariably occur from year to year. The Actuarial Value of Assets is determined from market value with investment gains and losses smoothed over a five-year period.

### Contribution Rates

The required contribution rate (as defined in Section 356 of Minnesota Statutes) increased from 21.94% of pay for the fiscal year ending June 30, 2015, to 22.26% of pay for the fiscal year ending June 30, 2016. The statutory contribution rate increased from 19.75% of payroll to 20.66% of payroll, but is currently not sufficient to cover the required contribution rate. This means the statutory contributions are not sufficient to fully amortize the unfunded actuarial accrued liability over the remaining statutory amortization period of 27 years. The contribution shortfall decreased from 2.19% of pay as of July 1, 2014 to 1.60% of pay, or \$4.5 million per year. The contribution increases that are being phased-in over the next two years will ultimately increase the statutory contribution rate (and decrease the contribution shortfall) by 1.00% of pay. On a market value of assets basis, statutory contributions are 1.28% of pay deficient. This deficiency falls to 0.28% of pay once scheduled contribution increases are phased-in.

### Assets and Liabilities

On an actuarial value of assets basis, taking into account the potential implementation of cost-of-living adjustments (COLA) increases currently provided for in statute, the funding ratio increased from 61.81% at July 1, 2014, to 62.61% at July 1, 2015. Despite actual fiscal year 2015 investment returns not meeting the Fund's return target of 8%, investment gains from prior years that were not previously recognized resulted in an increase in the actuarial value of assets.

Total actuarial liabilities increased from \$1,533.6 million to \$1,596.8 million. This increase was primarily due to the change in the investment return rate assumption from the statutory "select and ultimate" approach (8% through 2017 and 8.5% thereafter) to a flat 8% assumption for all years. In addition, legislation over the past year changed the annual COLA payable when the plan achieves a 90% funding level (actuarial value of assets divided by actuarial accrued liability) from a COLA based on CPI up to 5% (CPI COLA) to a fixed 2.5% COLA. This revised COLA resulted in a decrease in liability.

One of the key assumptions in the valuation is the date COLAs are expected to be paid. In the prior valuation, a 2% COLA was expected to be paid in approximately 15 years and the CPI COLA was expected to be paid in 24 years. For the 2015 valuation, a 2% COLA is expected to be paid in 26 years and the 2.5% COLA is expected to be paid in 36 years. This is only an assumption; not a guarantee of benefits to be paid. Actual timing will depend upon actual experience.

## SUMMARY OF VALUATION RESULTS

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As shown in the table below, on a market value of assets basis, the funding ratio decreased from 68.17% at July 1, 2014, to 63.56% at July 1, 2015. This decrease was due to not meeting the 8% investment return target and the change in the investment return rate assumption to 8% for all years. The increase in liability was partially offset by a decrease due to the COLA changes described above.

### Market Value of Assets Basis

A 5-year smoothed value of assets, used to determine both the funded status and required contribution level, reduces the volatility of the valuation results. As of July 1, 2015, the actuarial value of assets was 98.5% of market value. This means that if market value returns equal those assumed in the valuation, over the next few years there will be an upward bias in the actuarial value of assets.

The following table shows the July 1, 2015 valuation results, if they had been based on the market value instead of smoothed actuarial value:

| Market Value Results as of July 1, 2015                              |                   |
|--|-------------------|
| Actuarial Accrued Liability  | \$1,596.8 million |
| Market Value of Assets   | \$1,015.0 million |
| Unfunded Actuarial Accrued Liability (Market Value Basis)            | \$ 581.8 million  |
| Funded Ratio (Market Value Basis)                                    | 63.56%            |
| Statutory Contribution Rate  | 20.66% of pay     |
| Required Contribution Rate (Market Value Basis)                      | 21.94% of pay     |
| Deficiency (Market Value Basis)                                      | 1.28% of pay      |
| Deficiency (Market Value Basis) based on Ultimate Contribution Rates | 0.28% of pay      |

### Changes Reflected in the Valuation

#### Assumption Changes

##### Investment Return Rate Assumption

The investment return rate assumption was changed from a statutory “select and ultimate” approach, which had rates graduating from 8.0% through June 30, 2017 and 8.5% thereafter, to a flat 8.0% for all years.

GRS reviewed the investment return rate assumption in the 2012 Experience Study and recommended an assumed rate of return in the range of 7.04% to 7.98% per year. The impact of using an assumed rate of return of 7.5% is shown in the 2012 valuation report.

##### COLA Assumption

Minnesota Statutes were revised in 2014 to establish a process for setting a COLA assumption for purposes of preparing actuarial valuations. Pursuant to this legislation, if the plan has not yet reached the statutory funding ratio threshold triggering payment of a 2.0% or 2.5% COLA, the actuary must perform a projection to determine whether the plan is expected to attain the funding ratio threshold in a timeframe that is actuarially meaningful, and if so, the expected change to a 2.0% or 2.5% COLA rate must be reflected in the liability calculations.

## SUMMARY OF VALUATION RESULTS

We performed a projection of liabilities and assets, using the 2015 valuation results as a baseline and assuming future experience follows the valuation assumptions prescribed in Minnesota Statutes. In addition, the projection utilized the following methods and assumptions:

- Future investment returns of 8.00%
- Open group; stable active population (new member profile based on average new members hired in recent years)
- The COLA is assumed to be 1.0% per year until the funding ratio threshold required to pay a 2.0% COLA is reached and is assumed to be 2.0% per year until the threshold required to pay a 2.5% COLA is reached
- Current statutory contribution levels including scheduled increases

Based on these assumptions and methods, the projection indicates that this plan is expected to attain the funding ratio threshold to pay the 2.0% COLA in approximately 26 years, and the funding ratio threshold to pay the 2.5% COLA in approximately 36 years. The liabilities in this report are based on the assumption that the COLA will equal 1.0% through 2040, 2.0% for 2041 to 2050, and 2.5% for all years thereafter. This is only an assumption; not a guarantee of benefits to be paid.

### Plan Changes

The ultimate COLA payable when a 90% funding ratio is attained changed from an inflation-based COLA with a cap of 5.0% to a fixed 2.5% COLA adjustment.

### Effects of Changes (Actuarial Value of Assets Basis)

| Results as of July 1, 2015 (\$000s)                |                     |                            |   |
|--|---------------------|----------------------------|---|
|  | Prior to<br>Changes | Reflecting<br>Plan Changes | Reflecting<br>Plan and<br>Assumption<br>Changes |
| <b>A. FUNDING RATIOS</b>                           |                     |                            |   |
| 1. Accrued Liability Funding Ratio                 |                     |                            |   |
| a. Current Assets                                  | \$ 999,736          | \$ 999,736                 | \$ 999,736                                      |
| b. Actuarial Accrued Liability                     | 1,580,674           | 1,570,974                  | 1,596,770                                       |
| c. Funding Ratio                                   | 63.25%              | 63.64%                     | 62.61%  |
| 2. Projected Benefit Funding Ratio                 |                     |                            |   |
| a. Current and Expected Future Assets              | \$ 1,737,912        | \$ 1,757,361               | \$ 1,758,646                                    |
| b. Current and Expected Future Benefit Obligations | 1,804,759           | 1,789,386                  | 1,833,521                                       |
| c. Funding Ratio                                   | 96.30%              | 98.21%                     | 95.92%  |
| <b>B. REQUIRED CONTRIBUTIONS - CHAPTER 356</b>     |                     |                            |   |
| 1. Normal Cost                                     | 8.90%               | 8.72%                      | 9.13%   |
| 2. Supplemental Contribution Amortization          | 13.04%              | 12.82%                     | 12.86%  |
| 3. Allowance for Administrative Expenses           | 0.27%               | 0.27%                      | 0.27%   |
| 4. Total   | 22.21%              | 21.81%                     | 22.26%  |

## SUMMARY OF VALUATION RESULTS

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### **Participants**

Active membership decreased 5.1% during fiscal year 2015 from 3,959 to 3,756 (figures include members on leave of absence). Notwithstanding this decrease, the level of member contributions received during the year increased, even when taking into account the contribution rate increase during the period.

Total participants receiving benefits under the Fund, including disabled retirees, beneficiaries, and alternate payees increased 2.9% during fiscal year 2015 from 3,529 to 3,633. Total expenditures for these benefits increased from \$106.8 million to \$109.8 million during fiscal year 2015, or 2.8%.

### **Asset Valuation Method**

The method used to develop the Fund's Actuarial Value of Assets, as set out in the LCPR Standards for Actuarial Work, is as follows: In years when Fund assets earn above the assumed rate (i.e., experience gain) or below the assumed rate (i.e., experience loss) the gain (or loss) will be recognized over five years. This approach both removes volatility of the Fund's level of required contributions and ensures the Fund's assets will track the market value of assets.

### **Experience Analysis**

Overall, the Fund had an experience gain of \$26.1 million. In general, salary increases were smaller than predicted under the current valuation assumption and produced an actuarial gain of \$5.1 million. The largest component of the Fund's experience gain was the investment gain. The market value of Fund assets returned 2.65% (net of fees) for the year ended June 30, 2015, lower than the 8.00% assumption. However, only 20% of this asset loss was recognized in the actuarial value of assets. Investment gains from previous years were recognized this year and resulted in a gain of \$33.6 million on the actuarial value of assets. The rate of return on the actuarial value of assets for 2015 is 11.7%. The experience gain was offset by a \$25.8 million increase in the liability due to the change in the investment return rate assumption and a \$9.7 million decrease in the liability due to the change in the COLA (see pages 2 - 3).

The changes in unfunded actuarial accrued liabilities are shown in Table 10 in Section 3.

## SUMMARY OF VALUATION RESULTS

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|  | July 1, 2014 | July 1, 2015 |
|--|--------------|--------------|
|  | Valuation    | Valuation    |
| <b>A. CONTRIBUTIONS % OF PAYROLL (Table 11)</b>    |              |              |
| 1. Statutory Contributions - Chapter 354A          | 19.75%       | 20.66%       |
| 2. Required Contributions - Chapter 356            | 21.94%       | 22.26%       |
| 3. Sufficiency / (Deficiency)                      | (2.19%)      | (1.60%)      |
| <br><b>B. FUNDING RATIOS</b>                       |              |              |
| 1. Accrued Liability Funding Ratio                 |              |              |
| a. Current Assets (Table 1)                        | \$ 947,972   | \$ 999,736   |
| b. Actuarial Accrued Liability (Table 9)           | 1,533,603    | 1,596,770    |
| c. Funding Ratio                                   | 61.81%       | 62.61%       |
| 2. Projected Benefit Funding Ratio (Table 8)       |              |              |
| a. Current and Expected Future Assets              | \$ 1,683,810 | \$ 1,758,646 |
| b. Current and Expected Future Benefit Obligations | 1,745,155    | 1,833,521    |
| c. Funding Ratio                                   | 96.48%       | 95.92%       |
| <br><b>C. PLAN PARTICIPANTS</b>                    |              |              |
| 1. Active Members                                  |              |              |
| a. Number (Table 3)                                | 3,876        | 3,597        |
| b. Projected Annual Earnings                       | \$ 273,990   | \$ 280,488   |
| c. Average Annual Earnings (Projected dollars)     | \$ 68,316    | \$ 73,704    |
| d. Average Age                                     | 44.7         | 44.4         |
| e. Average Service                                 | 11.4         | 12.1         |
| f. Additional Members on Leave of Absence          | 83           | 159          |
| 2. Others  |              |              |
| a. Service Retirements (Table 4)                   | 3,156        | 3,277        |
| b. Disability Retirements (Table 5)                | 34           | 33           |
| c. Survivors (Table 6)                             | 339          | 323          |
| d. Deferred Retirements (Table 7)                  | 1,829        | 1,892        |
| e. Terminated Other Non-Vested (Table 7)           | 1,616        | 1,981        |
| f. Total - Others                                  | 6,974        | 7,506        |
| 3. Grand Total (1.a + 1.f + 2.f)                   | 10,933       | 11,262       |

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## **SECTION 1**

### **ASSET INFORMATION**

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## ASSETS OF THE PLAN

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The cost value of the plan assets decreased from \$884.3 million as of June 30, 2014 to \$867.0 million as of June 30, 2015. The market value of the plan assets decreased from \$1,045.4 million as of June 30, 2014 to \$1,015.0 million as of June 30, 2015. The expected return on assets using the valuation investment return rate assumption of 8.0 percent was \$81 million. The actual plan experience showed a return on assets of \$26 million. Twenty percent of the asset return below the expected \$81 million is recognized as an actuarial loss in the development of the actuarial value of assets. The recognized loss from the current year along with the portion of prior gains and losses recognized this year results in an overall gain of \$33.6 million on the actuarial value of assets.

The 2013 and 2014 asset gains as well as the 2012 and 2015 asset losses (amounts shown on the next page) will be recognized incrementally over the next four years. As of July 1, 2015, there are currently more unrecognized asset gains than losses, which means that if return assumptions are met, over the next few years the actuarial value of assets will grow more than 8.00% per year.

Table 1 shows the composition of assets as of June 30, 2015 and the development of the actuarial value of assets as of June 30, 2015. Table 2 details the development of asset values during fiscal year 2015.

**TABLE 1**  
**ACCOUNTING BALANCE SHEET**  
**AS OF JUNE 30, 2015**  
**(dollars in thousands)**

|   | Market<br>Value | Cost<br>Value |
|---|-----------------|---------------|
| <b>A. ASSETS</b>  |                 |               |
| 1. Cash, Equivalents, Short-Term Securities                                     | \$ 30,344       | \$ 30,344     |
| 2. Investments  |                 |               |
| a. Fixed Income   | 202,771         | 194,746       |
| b. Equity   | 613,018         | 494,561       |
| c. Real Estate  | 126,897         | 108,271       |
| d. Alternative  | 44,664          | 41,793        |
| 3. Other Assets   | 2,884           | 2,884         |
| <b>B. TOTAL ASSETS</b>  | \$ 1,020,578    | \$ 872,599    |
| <b>C. AMOUNTS CURRENTLY PAYABLE</b>   | \$ 5,609        | \$ 5,609      |
| <b>D. ASSETS AVAILABLE FOR BENEFITS</b>   |                 |               |
| 1. Member Reserves  | \$ 168,912      | \$ 168,912    |
| 2. Employer Reserves  | 846,057         | 698,078       |
| 3. Total Assets Available for Benefits  | \$ 1,014,969    | \$ 866,990    |
| <b>E. TOTAL AMOUNTS CURRENTLY PAYABLE AND<br/>ASSETS AVAILABLE FOR BENEFITS</b> | \$ 1,020,578    | \$ 872,599    |
| <b>F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS</b>                            |                 |               |
| 1. Market Value of Assets Available for Benefits (D.3)                          | \$ 1,014,969    |               |
| 2. Unrecognized Asset Returns   |                 |               |
| a. June 30, 2015  | \$ (55,629)     |               |
| b. June 30, 2014  | 95,762          |               |
| c. June 30, 2013  | 46,697          |               |
| d. June 29, 2012  | (82,006)        |               |
| 3. UAR Adjustment: $.80 * 2(a) + .60 * 2(b) + .40 * 2(c) + .20 * 2(d)$          | 15,232          |               |
| 4. Actuarial Value of Assets: (F.1 - F.3)                                       | \$ 999,736      |               |

**\* DERIVATION OF OTHER ASSETS**

Accounts Receivable

|                                 | Market Value |
|---------------------------------|--------------|
| Employer Contribution           | \$ 41        |
| Employee Contribution           | 29           |
| Service Purchases Receivable    | 6            |
| Pensions Receivable             | 35           |
| State Contributions             | 838          |
| Real Estate Income Receivable   | 0            |
| Commission Recapture Receivable | 1            |
| Interest Receivable             | 740          |
| Dividend Receivable             | 243          |
| Misc. Receivable                | 40           |
| Security Purchases Receivable   | 0            |
| Sale of Securities              | 778          |
| Total Accounts Receivable       | \$ 2,751     |
| Fixed Assets                    | 133          |
| Total Other Assets              | \$ 2,884     |

*\*Numbers may not add due to rounding.*

**TABLE 2**  
**CHANGE(S) IN ASSETS AVAILABLE FOR BENEFITS**  
**AS OF JUNE 30, 2015**  
(dollars in thousands)

|  | <u>Market Value</u> | <u>Cost Value</u> |
|--|---------------------|-------------------|
| A. ASSETS AVAILABLE AT BEGINNING OF PERIOD   | \$ 1,045,435        | \$ 884,293        |
| B. OPERATING REVENUES  |                     |                   |
| 1. Member Contributions  | \$ 17,567           | \$ 17,567         |
| 2. Employer Contributions  | 25,505              | 25,505            |
| 3. Supplemental Contributions  | 10,665              | 10,665            |
| 4. Reemployed Annuitant Employer Contributions   | 541                 | 541               |
| 5. Investment Income   | 14,656              | 15,735            |
| 6. Investment Expenses   | (4,524)             | (4,524)           |
| 7. Net Realized Gain / (Loss)  | 27,709              | 27,709            |
| 8. Other   | 0                   | 0                 |
| 9. Net Change in Unrealized Gain / (Loss)  | <u>(12,084)</u>     | <u>0</u>          |
| 10. Total Operating Revenue  | \$ 80,035           | \$ 93,198         |
| C. OPERATING EXPENSES  |                     |                   |
| 1. Service Retirements   | \$ 97,277           | \$ 97,277         |
| 2. Disability Benefits   | 750                 | 750               |
| 3. Survivor Benefits   | 10,851              | 10,851            |
| 4. Refunds   | 875                 | 875               |
| 5. Administrative Expenses   | <u>748</u>          | <u>748</u>        |
| 6. Total Operating Expenses  | \$ 110,501          | \$ 110,501        |
| D. OTHER CHANGES IN RESERVES   | \$ 0                | \$ 0              |
| E. ASSETS AVAILABLE AT END OF PERIOD   | <u>\$ 1,014,969</u> | <u>\$ 866,990</u> |
| F. DETERMINATION OF CURRENT YEAR UNRECOGNIZED ASSET RETURN   |                     |                   |
| 1. Average Balance   |                     |                   |
| (a) Assets available at BOY:   |                     | \$ 1,045,435      |
| (b) Assets available at EOY:   |                     | 1,014,969         |
| (c) Average balance $\{[(a) + (b) - \text{Net Investment Income}] / 2\}$<br>{Net investment income: B.5+B.6+B.7+B.9} |                     | \$ 1,017,324      |
| 2. Expected Return: $.080 * F.1$   |                     | 81,386            |
| 3. Actual Return   |                     | 25,757            |
| 4. Current Year Gross Asset Gain/(Loss): F.3 - F.2   |                     | \$ (55,629)       |

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## **SECTION 2**

### **TOTAL MEMBERSHIP DATA**

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**TABLE 3**  
**ACTIVE MEMBERS AS OF JUNE 30, 2015\***

| Age        | Years of Service |            |            |            |            |            |           |           | ALL          |
|------------|------------------|------------|------------|------------|------------|------------|-----------|-----------|--------------|
|            | <5               | 5-9        | 10-14      | 15-19      | 20-24      | 25-29      | 30-34     | 35+       |              |
| < 25       | 36               | 0          | 0          | 0          | 0          | 0          | 0         | 0         | 36           |
| 25-29      | 306              | 17         | 0          | 0          | 0          | 0          | 0         | 0         | 323          |
| 30-34      | 314              | 147        | 32         | 0          | 0          | 0          | 0         | 0         | 493          |
| 35-39      | 171              | 104        | 184        | 33         | 0          | 0          | 0         | 0         | 492          |
| 40-44      | 123              | 79         | 113        | 219        | 16         | 0          | 0         | 0         | 550          |
| 45-49      | 84               | 40         | 101        | 185        | 131        | 7          | 0         | 0         | 548          |
| 50-54      | 58               | 39         | 74         | 109        | 121        | 98         | 14        | 0         | 513          |
| 55-59      | 61               | 26         | 60         | 77         | 92         | 78         | 50        | 11        | 455          |
| 60-64      | 27               | 11         | 27         | 63         | 56         | 52         | 18        | 18        | 272          |
| 65+        | 19               | 7          | 12         | 10         | 7          | 4          | 8         | 7         | 74           |
| <b>ALL</b> | <b>1,199</b>     | <b>470</b> | <b>603</b> | <b>696</b> | <b>423</b> | <b>239</b> | <b>90</b> | <b>36</b> | <b>3,756</b> |

**AVERAGE ANNUAL EARNINGS**

| Age        | Years of Service |               |               |               |               |               |               |               | ALL           |
|------------|------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
|            | <5               | 5-9           | 10-14         | 15-19         | 20-24         | 25-29         | 30-34         | 35+           |               |
| < 25       | 38,665           | 0             | 0             | 0             | 0             | 0             | 0             | 0             | 38,665        |
| 25-29      | 44,007           | 59,180        | 0             | 0             | 0             | 0             | 0             | 0             | 44,805        |
| 30-34      | 48,226           | 62,108        | 72,867        | 0             | 0             | 0             | 0             | 0             | 53,964        |
| 35-39      | 51,967           | 64,999        | 76,292        | 79,182        | 0             | 0             | 0             | 0             | 65,644        |
| 40-44      | 58,334           | 65,825        | 76,996        | 82,308        | 91,342        | 0             | 0             | 0             | 73,750        |
| 45-49      | 57,137           | 67,818        | 78,606        | 83,126        | 87,468        | 106,377       | 0             | 0             | 78,527        |
| 50-54      | 46,306           | 62,520        | 79,929        | 84,070        | 85,269        | 93,209        | 93,329        | 0             | 79,846        |
| 55-59      | 54,718           | 75,248        | 71,716        | 82,744        | 86,912        | 87,654        | 91,552        | 99,263        | 80,156        |
| 60-64      | 35,481           | 52,131        | 70,707        | 79,932        | 84,170        | 88,392        | 85,803        | 96,115        | 77,429        |
| 65+        | 17,182           | 73,347        | 70,510        | 77,479        | 85,998        | 86,253        | 100,673       | 100,804       | 66,470        |
| <b>ALL</b> | <b>48,515</b>    | <b>64,448</b> | <b>76,256</b> | <b>82,417</b> | <b>86,404</b> | <b>90,617</b> | <b>91,489</b> | <b>97,989</b> | <b>69,694</b> |

**Prior Fiscal Year Earnings (IN THOUSANDS) by Years of Service**

|            | <5     | 5-9    | 10-14  | 15-19  | 20-24  | 25-29  | 30-34 | 35 & Over | ALL     |
|------------|--------|--------|--------|--------|--------|--------|-------|-----------|---------|
| <b>ALL</b> | 58,170 | 30,290 | 45,982 | 57,362 | 36,549 | 21,658 | 8,234 | 3,528     | 261,771 |

\*Including those on leave of absence, pay annualized for new hires.

**TABLE 4**  
**SERVICE RETIREMENTS AS OF JUNE 30, 2015**

| Age   | Years Retired |     |       |       |       |       |       |       |           | ALL   |
|-------|---------------|-----|-------|-------|-------|-------|-------|-------|-----------|-------|
|       | <5            | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 & Over |       |
| <45   | 0             | 0   | 0     | 1     | 0     | 0     | 0     | 0     | 0         | 1     |
| 45-49 | 1             | 0   | 0     | 1     | 0     | 0     | 0     | 0     | 0         | 2     |
| 50-54 | 4             | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 4     |
| 55-59 | 96            | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 96    |
| 60-64 | 372           | 137 | 1     | 0     | 0     | 0     | 0     | 0     | 0         | 510   |
| 65-69 | 330           | 371 | 248   | 2     | 0     | 0     | 0     | 0     | 0         | 951   |
| 70-74 | 59            | 179 | 284   | 163   | 3     | 0     | 0     | 0     | 0         | 688   |
| 75-79 | 5             | 30  | 120   | 237   | 75    | 1     | 0     | 0     | 0         | 468   |
| 80-84 | 4             | 3   | 18    | 97    | 146   | 41    | 0     | 0     | 0         | 309   |
| 85-89 | 0             | 1   | 3     | 9     | 50    | 71    | 23    | 1     | 0         | 158   |
| 90+   | 0             | 0   | 2     | 1     | 6     | 34    | 37    | 10    | 0         | 90    |
| ALL   | 871           | 721 | 676   | 511   | 280   | 147   | 60    | 11    | 0         | 3,277 |

**AVERAGE ANNUAL BENEFIT**

| Age   | Years Retired |        |        |        |        |        |        |        |           | ALL    |
|-------|---------------|--------|--------|--------|--------|--------|--------|--------|-----------|--------|
|       | <5            | 5-9    | 10-14  | 15-19  | 20-24  | 25-29  | 30-34  | 35-39  | 40 & Over |        |
| <45   | 0             | 0      | 0      | 5,654  | 0      | 0      | 0      | 0      | 0         | 5,654  |
| 45-49 | 5,091         | 0      | 0      | 5,654  | 0      | 0      | 0      | 0      | 0         | 5,373  |
| 50-54 | 10,352        | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0         | 10,352 |
| 55-59 | 22,536        | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0         | 22,536 |
| 60-64 | 24,619        | 28,190 | 20,757 | 0      | 0      | 0      | 0      | 0      | 0         | 25,571 |
| 65-69 | 24,162        | 29,718 | 37,964 | 40,852 | 0      | 0      | 0      | 0      | 0         | 29,964 |
| 70-74 | 15,335        | 24,063 | 32,087 | 31,179 | 20,352 | 0      | 0      | 0      | 0         | 28,297 |
| 75-79 | 4,028         | 27,744 | 32,402 | 38,699 | 37,312 | 66,621 | 0      | 0      | 0         | 35,849 |
| 80-84 | 8,100         | 19,649 | 15,921 | 43,187 | 39,850 | 31,410 | 0      | 0      | 0         | 37,776 |
| 85-89 | 0             | 1,524  | 17,251 | 28,864 | 51,864 | 32,279 | 24,596 | 65,249 | 0         | 36,893 |
| 90+   | 0             | 0      | 27,326 | 60,385 | 52,625 | 28,206 | 28,662 | 33,101 | 0         | 30,903 |
| ALL   | 23,305        | 27,860 | 33,772 | 36,900 | 41,380 | 31,328 | 27,103 | 36,023 | 0         | 30,603 |

**Total Annual Benefit (IN THOUSANDS) by Years RETIRED**

|     | <5     | 5-9    | 10-14  | 15-19  | 20-24  | 25-29 | 30-34 | 35-39 | 40 & Over | ALL     |
|-----|--------|--------|--------|--------|--------|-------|-------|-------|-----------|---------|
| ALL | 20,299 | 20,088 | 22,830 | 18,856 | 11,586 | 4,605 | 1,626 | 396   | 0         | 100,286 |

**TABLE 5**  
**DISABILITY RETIREMENTS AS OF JUNE 30, 2015\***

| Age   | Years Disabled |     |       |       |       |       |       |       |           | ALL |
|-------|----------------|-----|-------|-------|-------|-------|-------|-------|-----------|-----|
|       | <5             | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 & Over |     |
| <45   | 1              | 1   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 2   |
| 45-49 | 2              | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 2   |
| 50-54 | 4              | 3   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 7   |
| 55-59 | 3              | 0   | 1     | 1     | 0     | 0     | 0     | 0     | 0         | 5   |
| 60-64 | 7              | 7   | 2     | 0     | 0     | 0     | 0     | 0     | 0         | 16  |
| 65-69 | 0              | 1   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 1   |
| 70-74 | 0              | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 0   |
| 75-79 | 0              | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 0   |
| 80-84 | 0              | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 0   |
| 85-89 | 0              | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 0   |
| 90+   | 0              | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 0   |
| ALL   | 17             | 12  | 3     | 1     | 0     | 0     | 0     | 0     | 0         | 33  |

**AVERAGE ANNUAL BENEFIT**

| Age   | Years Disabled |        |        |       |       |       |       |       |           | ALL    |
|-------|----------------|--------|--------|-------|-------|-------|-------|-------|-----------|--------|
|       | <5             | 5-9    | 10-14  | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 & Over |        |
| <45   | 3,421          | 7,797  | 0      | 0     | 0     | 0     | 0     | 0     | 0         | 5,609  |
| 45-49 | 24,312         | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0         | 24,312 |
| 50-54 | 20,367         | 9,038  | 0      | 0     | 0     | 0     | 0     | 0     | 0         | 15,512 |
| 55-59 | 15,383         | 0      | 24,426 | 5,581 | 0     | 0     | 0     | 0     | 0         | 15,231 |
| 60-64 | 23,790         | 19,940 | 18,563 | 0     | 0     | 0     | 0     | 0     | 0         | 21,452 |
| 65-69 | 0              | 1,835  | 0      | 0     | 0     | 0     | 0     | 0     | 0         | 1,835  |
| 70-74 | 0              | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0         | 0      |
| 75-79 | 0              | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0         | 0      |
| 80-84 | 0              | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0         | 0      |
| 85-89 | 0              | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0         | 0      |
| 90+   | 0              | 0      | 0      | 0     | 0     | 0     | 0     | 0     | 0         | 0      |
| ALL   | 20,364         | 14,694 | 20,517 | 5,581 | 0     | 0     | 0     | 0     | 0         | 17,868 |

**Total Annual Benefit (IN THOUSANDS) by Years DISABLED**

|     | <5  | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 & Over | ALL |
|-----|-----|-----|-------|-------|-------|-------|-------|-------|-----------|-----|
| ALL | 346 | 176 | 62    | 6     | 0     | 0     | 0     | 0     | 0         | 590 |

\* Disability benefits convert to normal retirement benefits at normal retirement age (generally between ages 65 and 66).

**TABLE 6**  
**SURVIVORS AS OF JUNE 30, 2015**

| Age   | Years Since Member Death |     |       |       |       |       |       |       |           | ALL |
|-------|--------------------------|-----|-------|-------|-------|-------|-------|-------|-----------|-----|
|       | <5                       | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 & Over |     |
| <45   | 6                        | 0   | 2     | 0     | 0     | 0     | 0     | 0     | 0         | 8   |
| 45-49 | 1                        | 1   | 3     | 0     | 0     | 0     | 0     | 0     | 0         | 5   |
| 50-54 | 2                        | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 2   |
| 55-59 | 3                        | 4   | 1     | 0     | 0     | 0     | 0     | 0     | 0         | 8   |
| 60-64 | 3                        | 1   | 3     | 1     | 2     | 0     | 0     | 0     | 1         | 11  |
| 65-69 | 5                        | 4   | 9     | 5     | 4     | 2     | 1     | 0     | 0         | 30  |
| 70-74 | 3                        | 2   | 9     | 11    | 9     | 4     | 1     | 0     | 0         | 39  |
| 75-79 | 10                       | 2   | 6     | 17    | 22    | 9     | 3     | 2     | 0         | 71  |
| 80-84 | 8                        | 0   | 1     | 4     | 23    | 19    | 5     | 1     | 0         | 61  |
| 85-89 | 5                        | 0   | 0     | 0     | 6     | 24    | 20    | 4     | 2         | 61  |
| 90+   | 1                        | 0   | 0     | 0     | 1     | 3     | 12    | 9     | 1         | 27  |
| ALL   | 47                       | 14  | 34    | 38    | 67    | 61    | 42    | 16    | 4         | 323 |

**AVERAGE ANNUAL BENEFIT**

| Age   | Years Since Member Death |        |        |        |        |        |        |        |           | ALL    |
|-------|--------------------------|--------|--------|--------|--------|--------|--------|--------|-----------|--------|
|       | <5                       | 5-9    | 10-14  | 15-19  | 20-24  | 25-29  | 30-34  | 35-39  | 40 & Over |        |
| <45   | 10,800                   | 0      | 9,246  | 0      | 0      | 0      | 0      | 0      | 0         | 10,411 |
| 45-49 | 1,902                    | 531    | 807    | 0      | 0      | 0      | 0      | 0      | 0         | 971    |
| 50-54 | 44,649                   | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0         | 44,649 |
| 55-59 | 24,791                   | 6,916  | 687    | 0      | 0      | 0      | 0      | 0      | 0         | 12,840 |
| 60-64 | 22,827                   | 19,089 | 8,622  | 13,872 | 45,156 | 0      | 0      | 0      | 3,350     | 20,088 |
| 65-69 | 43,301                   | 39,469 | 17,911 | 36,914 | 28,950 | 24,449 | 20,176 | 0      | 0         | 30,168 |
| 70-74 | 38,670                   | 15,234 | 28,172 | 34,229 | 32,085 | 20,495 | 24,113 | 0      | 0         | 30,036 |
| 75-79 | 42,911                   | 33,528 | 23,003 | 32,744 | 40,800 | 30,611 | 28,311 | 24,071 | 0         | 35,169 |
| 80-84 | 38,630                   | 0      | 39,885 | 33,975 | 45,693 | 35,520 | 20,943 | 27,621 | 0         | 38,410 |
| 85-89 | 39,854                   | 0      | 0      | 0      | 44,329 | 35,613 | 32,633 | 20,612 | 41,848    | 35,061 |
| 90+   | 13,867                   | 0      | 0      | 0      | 69,590 | 18,507 | 30,614 | 24,983 | 20,818    | 27,853 |
| ALL   | 33,663                   | 21,620 | 18,827 | 33,355 | 41,477 | 32,647 | 29,856 | 23,941 | 26,966    | 31,914 |

**Total Annual Benefit (IN THOUSANDS) by Years Since Member Death**

|     | <5    | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 & Over | ALL    |
|-----|-------|-----|-------|-------|-------|-------|-------|-------|-----------|--------|
| ALL | 1,582 | 303 | 640   | 1,268 | 2,779 | 1,991 | 1,254 | 383   | 108       | 10,308 |

**TABLE 7**  
**RECONCILIATION OF MEMBERS**  
**AS OF JUNE 30, 2015**

|                               | <b>Active<br/>Participants</b> | <b>Leave of<br/>Absence</b> | <b>Vested<br/>Terminated</b> | <b>Other<br/>Non-Vested</b> | <b>Retired<br/>Participants</b> | <b>Disabled</b> | <b>Survivors and<br/>Beneficiaries</b> | <b>Alternate<br/>Payees<sup>1</sup></b> | <b>Total</b> |
|-------------------------------|--------------------------------|-----------------------------|------------------------------|-----------------------------|---------------------------------|-----------------|--|---|--------------|
| A. Number as of June 30, 2014 | 3,876                          | 83                          | 1,829                        | 1,616                       | 3,121                           | 33              | 339                                    | 36                                      | 10,933       |
| B. Additions                  | 405                            | 144                         | 170                          | 365                         | 175                             | 3               | 19                                     | 7                                       | 1,288        |
| C. Deletions                  |                                |                             |                              |                             |                                 |                 |  |   |              |
| 1. Retirements                | (117)                          | (3)                         | (49)                         | (1)                         |                                 |                 |  |   | (170)        |
| 2. Disability                 | (1)                            |                             | (2)                          |                             |                                 |                 |  |   | (3)          |
| 3. Died with Beneficiary      | (1)                            |                             |                              |                             | (15)                            |                 |  | (2)                                     | (18)         |
| 4. Died without Beneficiary   |                                |                             | (1)                          |                             | (43)                            |                 | (32)                                   |   | (76)         |
| 5. Terminated - Deferred      | (138)                          | (32)                        |                              |                             |                                 |                 |  |   | (170)        |
| 6. Terminated - Not Vested    | (365)                          |                             |                              |                             |                                 |                 |  |   | (365)        |
| 7. Refunds                    | (42)                           |                             | (28)                         | (120)                       |                                 |                 |  |   | (190)        |
| 8. Rehired as Active          | 113                            | (33)                        | (26)                         | (54)                        |                                 |                 |  |   | 0            |
| 9. Leave of Absence           | (142)                          |                             | (2)                          |                             |                                 |                 |  |   | (144)        |
| 10. Repayment of Refund       | 9                              |                             |                              |                             |                                 |                 |  |   | 9            |
| 11. Expired Benefits          |                                |                             |                              |                             |                                 |                 | (3)                                    | (1)                                     | (4)          |
| 12. Disability to Retirement  |                                |                             |                              |                             |                                 | (4)             |  |   | (4)          |
| 13. Write-offs                |                                |                             |                              | 175                         |                                 |                 |  |   | 175          |
| D. Data Adjustments           |                                |                             | 1                            |                             |                                 |                 |  |   | 1            |
| E. Total on June 30, 2015     | 3,597                          | 159                         | 1,892                        | 1,981                       | 3,238                           | 32              | 323                                    | 40                                      | 11,262       |

<sup>1</sup> Includes alternate payees of both retired participants and disabled participants.

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**SECTION 3**  
FUNDING STATUS

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**TABLE 8**  
**ACTUARIAL BALANCE SHEET**  
**AS OF JULY 1, 2015**  
**(dollars in thousands)**

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|   |                     |
|---|---------------------|
| A. CURRENT ASSETS (TABLE 1; Line F.4)                                     | \$ 999,736          |
| B. EXPECTED FUTURE ASSETS   |                     |
| 1. Present Value of Expected Future Statutory Supplemental Contributions* | \$ 522,159          |
| 2. Present Value of Future Normal Costs                                   | <u>236,751</u>      |
| 3. Total Expected Future Assets   | <u>\$ 758,910</u>   |
| C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS                               | <u>\$ 1,758,646</u> |
| D. TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS                  | <u>\$ 1,833,521</u> |
| E. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (D - C)                | \$ 74,875           |

\* Includes the effect of scheduled employee and employer contribution increases of 0.50% each and supplemental state contributions.

**TABLE 9**  
**DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)**  
**AND SUPPLEMENTAL CONTRIBUTION RATE**  
**AS OF JULY 1, 2015**  
**(dollars in thousands)**

|   | <u>Actuarial<br/>Present Value<br/>of Projected<br/>Benefits</u> | <u>Actuarial<br/>Present Value<br/>of Future<br/>Normal Costs</u> | <u>Actuarial<br/>Accrued<br/>Liability</u> |
|---|--|---|--|
| <b>A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL)</b>                                    |  |   |  |
| 1. Active Members*  |  |   |  |
| a. Retirement Benefits  | \$ 634,413   | \$ 173,661  | \$ 460,752                                 |
| b. Disability Benefits  | 13,347   | 5,325   | 8,022                                      |
| c. Surviving Spouse and Child Benefits  | 8,959  | 3,184   | 5,775                                      |
| d. Vested Withdrawals   | 36,597   | 40,175  | (3,578)                                    |
| e. Refund Liability Due to Death or Withdrawal  | 3,165  | 14,406  | (11,241)                                   |
| f. Total  | <u>696,481</u>   | <u>236,751</u>  | <u>459,730</u>                             |
| 2. Deferred Retirements   | \$ 78,303  | 0   | \$ 78,303                                  |
| 3. Former Members without Vested Rights   | 4,913  | 0   | 4,913                                      |
| 4. Annuitants   | <u>1,053,824</u>   | <u>0</u>  | <u>1,053,824</u>                           |
| 5. Total  | <u>\$ 1,833,521</u>  | <u>\$ 236,751</u>   | <u>\$ 1,596,770</u>                        |
| <b>B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)</b>                          |  |   |  |
| 1. Actuarial Accrued Liability (A.5)  |  |   | \$ 1,596,770                               |
| 2. Current Assets (Table I; Line F.4)   |  |   | <u>\$ 999,736</u>                          |
| 3. Unfunded Actuarial Accrued Liability (B.1 - B.2)   |  |   | <u>\$ 597,034</u>                          |
| <b>C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE</b>                                       |  |   |  |
| 1. Present Value of Future Payrolls Through the Amortization Date of June 30, 2042 <sup>#</sup> |  |   | \$ 4,641,140                               |
| 2. Supplemental Contribution Rate (B.3 / C.1)   |  |   | 12.86%                                     |

\*Includes members on leave of absence.

<sup>#</sup> Calculated using 8.0% annual investment return rate.

**TABLE 10**  
**CHANGES IN UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)**  
**AS OF JULY 1, 2015**  
(dollars in thousands)

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|   |    |                       |
|---|----|-----------------------|
| A. UAAL AT BEGINNING OF YEAR  | \$ | 585,631               |
| B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING  |    |                       |
| 1. Normal Cost and Expenses   | \$ | 24,072                |
| 2. Contributions  |    | (53,737)              |
| 3. Interest*  |    | 51,596                |
| 4. Total  | \$ | <u>21,930</u>         |
| C. EXPECTED UAAL AT END OF YEAR (A + B.4)   | \$ | 607,561               |
| D. INCREASE / (DECREASE) DUE TO ACTUARIAL LOSSES / (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED |    |                       |
| 1. Age and Service Retirements  | \$ | 31                    |
| 2. Disability Retirements   |    | (20)                  |
| 3. Death-in-Service Benefits  |    | 20                    |
| 4. Withdrawals  |    | (1,560)               |
| 5. Salary Increases   |    | (5,081)               |
| 6. Investment Income  |    | (34,183)              |
| 7. Mortality of Annuitants  |    | 590                   |
| 8. Other Items  |    | 13,580                |
| 9. Total  | \$ | <u>(26,623)</u>       |
| E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTIONS (C + D.9)              | \$ | 580,938               |
| F. CHANGE IN UAAL DUE TO PLAN AMENDMENTS  |    | (9,700)               |
| G. CHANGE IN UAAL DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS   |    | <u>25,796</u>         |
| H. UAAL AT END OF YEAR (E + F + G)  | \$ | <u><u>597,034</u></u> |

\*Interest on assets determined at 8.00%; interest on liability determined at 8.40%.

**TABLE 11**  
**DETERMINATION OF CONTRIBUTION SUFFICIENCY**  
**AS OF JULY 1, 2015**  
(dollars in thousands)

|   | <u>Percent-of-<br/>Payroll</u> | <u>Dollar Amount</u> |
|---|--------------------------------|----------------------|
| <b>A. STATUTORY CONTRIBUTIONS - CHAPTER 354A</b>                          |                                |                      |
| 1. Employee Contributions   | 7.00%                          | \$ 19,648            |
| 2. Employer Contributions   | 9.85%                          | 27,618               |
| 3. Supplemental Contribution  |                                |                      |
| a. 1996 Legislation   | 0.30%                          | 838                  |
| b. 1997 Legislation   | 1.01%                          | 2,827                |
| c. 2014 Legislation   | 2.50%                          | 7,000                |
| 4. Total  | <u>20.66%</u>                  | <u>\$ 57,931</u>     |
| <b>B. REQUIRED CONTRIBUTIONS - CHAPTER 356</b>                            |                                |                      |
| 1. Normal Cost  |                                |                      |
| a. Retirement Benefits  | 6.82%                          | \$ 19,126            |
| b. Disability Benefits  | 0.19%                          | 538                  |
| c. Surviving Spouse and Child Benefits                                    | 0.12%                          | 329                  |
| d. Vested Withdrawals   | 1.45%                          | 4,071                |
| e. Refund Liability Due to Death or Withdrawal                            | 0.55%                          | 1,532                |
| f. Total  | <u>9.13%</u>                   | <u>\$ 25,596</u>     |
| 2. Supplemental Contribution Amortization                                 | 12.86%                         | 36,071               |
| 3. Allowance for Administrative Expenses                                  | 0.27%                          | 757                  |
| 4. Total  | <u>22.26%</u>                  | <u>\$ 62,424</u>     |
| <b>C. CONTRIBUTION SUFFICIENCY / (DEFICIENCY) (A.4 - B.4)</b>             | <b>(1.60%)</b>                 | <b>(4,493)</b>       |
| Projected Annual Payroll for Fiscal Year Beginning on the Valuation Date: |                                | \$ 280,488           |

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## **SECTION 4**

### **ACTUARIAL METHODS AND ASSUMPTIONS**

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**TABLE 12**  
**ACTUARIAL METHODS AND ASSUMPTIONS**  
**AS OF JULY 1, 2015**

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**I. ACTUARIAL COST METHOD**

An Actuarial Cost Method is a set of techniques used by the actuary to develop contribution levels under a retirement plan. The Actuarial Cost Method used in this valuation for all purposes is the Entry Age Actuarial Cost Method. Under this Method, a Normal Cost is developed by amortizing the actuarial value of benefits expected to be received by each active participant (as a level percentage of pay) over the total working lifetime of that participant, from hire to termination. Years of Service for valuation purposes was provided by the Retirement Fund. Age as of the valuation date was calculated based on the dates of birth provided by the Retirement Fund. Entry Age for valuation purposes was calculated as the age on the valuation date minus the years of service on the valuation date.

To the extent that current assets and future Normal Costs do not support participants' expected future benefits, an Unfunded Actuarial Accrued liability (“UAAL”) develops. The UAAL is amortized over the closed statutory amortization period ending June 30, 2042 using level percent-of-payroll assuming payroll increases of 4.00% per annum. The total contribution developed under this method is the sum of the Normal Cost and the payment toward the UAAL.

**II. CURRENT ACTUARIAL ASSUMPTIONS**

The assumptions were last updated for the July 1, 2013 valuation as a result of an experience study during the five-year period of July 1, 2006 to June 30, 2011, as well as a legislated change to the investment return assumption effective July 1, 2015.

**A. Demographic Assumptions**

Mortality:

1. Healthy Mortality\*:

- a. Male: RP-2000 Combined Mortality Table for males projected with Scale AA to 2020 set back 1 year
- b. Female: RP-2000 Combined Mortality Table for females projected with Scale AA to 2020 set back 3 years

2. Disabled Mortality:

- i. Male: RP-2000 Disabled Life Mortality Table for males
- ii. Female: RP-2000 Disabled Life Mortality Table for females

\* Mortality rates were adjusted to include margin for future mortality improvement as described in the table name above.

**TABLE 12**  
**ACTUARIAL METHODS AND ASSUMPTIONS**  
**AS OF JULY 1, 2015**

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*Deaths Expressed as the Number of Occurrences per 10,000:*

| <u>Age</u> | <u>Healthy Mortality</u> |               | <u>Disabled Mortality</u> |               |
|------------|--------------------------|---------------|---------------------------|---------------|
|            | <u>Male</u>              | <u>Female</u> | <u>Male</u>               | <u>Female</u> |
| 20         | 2                        | 1             | 226                       | 75            |
| 21         | 2                        | 1             | 226                       | 75            |
| 22         | 2                        | 1             | 226                       | 75            |
| 23         | 3                        | 1             | 226                       | 75            |
| 24         | 3                        | 1             | 226                       | 75            |
| 25         | 3                        | 1             | 226                       | 75            |
| 26         | 3                        | 1             | 226                       | 75            |
| 27         | 3                        | 1             | 226                       | 75            |
| 28         | 3                        | 2             | 226                       | 75            |
| 29         | 4                        | 2             | 226                       | 75            |
| 30         | 4                        | 2             | 226                       | 75            |
| 31         | 4                        | 2             | 226                       | 75            |
| 32         | 5                        | 2             | 226                       | 75            |
| 33         | 5                        | 2             | 226                       | 75            |
| 34         | 6                        | 3             | 226                       | 75            |
| 35         | 6                        | 3             | 226                       | 75            |
| 36         | 7                        | 3             | 226                       | 75            |
| 37         | 8                        | 4             | 226                       | 75            |
| 38         | 8                        | 4             | 226                       | 75            |
| 39         | 9                        | 4             | 226                       | 75            |
| 40         | 9                        | 4             | 226                       | 75            |
| 41         | 9                        | 5             | 226                       | 75            |
| 42         | 10                       | 5             | 226                       | 75            |
| 43         | 10                       | 5             | 226                       | 75            |
| 44         | 10                       | 6             | 226                       | 75            |

**TABLE 12**  
**ACTUARIAL METHODS AND ASSUMPTIONS**  
**AS OF JULY 1, 2015**

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*Deaths Expressed as the Number of Occurrences per 10,000:*

| <u>Age</u> | <u>Healthy Mortality</u> |               | <u>Disabled Mortality</u> |               |
|------------|--------------------------|---------------|---------------------------|---------------|
|            | <u>Male</u>              | <u>Female</u> | <u>Male</u>               | <u>Female</u> |
| 45         | 11                       | 6             | 226                       | 75            |
| 46         | 12                       | 7             | 238                       | 82            |
| 47         | 12                       | 8             | 251                       | 90            |
| 48         | 13                       | 8             | 264                       | 98            |
| 49         | 13                       | 9             | 277                       | 106           |
| 50         | 14                       | 9             | 290                       | 115           |
| 51         | 15                       | 10            | 303                       | 125           |
| 52         | 17                       | 11            | 316                       | 135           |
| 53         | 18                       | 12            | 329                       | 145           |
| 54         | 19                       | 13            | 342                       | 155           |
| 55         | 21                       | 15            | 354                       | 165           |
| 56         | 25                       | 17            | 367                       | 176           |
| 57         | 29                       | 20            | 380                       | 187           |
| 58         | 33                       | 23            | 393                       | 197           |
| 59         | 38                       | 27            | 407                       | 208           |
| 60         | 43                       | 31            | 420                       | 218           |
| 61         | 49                       | 35            | 435                       | 229           |
| 62         | 57                       | 40            | 450                       | 241           |
| 63         | 65                       | 46            | 466                       | 253           |
| 64         | 76                       | 53            | 483                       | 266           |
| 65         | 85                       | 60            | 502                       | 280           |
| 66         | 96                       | 69            | 522                       | 296           |
| 67         | 111                      | 78            | 545                       | 313           |
| 68         | 124                      | 88            | 569                       | 332           |
| 69         | 135                      | 99            | 596                       | 353           |

**TABLE 12**  
**ACTUARIAL METHODS AND ASSUMPTIONS**  
**AS OF JULY 1, 2015**

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Rates of Disability:

*Disability Expressed as the Number of Occurrences per 10,000:*

| Age | Disability | Age | Disability |
|-----|------------|-----|------------|
| 20  | 2          | 45  | 5          |
| 21  | 2          | 46  | 5          |
| 22  | 2          | 47  | 5          |
| 23  | 2          | 48  | 5          |
| 24  | 2          | 49  | 5          |
| 25  | 2          | 50  | 10         |
| 26  | 2          | 51  | 10         |
| 27  | 2          | 52  | 10         |
| 28  | 2          | 53  | 10         |
| 29  | 2          | 54  | 10         |
| 30  | 3          | 55  | 20         |
| 31  | 3          | 56  | 20         |
| 32  | 3          | 57  | 20         |
| 33  | 3          | 58  | 20         |
| 34  | 3          | 59  | 20         |
| 35  | 3          | 60  | 40         |
| 36  | 3          | 61  | 40         |
| 37  | 3          | 62  | 40         |
| 38  | 3          | 63  | 40         |
| 39  | 3          | 64  | 40         |
| 40  | 3          |     |            |
| 41  | 3          |     |            |
| 42  | 3          |     |            |
| 43  | 3          |     |            |
| 44  | 3          |     |            |

**TABLE 12**  
**ACTUARIAL METHODS AND ASSUMPTIONS**  
**AS OF JULY 1, 2015**

Rates of Termination:

| Years of Service | Number of Terminations per 1,000 Active Members |        |
|------------------|---|--------|
|                  | Male  | Female |
| 0                | 400   | 400    |
| 1                | 180   | 180    |
| 2                | 140   | 140    |
| 3                | 100   | 100    |
| 4                | 60  | 67     |
| 5                | 50  | 59     |
| 6                | 45  | 51     |
| 7                | 41  | 43     |
| 8                | 37  | 35     |
| 9                | 33  | 31     |
| 10               | 29  | 27     |
| 11               | 25  | 23     |
| 12               | 20  | 19     |
| 13               | 20  | 15     |
| 14               | 20  | 13     |
| 15 & Over        | 20  | 13     |

Rates of Retirement:

*Retirements Expressed as the Number of Occurrences per 10,000:*

| Age       | Basic Members Eligible for Rule of 90 Provision | Basic Members Not Eligible for Rule of 90 Provision | Male Coordinated Members Eligible for Rule of 90 Provision | Female Coordinated Members Eligible for Rule of 90 Provision | Male Coordinated Members Not Eligible for Rule of 90 Provision | Female Coordinated Members Not Eligible for Rule of 90 Provision |
|-----------|---|---|--|--|--|--|
| 55        | 5,000   | 800   | 3,500  | 3,500  | 700  | 500  |
| 56        | 5,000   | 1,300   | 3,500  | 3,500  | 700  | 500  |
| 57        | 4,000   | 1,300   | 3,500  | 3,500  | 700  | 500  |
| 58        | 4,000   | 1,800   | 3,500  | 3,500  | 700  | 500  |
| 59        | 3,500   | 1,800   | 3,500  | 3,500  | 700  | 500  |
| 60        | 3,500   | 2,000   | 3,500  | 3,500  | 1,100  | 800  |
| 61        | 3,500   | 2,000   | 3,500  | 3,500  | 1,500  | 1,100  |
| 62        | 3,500   | 4,000   | 3,500  | 3,500  | 1,900  | 1,400  |
| 63        | 3,500   | 4,000   | 3,500  | 3,500  | 2,300  | 1,900  |
| 64        | 4,000   | 4,000   | 3,500  | 4,000  | 2,700  | 2,400  |
| 65        | 5,000   | 5,000   | 3,500  | 5,000  | 3,100  | 3,500  |
| 66        | 3,000   | 5,000   | 3,500  | 5,000  | 3,500  | 3,500  |
| 67        | 3,000   | 5,000   | 3,500  | 5,000  | 3,500  | 3,500  |
| 68        | 3,000   | 5,000   | 3,500  | 5,000  | 3,500  | 3,500  |
| 69        | 3,000   | 5,000   | 3,500  | 5,000  | 3,500  | 3,500  |
| 70 & Over | 10,000  | 10,000  | 10,000   | 10,000   | 10,000   | 10,000   |

**TABLE 12**  
**ACTUARIAL METHODS AND ASSUMPTIONS**  
**AS OF JULY 1, 2015**

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***B. Economic Assumptions***

Investment Return Rate: 8.00%

Cost of Living Increases: 1.00% per year through 2040; 2.00% beginning 2041; 2.50% beginning 2051.

Wage Inflation: 4.00% per year

Future Salary Increases: In addition to the age-based rates shown below, during the first 15 years of employment, a service-based component of 0.20% x (15-T), where T is completed years of service, is included in the salary increase used.

*Annual Salary Increases*

| Age | Ultimate Rate of<br>Annual Salary<br>Increases | Age       | Ultimate Rate of<br>Annual Salary<br>Increases |
|-----|--|-----------|--|
| <22 | 5.90%  | 45        | 4.75%  |
| 23  | 5.85   | 46        | 4.70   |
| 24  | 5.80   | 47        | 4.65   |
|     |  | 48        | 4.60   |
| 25  | 5.75   | 49        | 4.55   |
| 26  | 5.70   |           |  |
| 27  | 5.65   | 50        | 4.50   |
| 28  | 5.60   | 51        | 4.45   |
| 29  | 5.55   | 52        | 4.40   |
|     |  | 53        | 4.35   |
| 30  | 5.50   | 54        | 4.30   |
| 31  | 5.45   |           |  |
| 32  | 5.40   | 55        | 4.25   |
| 33  | 5.35   | 56        | 4.20   |
| 34  | 5.30   | 57        | 4.15   |
|     |  | 58        | 4.10   |
| 35  | 5.25   | 59        | 4.05   |
| 36  | 5.20   |           |  |
| 37  | 5.15   | 60 & Over | 4.00   |
| 38  | 5.10   |           |  |
| 39  | 5.05   |           |  |
|     |  |           |  |
| 40  | 5.00   |           |  |
| 41  | 4.95   |           |  |
| 42  | 4.90   |           |  |
| 43  | 4.85   |           |  |
| 44  | 4.80   |           |  |

Asset Value: The actuarial value of assets is smoothed by using a five-year average market value.

**TABLE 12**  
**ACTUARIAL METHODS AND ASSUMPTIONS**  
**AS OF JULY 1, 2015**

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**C. Other Assumptions**

|   |   |
|---|---|
| Marital Status:                           | It is assumed that 75% of male members and 60% of female members have an eligible spouse. The male spouse is assumed to be two years older than the female spouse. Married members are assumed to have two dependent children.  |
| Deferred Benefit Commencement:            | Basic Plan members who terminate vested are assumed to commence benefits at age 61. Coordinated Plan members are assumed to commence benefits at age 62. If the member is already past the assumed deferral age, the member is assumed to commence benefits one year from the valuation date.   |
| Administrative Expenses:                  | Prior year administrative expenses (excluding investment expenses) are expressed as a percentage-of-payroll and then applied to current projected payroll.  |
| Allowance for Combined Service Annuity:   | 7.00% load on liabilities for active members hired before July 1, 1989;<br><br>2.00% load on liabilities for active members hired after June 30, 1989; and<br><br>30.00% load on liabilities for former members.  |
| Missing Salary and Salary Minimums:       | Active members with reported salaries of \$100 or less were assumed to have the average non-zero active salary. Active members with salaries less than those reported at the prior valuation date are valued using their prior salary amount. Active members who have been hired within one year of the valuation date have had their pay annualized by dividing by months of service credited, not to exceed the average non-zero active salary. For members on leave of absence at valuation date who were not on leave at the prior valuation date, the prior year's valuation pay was used. |
| Missing Data for Deferred Vested Members: | Deferred vested members without salary information were assumed to have a final average salary of \$40,000.   |
| Decrement Timing:                         | Retirement and Termination: end of valuation year – consistent with retirements and terminations occurring at the end of the school year.<br><br>Death and Disability: middle of valuation year.  |

**TABLE 12**  
**ACTUARIAL METHODS AND ASSUMPTIONS**  
**AS OF JULY 1, 2015**

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|  |   |
|--|---|
| Valuation of Future Post-Retirement Benefit Increases: | If the plan has reached the funding ratio threshold required to pay a different benefit increase, Minnesota Statutes require the benefit increase rate to be reflected in the liability calculations. If the plan has not yet reached the funding ratio threshold required to pay a benefit increase, Minnesota Statutes require a projection to be performed to determine the expected attainment of the funding ratio thresholds, and the expected payment of benefit increases must be reflected in the liability calculations.  |
| Supplemental Contributions:                            | 1996 legislation provides for a variable amortization aid contribution paid annually on July 15. We assumed the annual amortization aid contribution will equal \$838,000, which was the actual contribution for the most recent fiscal year. Additionally, according to 1997 legislation, annual supplemental contributions currently equal to \$2,827,000 are scheduled to be paid on October 1. According to 2014 legislation, the State of Minnesota will make annual additional supplemental contributions of \$7,000,000 on October 1. The contributions described herein will continue until the plan is 100% funded or until June 30, 2042, whichever occurs earlier. |
| Projected Annual Payroll Calculation:                  | The census data as of July 1, 2015 reflects retirements and terminations occurring during the months of May and June; however, it does not necessarily reflect the replacements hired to fill their positions who may have hire dates in August and September. We assumed that May and June retirements are replaced by members coming in at the B.A. Step 1 salary level of \$43,021; and the Projected Annual Payroll for the fiscal year ending June 30, 2015 includes this replacement salary amount.   |

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**SECTION 5**  
BASIC PLAN

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**TABLE 3A**  
**BASIC ACTIVE MEMBERS AS OF JUNE 30, 2015**

| Age   | Years of Service |     |       |       |       |       |       |     | ALL |
|-------|------------------|-----|-------|-------|-------|-------|-------|-----|-----|
|       | <5               | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35+ |     |
| <25   | 0                | 0   | 0     | 0     | 0     | 0     | 0     | 0   | 0   |
| 25-29 | 0                | 0   | 0     | 0     | 0     | 0     | 0     | 0   | 0   |
| 30-34 | 0                | 0   | 0     | 0     | 0     | 0     | 0     | 0   | 0   |
| 35-39 | 0                | 0   | 0     | 0     | 0     | 0     | 0     | 0   | 0   |
| 40-44 | 0                | 0   | 0     | 0     | 0     | 0     | 0     | 0   | 0   |
| 45-49 | 0                | 0   | 0     | 0     | 0     | 0     | 0     | 0   | 0   |
| 50-54 | 0                | 0   | 0     | 0     | 0     | 0     | 0     | 0   | 0   |
| 55-59 | 0                | 0   | 0     | 0     | 0     | 0     | 0     | 0   | 0   |
| 60-64 | 0                | 0   | 0     | 0     | 0     | 0     | 0     | 1   | 1   |
| 65+   | 0                | 0   | 0     | 0     | 0     | 0     | 1     | 3   | 4   |
| ALL   | 0                | 0   | 0     | 0     | 0     | 0     | 1     | 4   | 5   |

**AVERAGE ANNUAL EARNINGS**

| Age   | Years of Service |     |       |       |       |       |        |         | ALL     |
|-------|------------------|-----|-------|-------|-------|-------|--------|---------|---------|
|       | <5               | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34  | 35+     |         |
| <25   | 0                | 0   | 0     | 0     | 0     | 0     | 0      | 0       | 0       |
| 25-29 | 0                | 0   | 0     | 0     | 0     | 0     | 0      | 0       | 0       |
| 30-34 | 0                | 0   | 0     | 0     | 0     | 0     | 0      | 0       | 0       |
| 35-39 | 0                | 0   | 0     | 0     | 0     | 0     | 0      | 0       | 0       |
| 40-44 | 0                | 0   | 0     | 0     | 0     | 0     | 0      | 0       | 0       |
| 45-49 | 0                | 0   | 0     | 0     | 0     | 0     | 0      | 0       | 0       |
| 50-54 | 0                | 0   | 0     | 0     | 0     | 0     | 0      | 0       | 0       |
| 55-59 | 0                | 0   | 0     | 0     | 0     | 0     | 0      | 0       | 0       |
| 60-64 | 0                | 0   | 0     | 0     | 0     | 0     | 0      | 87,677  | 87,677  |
| 65+   | 0                | 0   | 0     | 0     | 0     | 0     | 87,273 | 119,251 | 111,257 |
| ALL   | 0                | 0   | 0     | 0     | 0     | 0     | 87,273 | 111,358 | 106,541 |

**Prior Fiscal Year Earnings (IN THOUSANDS) by Years of Service**

|     | <5 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35 & Over | ALL |
|-----|----|-----|-------|-------|-------|-------|-------|-----------|-----|
| ALL | 0  | 0   | 0     | 0     | 0     | 0     | 87    | 445       | 533 |

**TABLE 4A**  
**BASIC SERVICE RETIREMENTS AS OF JUNE 30, 2015**

| Age   | Years Retired |     |       |       |       |       |       |       |           | ALL   |
|-------|---------------|-----|-------|-------|-------|-------|-------|-------|-----------|-------|
|       | <5            | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 & Over |       |
| <45   | 0             | 0   | 0     | 1     | 0     | 0     | 0     | 0     | 0         | 1     |
| 45-49 | 1             | 0   | 0     | 1     | 0     | 0     | 0     | 0     | 0         | 2     |
| 50-54 | 2             | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 2     |
| 55-59 | 6             | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 6     |
| 60-64 | 48            | 49  | 1     | 0     | 0     | 0     | 0     | 0     | 0         | 98    |
| 65-69 | 46            | 161 | 194   | 2     | 0     | 0     | 0     | 0     | 0         | 403   |
| 70-74 | 7             | 44  | 186   | 134   | 2     | 0     | 0     | 0     | 0         | 373   |
| 75-79 | 1             | 4   | 55    | 188   | 66    | 1     | 0     | 0     | 0         | 315   |
| 80-84 | 0             | 0   | 2     | 68    | 130   | 41    | 0     | 0     | 0         | 241   |
| 85-89 | 0             | 0   | 0     | 6     | 42    | 68    | 23    | 1     | 0         | 140   |
| 90+   | 0             | 0   | 0     | 0     | 6     | 28    | 36    | 10    | 0         | 80    |
| ALL   | 111           | 258 | 438   | 400   | 246   | 138   | 59    | 11    | 0         | 1,661 |

**AVERAGE ANNUAL BENEFIT**

| Age   | Years Retired |        |        |        |        |        |        |        |           | ALL    |
|-------|---------------|--------|--------|--------|--------|--------|--------|--------|-----------|--------|
|       | <5            | 5-9    | 10-14  | 15-19  | 20-24  | 25-29  | 30-34  | 35-39  | 40 & Over |        |
| <45   | 0             | 0      | 0      | 5,654  | 0      | 0      | 0      | 0      | 0         | 5,654  |
| 45-49 | 5,091         | 0      | 0      | 5,654  | 0      | 0      | 0      | 0      | 0         | 5,373  |
| 50-54 | 5,091         | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0         | 5,091  |
| 55-59 | 18,445        | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0         | 18,445 |
| 60-64 | 40,301        | 43,883 | 20,757 | 0      | 0      | 0      | 0      | 0      | 0         | 41,892 |
| 65-69 | 50,721        | 45,034 | 43,636 | 40,852 | 0      | 0      | 0      | 0      | 0         | 44,989 |
| 70-74 | 23,275        | 44,312 | 40,802 | 35,661 | 20,315 | 0      | 0      | 0      | 0         | 38,930 |
| 75-79 | 5,366         | 85,561 | 50,617 | 45,025 | 40,839 | 66,621 | 0      | 0      | 0         | 45,582 |
| 80-84 | 0             | 0      | 54,428 | 55,264 | 43,023 | 31,410 | 0      | 0      | 0         | 44,596 |
| 85-89 | 0             | 0      | 0      | 40,691 | 57,436 | 33,520 | 24,596 | 65,249 | 0         | 39,763 |
| 90+   | 0             | 0      | 0      | 0      | 52,625 | 32,034 | 29,351 | 33,101 | 0         | 32,504 |
| ALL   | 41,098        | 45,320 | 43,306 | 43,346 | 44,947 | 32,832 | 27,497 | 36,023 | 0         | 42,244 |

**Total Annual Benefit (IN THOUSANDS) by Years RETIRED**

|     | <5    | 5-9    | 10-14  | 15-19  | 20-24  | 25-29 | 30-34 | 35-39 | 40 & Over | ALL    |
|-----|-------|--------|--------|--------|--------|-------|-------|-------|-----------|--------|
| ALL | 4,562 | 11,693 | 18,968 | 17,338 | 11,057 | 4,531 | 1,622 | 396   | 0         | 70,167 |

**TABLE 5A**  
**BASIC DISABILITY RETIREMENTS AS OF JUNE 30, 2015\***

| Age   | Years Disabled |     |       |       |       |       |       |       |           | ALL |
|-------|----------------|-----|-------|-------|-------|-------|-------|-------|-----------|-----|
|       | <5             | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 & Over |     |
| <45   | 0              | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 0   |
| 45-49 | 0              | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 0   |
| 50-54 | 0              | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 0   |
| 55-59 | 0              | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 0   |
| 60-64 | 0              | 2   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 2   |
| 65-69 | 0              | 1   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 1   |
| 70-74 | 0              | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 0   |
| 75-79 | 0              | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 0   |
| 80-84 | 0              | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 0   |
| 85-89 | 0              | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 0   |
| 90+   | 0              | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 0   |
| ALL   | 0              | 3   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 3   |

**AVERAGE ANNUAL BENEFIT**

| Age   | Years Disabled |        |       |       |       |       |       |       |           | ALL    |
|-------|----------------|--------|-------|-------|-------|-------|-------|-------|-----------|--------|
|       | <5             | 5-9    | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 & Over |        |
| <45   | 0              | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 0      |
| 45-49 | 0              | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 0      |
| 50-54 | 0              | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 0      |
| 55-59 | 0              | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 0      |
| 60-64 | 0              | 51,530 | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 51,530 |
| 65-69 | 0              | 1,835  | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 1,835  |
| 70-74 | 0              | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 0      |
| 75-79 | 0              | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 0      |
| 80-84 | 0              | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 0      |
| 85-89 | 0              | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 0      |
| 90+   | 0              | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 0      |
| ALL   | 0              | 34,965 | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 34,965 |

**Total Annual Benefit (IN THOUSANDS) by Years DISABLED**

|     | <5 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 & Over | ALL |
|-----|----|-----|-------|-------|-------|-------|-------|-------|-----------|-----|
| ALL | 0  | 105 | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 105 |

\* Disability benefits convert to normal retirement benefits at normal retirement age (generally between ages 65 and 66).

**TABLE 6A**  
**BASIC SURVIVORS AS OF JUNE 30, 2015**

| Age        | Years Since Member Death |     |       |       |       |       |       |       |           | ALL |
|------------|--------------------------|-----|-------|-------|-------|-------|-------|-------|-----------|-----|
|            | <5                       | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 & Over |     |
| <45        | 0                        | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 0   |
| 45-49      | 0                        | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 0   |
| 50-54      | 2                        | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 2   |
| 55-59      | 1                        | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 1   |
| 60-64      | 0                        | 0   | 3     | 1     | 2     | 0     | 0     | 0     | 1         | 7   |
| 65-69      | 2                        | 2   | 5     | 5     | 3     | 2     | 1     | 0     | 0         | 20  |
| 70-74      | 2                        | 0   | 4     | 10    | 8     | 4     | 1     | 0     | 0         | 29  |
| 75-79      | 8                        | 2   | 1     | 15    | 22    | 9     | 3     | 2     | 0         | 62  |
| 80-84      | 7                        | 0   | 1     | 3     | 22    | 19    | 5     | 1     | 0         | 58  |
| 85-89      | 5                        | 0   | 0     | 0     | 6     | 24    | 20    | 4     | 2         | 61  |
| 90+        | 1                        | 0   | 0     | 0     | 1     | 3     | 12    | 9     | 1         | 27  |
| <b>ALL</b> | 28                       | 4   | 14    | 34    | 64    | 61    | 42    | 16    | 4         | 267 |

**AVERAGE ANNUAL BENEFIT**

| Age        | Years Since Member Death |        |        |        |        |        |        |        |           | ALL    |
|------------|--------------------------|--------|--------|--------|--------|--------|--------|--------|-----------|--------|
|            | <5                       | 5-9    | 10-14  | 15-19  | 20-24  | 25-29  | 30-34  | 35-39  | 40 & Over |        |
| <45        | 0                        | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0         |        |
| 45-49      | 0                        | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0         |        |
| 50-54      | 44,649                   | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0         | 44,649 |
| 55-59      | 59,581                   | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0         | 59,581 |
| 60-64      | 0                        | 0      | 8,622  | 13,872 | 45,156 | 0      | 0      | 0      | 3,350     | 19,057 |
| 65-69      | 52,365                   | 64,782 | 20,010 | 36,914 | 34,107 | 24,449 | 20,176 | 0      | 0         | 34,515 |
| 70-74      | 55,990                   | 0      | 41,625 | 37,247 | 33,980 | 20,495 | 24,113 | 0      | 0         | 35,479 |
| 75-79      | 45,753                   | 33,528 | 52,409 | 33,678 | 40,800 | 30,611 | 28,311 | 24,071 | 0         | 37,045 |
| 80-84      | 40,634                   | 0      | 39,885 | 40,470 | 46,573 | 35,520 | 20,943 | 27,621 | 0         | 39,268 |
| 85-89      | 39,854                   | 0      | 0      | 0      | 44,329 | 35,613 | 32,633 | 20,612 | 41,848    | 35,061 |
| 90+        | 13,867                   | 0      | 0      | 0      | 69,590 | 18,507 | 30,614 | 24,983 | 20,818    | 27,853 |
| <b>ALL</b> | 43,899                   | 49,155 | 27,480 | 35,220 | 42,535 | 32,647 | 29,856 | 23,941 | 26,966    | 35,455 |

**Total Annual Benefit (IN THOUSANDS) by Years Since Member Death**

|            | <5    | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 & Over | ALL   |
|------------|-------|-----|-------|-------|-------|-------|-------|-------|-----------|-------|
| <b>ALL</b> | 1,229 | 197 | 385   | 1,197 | 2,722 | 1,991 | 1,254 | 383   | 108       | 9,466 |

**TABLE 11A**  
**BASIC DETERMINATION OF CONTRIBUTION SUFFICIENCY**  
**AS OF JULY 1, 2015**  
(dollars in thousands)

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|   | <b>Percent-of-<br/>Payroll</b> | <b>Dollar Amount</b> |
|---|--------------------------------|----------------------|
| <b>A. STATUTORY CONTRIBUTIONS - CHAPTER 354A</b>                          |                                |                      |
| 1. Employee Contributions   | 9.50%                          | \$ 53                |
| 2. Employer Contributions   | 13.14%                         | 73                   |
| 3. Supplemental Contribution  |                                |                      |
| a. 1996 Legislation   | 0.30%                          | 2                    |
| b. 1997 Legislation   | 1.01%                          | 6                    |
| c. 2014 Legislation   | 2.50%                          | 14                   |
| 4. Total  | 26.45%                         | \$ 148               |
| <b>B. REQUIRED CONTRIBUTIONS - CHAPTER 356</b>                            |                                |                      |
| 1. Normal Cost  |                                |                      |
| a. Retirement Benefits  | 9.47%                          | \$ 52                |
| b. Disability Benefits  | 0.47%                          | 3                    |
| c. Surviving Spouse and Child Benefits                                    | 0.10%                          | 1                    |
| d. Deferred Retirements   | 1.80%                          | 10                   |
| e. Refund Liability Due to Death or Withdrawal                            | 1.23%                          | 7                    |
| f. Total  | 13.07%                         | \$ 73                |
| Projected Annual Payroll for Fiscal Year Beginning on the Valuation Date: |                                | \$ 554               |

# SUMMARY OF BENEFIT PROVISIONS FOR BASIC MEMBERS AS OF JULY 1, 2015

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## STATUTORY CONTRIBUTIONS

Statutory contribution rates for members and their employers are shown as a percent of pay below:

| <u>Contribution After June 30,</u> | <u>Member</u> | <u>Employer<br/>Regular</u> | <u>Employer<br/>Additional</u> |
|------------------------------------|---------------|-----------------------------|--------------------------------|
| 2014                               | 9.00%         | 9.00%                       | 3.64%                          |
| 2015                               | 9.50%         | 9.50%                       | 3.64%                          |
| 2016                               | 10.00%        | 9.75%                       | 3.64%                          |
| 2017                               | 10.00%        | 10.00%                      | 3.64%                          |

## PARTICIPANTS

Professional Educators first employed prior to July 1, 1978 by schools in the City of St. Paul or St. Paul College whose position requires a license from the Minnesota Department of Education, who are not covered under the Social Security Act.

## ACCREDITED SERVICE

Service which has been verified and accredited by the Association for the purpose of determining contributions and benefits (may include service earned while working outside of St. Paul Public Schools, previous St. Paul service, military service and governmental service).

## ALLOWABLE ST. PAUL SERVICE

Service earned as a licensed educator in the St. Paul Public Schools, in the St. Paul College, or as an employee of the Association. Also includes service credited after receipt of payment as required, for licensed educators on leave.

## SALARY

Total compensation earned during a school year (July 1 to June 30) excluding lump sum payments for unused leave at termination and employer-paid insurance coverage.

## AVERAGE SALARY

Average of the highest five years of salary during the last 10 years of St. Paul service while making contributions or while disabled.

## NORMAL RETIREMENT BENEFIT

### *Eligibility*

Attainment of age 65 and 5 years of Accredited Service.

### *Benefit*

2.50% of Average Salary for each year of Accredited Service.

# SUMMARY OF BENEFIT PROVISIONS FOR BASIC MEMBERS AS OF JULY 1, 2015

---

## EARLY RETIREMENT BENEFIT

### *Eligibility*

Attainment of age 55 and 5 years of Accredited Service.

### *Benefit*

The greater of the following benefits:

- 2.00 percent of Average Salary per year of Accredited Service, subject to a maximum of 40 years with a 0.25% reduction for each month the member is under age 65. If the member has 25 years of Accredited Service, the reduction is taken from age 60, therefore no reduction is required if the member is age 60 or older. No reduction is taken if age plus years of Accredited Service totals at least 90.
- 2.50 percent of Average Salary per year of Accredited Service, subject to a maximum of 40 years, reduced for each month the member is under age 65 using linear interpolation of the table listed below.

| <u>Age at Retirement</u> | <u>Under Age 62<br/>or less than 30<br/>years of service</u> | <u>Age 62 or older<br/>with 30 years of<br/>service</u> |
|--------------------------|--|---|
| 55                       | 0.5376   |   |
| 56                       | 0.5745   |   |
| 57                       | 0.6092   |   |
| 58                       | 0.6419   |   |
| 59                       | 0.6726   |   |
| 60                       | 0.7354   |   |
| 61                       | 0.7947   |   |
| 62                       | 0.8507   | 0.8831  |
| 63                       | 0.9035   | 0.9246  |
| 64                       | 0.9533   | 0.9635  |
| 65                       | 1.0000   | 1.0000  |

## DISABILITY RETIREMENT BENEFIT

### *Eligibility*

Total and permanent disablement before attaining age 65 and 5 years of Accredited Service.

### *Benefit*

If the member is under age 65, 75 percent of the member's annual contract salary less any Social Security and Workers' Compensation benefits payable until age 65. At age 65, a normal retirement benefit is calculated using the projected service and average salary as if the member had continued to teach in their position held at the time of disability. Members age 65 or older at time of disability receive a normal retirement benefit.

# SUMMARY OF BENEFIT PROVISIONS FOR BASIC MEMBERS AS OF JULY 1, 2015

---

## **DEFERRED RETIREMENT BENEFIT**

### ***Eligibility***

5 years of Accredited Service.

### ***Benefit***

Benefit computed under law in effect at termination and payable as a normal or early retirement benefit. For members hired on or before June 30, 2006, the benefit is augmented at 3.00 percent compounded annually from the 1<sup>st</sup> of the month following termination until the January 1<sup>st</sup> after turning age 55 and then augmented at 5.00 percent compounded annually from that date to July 1, 2012. For members hired after June 30, 2006, the benefit is augmented at 2.50 percent compounded annually from the 1<sup>st</sup> of the month following termination to July 1, 2012. Augmentation for all members, regardless of hire date, changed to 2.00 percent as of July 1, 2012 for the portion of benefit deferral which occurs after June 30, 2012.

## **ACTIVE SURVIVOR BENEFIT (Family Benefit)**

### ***Eligibility***

Active member with three years of Accredited Service.

### ***Benefit***

- Children's Benefit: 25 percent of the maximum Bachelor of Arts salary for the year in which the member died for each eligible child up to a maximum of two. Benefits are paid until the child attains age 18, or 22 for full-time students.
- Spousal Benefit: 15 percent of the maximum Bachelor of Arts salary for an eligible spouse who has legal custody of an eligible child. Spousal benefits cease when the spouse remarries, dies, or elects the regular survivor benefit. Electing the regular survivor benefit does not disqualify the child from receiving the family benefit.

## **SURVIVOR BENEFIT (Active or Retired Member)**

### ***Eligibility***

Active member or retired member with five years of Accredited Service. A surviving spouse must have been married to the member for three years at the earlier of his death or retirement.

### ***Benefit***

Retirement benefit earned at the time of death or retirement, whichever is earlier, reduced by the use of one hundred percent joint survivorship tables, based on the ages of the member and survivor at the time of retirement.

# SUMMARY OF BENEFIT PROVISIONS FOR BASIC MEMBERS AS OF JULY 1, 2015

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## **REFUND OF CONTRIBUTIONS**

### *Eligibility*

Termination or death where no annuity is payable, or prior to age 55, if a refund of contributions is chosen in lieu of an annuity.

### *Benefit*

Member contributions with 6.00 percent interest accrued before July 1, 2011 with 4.00 percent accrual thereafter.

## **REEMPLOYED ANNUITANTS**

The School District shall make the regular employer contribution and additional employer contribution, plus a supplemental contribution equal to 2.5% of salary, on behalf of any retired member who is reemployed by the School District. Reemployed annuitants do not accrue additional benefits.

## **NORMAL FORM OF RETIREMENT BENEFITS**

Unreduced annuity payments made until the death of the member, with a 100 percent Joint & Survivor adjusted pension payable to the surviving beneficiary.

## **BENEFIT INCREASES**

If the Accrued Liability Funding Ratio, based on Actuarial Value of Assets, as determined by the two consecutive and most recent actuarial valuations are:

Less than 80 percent for two consecutive years, the COLA: 1.00 percent

Between 80 percent and 90 percent for two consecutive years, the COLA: 2.00 percent

If at least 90 percent for two consecutive years, the COLA: 2.50 percent

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**SECTION 6**  
COORDINATED PLAN

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**TABLE 3B**  
**COORDINATED ACTIVE MEMBERS AS OF JUNE 30, 2015\***

| Age   | Years of Service |     |       |       |       |       |       |     | ALL   |
|-------|------------------|-----|-------|-------|-------|-------|-------|-----|-------|
|       | <5               | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35+ |       |
| <25   | 36               | 0   | 0     | 0     | 0     | 0     | 0     | 0   | 36    |
| 25-29 | 306              | 17  | 0     | 0     | 0     | 0     | 0     | 0   | 323   |
| 30-34 | 314              | 147 | 32    | 0     | 0     | 0     | 0     | 0   | 493   |
| 35-39 | 171              | 104 | 184   | 33    | 0     | 0     | 0     | 0   | 492   |
| 40-44 | 123              | 79  | 113   | 219   | 16    | 0     | 0     | 0   | 550   |
| 45-49 | 84               | 40  | 101   | 185   | 131   | 7     | 0     | 0   | 548   |
| 50-54 | 58               | 39  | 74    | 109   | 121   | 98    | 14    | 0   | 513   |
| 55-59 | 61               | 26  | 60    | 77    | 92    | 78    | 50    | 11  | 455   |
| 60-64 | 27               | 11  | 27    | 63    | 56    | 52    | 18    | 17  | 271   |
| 65+   | 19               | 7   | 12    | 10    | 7     | 4     | 7     | 4   | 70    |
| ALL   | 1,199            | 470 | 603   | 696   | 423   | 239   | 89    | 32  | 3,751 |

**AVERAGE ANNUAL EARNINGS**

| Age   | Years of Service |        |        |        |        |         |         |        | ALL    |
|-------|------------------|--------|--------|--------|--------|---------|---------|--------|--------|
|       | <5               | 5-9    | 10-14  | 15-19  | 20-24  | 25-29   | 30-34   | 35+    |        |
| <25   | 38,665           | 0      | 0      | 0      | 0      | 0       | 0       | 0      | 38,665 |
| 25-29 | 44,007           | 59,180 | 0      | 0      | 0      | 0       | 0       | 0      | 44,805 |
| 30-34 | 48,226           | 62,108 | 72,867 | 0      | 0      | 0       | 0       | 0      | 53,964 |
| 35-39 | 51,967           | 64,999 | 76,292 | 79,182 | 0      | 0       | 0       | 0      | 65,644 |
| 40-44 | 58,334           | 65,825 | 76,996 | 82,308 | 91,342 | 0       | 0       | 0      | 73,750 |
| 45-49 | 57,137           | 67,818 | 78,606 | 83,126 | 87,468 | 106,377 | 0       | 0      | 78,527 |
| 50-54 | 46,306           | 62,520 | 79,929 | 84,070 | 85,269 | 93,209  | 93,329  | 0      | 79,846 |
| 55-59 | 54,718           | 75,248 | 71,716 | 82,744 | 86,912 | 87,654  | 91,552  | 99,263 | 80,156 |
| 60-64 | 35,481           | 52,131 | 70,707 | 79,932 | 84,170 | 88,392  | 85,803  | 96,611 | 77,391 |
| 65+   | 17,182           | 73,347 | 70,510 | 77,479 | 85,998 | 86,253  | 102,587 | 86,969 | 63,911 |
| ALL   | 48,515           | 64,448 | 76,256 | 82,417 | 86,404 | 90,617  | 91,537  | 96,317 | 69,645 |

**Prior Fiscal Year Earnings (In THOUSANDS) by Years of Service**

|     | <5     | 5-9    | 10-14  | 15-19  | 20-24  | 25-29  | 30-34 | 35 & Over | ALL     |
|-----|--------|--------|--------|--------|--------|--------|-------|-----------|---------|
| ALL | 58,170 | 30,290 | 45,982 | 57,362 | 36,549 | 21,658 | 8,147 | 3,080     | 261,238 |

\*Including those on leave of absence, pay annualized for new hires.

**TABLE 4B**  
**COORDINATED SERVICE RETIREMENTS AS OF JUNE 30, 2015**

| Age   | Years Retired |     |       |       |       |       |       |       |           | ALL   |
|-------|---------------|-----|-------|-------|-------|-------|-------|-------|-----------|-------|
|       | <5            | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 & Over |       |
| <45   | 0             | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 0     |
| 45-49 | 0             | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 0     |
| 50-54 | 2             | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 2     |
| 55-59 | 90            | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 90    |
| 60-64 | 324           | 88  | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 412   |
| 65-69 | 284           | 210 | 54    | 0     | 0     | 0     | 0     | 0     | 0         | 548   |
| 70-74 | 52            | 135 | 98    | 29    | 1     | 0     | 0     | 0     | 0         | 315   |
| 75-79 | 4             | 26  | 65    | 49    | 9     | 0     | 0     | 0     | 0         | 153   |
| 80-84 | 4             | 3   | 16    | 29    | 16    | 0     | 0     | 0     | 0         | 68    |
| 85-89 | 0             | 1   | 3     | 3     | 8     | 3     | 0     | 0     | 0         | 18    |
| 90+   | 0             | 0   | 2     | 1     | 0     | 6     | 1     | 0     | 0         | 10    |
| ALL   | 760           | 463 | 238   | 111   | 34    | 9     | 1     | 0     | 0         | 1,616 |

**AVERAGE ANNUAL BENEFIT**

| Age   | Years Retired |        |        |        |        |        |       |       |           | ALL    |
|-------|---------------|--------|--------|--------|--------|--------|-------|-------|-----------|--------|
|       | <5            | 5-9    | 10-14  | 15-19  | 20-24  | 25-29  | 30-34 | 35-39 | 40 & Over |        |
| <45   | 0             | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0         | 0      |
| 45-49 | 0             | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0         | 0      |
| 50-54 | 15,614        | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0         | 15,614 |
| 55-59 | 22,809        | 0      | 0      | 0      | 0      | 0      | 0     | 0     | 0         | 22,809 |
| 60-64 | 22,295        | 19,453 | 0      | 0      | 0      | 0      | 0     | 0     | 0         | 21,688 |
| 65-69 | 19,860        | 17,975 | 17,589 | 0      | 0      | 0      | 0     | 0     | 0         | 18,914 |
| 70-74 | 14,266        | 17,463 | 15,548 | 10,468 | 20,428 | 0      | 0     | 0     | 0         | 15,705 |
| 75-79 | 3,694         | 18,849 | 16,989 | 14,426 | 11,444 | 0      | 0     | 0     | 0         | 15,810 |
| 80-84 | 8,100         | 19,649 | 11,107 | 14,871 | 14,069 | 0      | 0     | 0     | 0         | 13,609 |
| 85-89 | 0             | 1,524  | 17,251 | 5,211  | 22,610 | 4,152  | 0     | 0     | 0         | 14,569 |
| 90+   | 0             | 0      | 27,326 | 60,385 | 0      | 10,340 | 3,868 | 0     | 0         | 18,095 |
| ALL   | 20,707        | 18,131 | 16,226 | 13,673 | 15,571 | 8,277  | 3,868 | 0     | 0         | 18,638 |

**Total Annual Benefit (IN THOUSANDS) by Years RETIRED**

|     | <5     | 5-9   | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 & Over | ALL    |
|-----|--------|-------|-------|-------|-------|-------|-------|-------|-----------|--------|
| ALL | 15,737 | 8,395 | 3,862 | 1,518 | 529   | 74    | 4     | 0     | 0         | 30,119 |

**TABLE 5B**  
**COORDINATED DISABILITY RETIREMENTS AS OF JUNE 30, 2015\***

| Age   | Years Disabled |     |       |       |       |       |       |       |           | ALL |
|-------|----------------|-----|-------|-------|-------|-------|-------|-------|-----------|-----|
|       | <5             | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 & Over |     |
| <45   | 1              | 1   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 2   |
| 45-49 | 2              | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 2   |
| 50-54 | 4              | 3   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 7   |
| 55-59 | 3              | 0   | 1     | 1     | 0     | 0     | 0     | 0     | 0         | 5   |
| 60-64 | 7              | 5   | 2     | 0     | 0     | 0     | 0     | 0     | 0         | 14  |
| 65-69 | 0              | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 0   |
| 70-74 | 0              | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 0   |
| 75-79 | 0              | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 0   |
| 80-84 | 0              | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 0   |
| 85-89 | 0              | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 0   |
| 90+   | 0              | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 0   |
| ALL   | 17             | 9   | 3     | 1     | 0     | 0     | 0     | 0     | 0         | 30  |

**AVERAGE ANNUAL BENEFIT**

| Age   | Years Disabled |       |        |       |       |       |       |       |           | ALL    |
|-------|----------------|-------|--------|-------|-------|-------|-------|-------|-----------|--------|
|       | <5             | 5-9   | 10-14  | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 & Over |        |
| <45   | 3,421          | 7,797 | 0      | 0     | 0     | 0     | 0     | 0     | 0         | 5,609  |
| 45-49 | 24,312         | 0     | 0      | 0     | 0     | 0     | 0     | 0     | 0         | 24,312 |
| 50-54 | 20,367         | 9,038 | 0      | 0     | 0     | 0     | 0     | 0     | 0         | 15,512 |
| 55-59 | 15,383         | 0     | 24,426 | 5,581 | 0     | 0     | 0     | 0     | 0         | 15,231 |
| 60-64 | 23,790         | 7,304 | 18,563 | 0     | 0     | 0     | 0     | 0     | 0         | 17,156 |
| 65-69 | 0              | 0     | 0      | 0     | 0     | 0     | 0     | 0     | 0         | 0      |
| 70-74 | 0              | 0     | 0      | 0     | 0     | 0     | 0     | 0     | 0         | 0      |
| 75-79 | 0              | 0     | 0      | 0     | 0     | 0     | 0     | 0     | 0         | 0      |
| 80-84 | 0              | 0     | 0      | 0     | 0     | 0     | 0     | 0     | 0         | 0      |
| 85-89 | 0              | 0     | 0      | 0     | 0     | 0     | 0     | 0     | 0         | 0      |
| 90+   | 0              | 0     | 0      | 0     | 0     | 0     | 0     | 0     | 0         | 0      |
| ALL   | 20,364         | 7,937 | 20,517 | 5,581 | 0     | 0     | 0     | 0     | 0         | 16,159 |

**Total Annual Benefit (IN THOUSANDS) by Years DISABLED**

|     | <5  | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 & Over | ALL |
|-----|-----|-----|-------|-------|-------|-------|-------|-------|-----------|-----|
| ALL | 346 | 71  | 62    | 6     | 0     | 0     | 0     | 0     | 0         | 485 |

\* Disability benefits convert to normal retirement benefits at normal retirement age (generally between ages 65 and 66).

**TABLE 6B**  
**COORDINATED SURVIVORS AS OF JUNE 30, 2015**

| Age   | Years Since Member Death |     |       |       |       |       |       |       |           | ALL |
|-------|--------------------------|-----|-------|-------|-------|-------|-------|-------|-----------|-----|
|       | <5                       | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 & Over |     |
| <45   | 6                        | 0   | 2     | 0     | 0     | 0     | 0     | 0     | 0         | 8   |
| 45-49 | 1                        | 1   | 3     | 0     | 0     | 0     | 0     | 0     | 0         | 5   |
| 50-54 | 0                        | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 0   |
| 55-59 | 2                        | 4   | 1     | 0     | 0     | 0     | 0     | 0     | 0         | 7   |
| 60-64 | 3                        | 1   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 4   |
| 65-69 | 3                        | 2   | 4     | 0     | 1     | 0     | 0     | 0     | 0         | 10  |
| 70-74 | 1                        | 2   | 5     | 1     | 1     | 0     | 0     | 0     | 0         | 10  |
| 75-79 | 2                        | 0   | 5     | 2     | 0     | 0     | 0     | 0     | 0         | 9   |
| 80-84 | 1                        | 0   | 0     | 1     | 1     | 0     | 0     | 0     | 0         | 3   |
| 85-89 | 0                        | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 0   |
| 90+   | 0                        | 0   | 0     | 0     | 0     | 0     | 0     | 0     | 0         | 0   |
| ALL   | 19                       | 10  | 20    | 4     | 3     | 0     | 0     | 0     | 0         | 56  |

**AVERAGE ANNUAL BENEFIT**

| Age   | Years Since Member Death |        |        |        |        |       |       |       |           | ALL    |
|-------|--------------------------|--------|--------|--------|--------|-------|-------|-------|-----------|--------|
|       | <5                       | 5-9    | 10-14  | 15-19  | 20-24  | 25-29 | 30-34 | 35-39 | 40 & Over |        |
| <45   | 10,800                   | 0      | 9,246  | 0      | 0      | 0     | 0     | 0     | 0         | 10,411 |
| 45-49 | 1,902                    | 531    | 807    | 0      | 0      | 0     | 0     | 0     | 0         | 971    |
| 50-54 | 0                        | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0         | 0      |
| 55-59 | 7,395                    | 6,916  | 687    | 0      | 0      | 0     | 0     | 0     | 0         | 6,163  |
| 60-64 | 22,827                   | 19,089 | 0      | 0      | 0      | 0     | 0     | 0     | 0         | 21,892 |
| 65-69 | 37,258                   | 14,157 | 15,287 | 0      | 13,481 | 0     | 0     | 0     | 0         | 21,472 |
| 70-74 | 4,029                    | 15,234 | 17,409 | 4,043  | 16,919 | 0     | 0     | 0     | 0         | 14,251 |
| 75-79 | 31,543                   | 0      | 17,122 | 25,742 | 0      | 0     | 0     | 0     | 0         | 22,242 |
| 80-84 | 24,600                   | 0      | 0      | 14,491 | 26,346 | 0     | 0     | 0     | 0         | 21,812 |
| 85-89 | 0                        | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0         | 0      |
| 90+   | 0                        | 0      | 0      | 0      | 0      | 0     | 0     | 0     | 0         | 0      |
| ALL   | 18,579                   | 10,607 | 12,770 | 17,504 | 18,915 | 0     | 0     | 0     | 0         | 15,030 |

**Total Annual Benefit (IN THOUSANDS) by Years Since Member Death**

|     | <5  | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 & Over | ALL |
|-----|-----|-----|-------|-------|-------|-------|-------|-------|-----------|-----|
| ALL | 353 | 106 | 255   | 71    | 57    | 0     | 0     | 0     | 0         | 842 |

**TABLE 11B**  
**COORDINATED DETERMINATION OF CONTRIBUTION SUFFICIENCY**  
**AS OF JULY 1, 2015**  
(dollars in thousands)

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|   | <b>Percent-of-<br/>Payroll</b> | <b>Dollar Amount</b> |
|---|--------------------------------|----------------------|
| <b>A. STATUTORY CONTRIBUTIONS - CHAPTER 354A</b>                          |                                |                      |
| 1. Employee Contributions   | 7.00%                          | \$ 19,595            |
| 2. Employer Contributions   | 9.84%                          | 27,545               |
| 3. Supplemental Contribution  |                                |                      |
| a. 1996 Legislation   | 0.30%                          | 836                  |
| b. 1997 Legislation   | 1.01%                          | 2,821                |
| c. 2014 Legislation   | 2.50%                          | 6,986                |
| 4. Total  | 20.65%                         | \$ 57,783            |
| <b>B. REQUIRED CONTRIBUTIONS - CHAPTER 356</b>                            |                                |                      |
| 1. Normal Cost  |                                |                      |
| a. Retirement Benefits  | 6.81%                          | \$ 19,074            |
| b. Disability Benefits  | 0.19%                          | 535                  |
| c. Surviving Spouse and Child Benefits                                    | 0.12%                          | 328                  |
| d. Deferred Retirements   | 1.45%                          | 4,061                |
| e. Refund Liability Due to Death or Withdrawal                            | 0.54%                          | 1,525                |
| e. Total  | 9.11%                          | \$ 25,523            |
| Projected Annual Payroll for Fiscal Year Beginning on the Valuation Date: |                                | \$ 279,934           |

# SUMMARY OF BENEFIT PROVISIONS FOR COORDINATED MEMBERS AS OF JULY 1, 2015

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## STATUTORY CONTRIBUTIONS

Statutory contribution rates for members and their employers are shown as a percent-of-pay below.

| <u>Contribution After June 30,</u> | <u>Member</u> | <u>Employer<br/>Regular</u> | <u>Employer<br/>Additional</u> |
|------------------------------------|---------------|-----------------------------|--------------------------------|
| 2014                               | 6.50%         | 5.50%                       | 3.84%                          |
| 2015                               | 7.00%         | 6.00%                       | 3.84%                          |
| 2016                               | 7.50%         | 6.25%                       | 3.84%                          |
| 2017                               | 7.50%         | 6.50%                       | 3.84%                          |

## PARTICIPANTS

Professional educators in the public schools of the City of St. Paul, excluding charter schools, whose position requires a license from the Minnesota Department of Education, and who are covered under the Social Security Act and make contributions to the St. Paul Teachers' Retirement Fund Association, are covered under the Coordinated Plan.

## ALLOWABLE SERVICE

Service earned as a licensed educator in the St. Paul Public Schools, in the St. Paul College, or in certain charter schools, or as an employee of the Association. Also includes service credited after receipt of payment as required, for licensed educators on leave. Service is granted on a proportional basis for part-time teachers.

## SALARY

Total compensation excluding lump sum payments for unused leave at termination and employer-paid insurance coverage.

## AVERAGE SALARY

Average of the highest five successive years of salary while making contributions. In cases where the Allowable Service is less than five years, Average Salary is based on the Allowable Service years.

## NORMAL RETIREMENT BENEFIT

### *Eligibility*

Three years of Allowable Service. The eligibility age is 65 for those hired before July 1, 1989 and the earlier of eligibility for full Social Security retirement benefits to a maximum of age 66 for those hired on or after July 1, 1989. A Proportionate Retirement Annuity is available at Normal Retirement Age with one year of Allowable Service.

### *Benefit*

1.70 percent of Average Salary for each year of Allowable Service rendered before July 1, 2015 and 1.90 percent of Average Salary for each year of Allowable Service rendered after June 30, 2015.

# SUMMARY OF BENEFIT PROVISIONS FOR COORDINATED MEMBERS AS OF JULY 1, 2015

---

## EARLY RETIREMENT BENEFIT

### *Eligibility*

Attainment of age 55 and 3 years of Allowable Service.

### *Benefit*

Members hired before July 1, 1989 are eligible for the greater of the following benefits. Members hired after July 1, 1989 are eligible for the benefits shown in item (b):

- a) For the first ten years of Allowable Service, 1.20 percent of Average Salary for each year of Allowable Service rendered prior to July 1, 2015, plus 1.40 percent of Average Salary for each year of Allowable Service rendered after June 30, 2015. Additionally, for each subsequent year of Allowable Service in excess of ten years, 1.70 percent of Average Salary for each year rendered prior to July 1, 2015, plus 1.90 percent of Average Salary for each year rendered after June 30, 2015. There is a reduction of 0.25 percent for each month the member is under age 65, or under age 62 with 30 years of Allowable Service. No reduction applies if the age plus years of service totals at least 90.
- b) 1.70 percent of Average Salary per year of Allowable Service rendered before July 1, 2015 and 1.90 percent of Average Salary for each year of service rendered after June 30, 2015 reduced for each month the member is under the Normal Retirement Age using linear interpolation of the factors in the table listed below.

| Normal retirement age:   | Under Age 62 or less<br>than 30 years of<br>service |        | Age 62 or older with<br>30 years of service |        |
|--------------------------|---|--------|---|--------|
|                          | 65  | 66     | 65  | 66     |
| <b>Age at Retirement</b> |   |        |   |        |
| 55                       | 0.5376  | 0.4592 |   |        |
| 56                       | 0.5745  | 0.4992 |   |        |
| 57                       | 0.6092  | 0.5370 |   |        |
| 58                       | 0.6419  | 0.5726 |   |        |
| 59                       | 0.6726  | 0.6062 |   |        |
| 60                       | 0.7354  | 0.6726 |   |        |
| 61                       | 0.7947  | 0.7354 |   |        |
| 62                       | 0.8507  | 0.7947 | 0.8831                                      | 0.8389 |
| 63                       | 0.9035  | 0.8507 | 0.9246                                      | 0.8831 |
| 64                       | 0.9533  | 0.9035 | 0.9635                                      | 0.9246 |
| 65                       | 1.0000  | 0.9533 | 1.0000                                      | 0.9635 |
| 66                       |   | 1.0000 |   | 1.0000 |

# SUMMARY OF BENEFIT PROVISIONS FOR COORDINATED MEMBERS AS OF JULY 1, 2015

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## **DISABILITY RETIREMENT BENEFIT**

### ***Eligibility***

Total and permanent disablement and three years of Allowable Service with service earned within the current fiscal year and at least two years of Allowable Service since the last interruption in service.

### ***Benefit***

Calculated as a normal retirement benefit payable for life without reduction for early commencement. At normal retirement age, the benefit converts from a disability benefit to a retirement benefit. The disability benefit is reduced by any Workers' Compensation benefits payable.

## **DEFERRED RETIREMENT BENEFIT**

### ***Eligibility***

Three years of Allowable Service.

### ***Benefit***

Benefit computed under law in effect at termination and payable as a normal or early retirement benefit. For members hired on or before June 30, 2006, the benefit is augmented at 3.00 percent compounded annually from the 1<sup>st</sup> of the month following termination until the January 1<sup>st</sup> after turning age 55 and then augmented at 5.00 percent compounded annually from that date to July 1, 2012. For members hired after June 30, 2006, the benefit is augmented at 2.50 percent compounded annually from the 1<sup>st</sup> of the month following termination to July 1, 2012. Augmentation for all members, regardless of hire date, changed to 2.00 percent as of July 1, 2012 for the portion of benefit deferral which occurs after June 30, 2012.

## **SURVIVOR BENEFIT (Active Members)**

### ***Eligibility***

Active member with three years of Allowable service. A surviving spouse is defined as the person legally married to the member at the time of death. If none, a dependent child who is the legal child of the member, who is less than 20 years of age and unmarried.

### ***Benefit***

Retirement benefit earned at the time of death with choices for either a reduced for 100 percent joint survivorship, or 5-, 10-, 15-, or 20-year term certain. The benefit is available immediately upon application. Actuarial reductions assuming 2.5% augmentation for the calculation of the survivorship portion of a 100 percent joint and survivor benefit are actuarially determined based on the member's and survivor's ages at the death of the member.

Early retirement reductions apply to the survivor benefit based on the member's age when deceased. If the deceased member had not yet attained age 55 at time of death, the additional early retirement reduction from age 55 to the age of the member at death applies at only one-half of the actuarial rate.

# SUMMARY OF BENEFIT PROVISIONS FOR COORDINATED MEMBERS AS OF JULY 1, 2015

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## REFUND OF CONTRIBUTIONS

### *Eligibility*

Termination or death where no annuity is payable or a refund of contributions is chosen in lieu of an annuity.

### *Benefit*

Member contributions with 6.00 percent interest accrued until July 1, 2011 with 4.00 percent accrual thereafter.

## REEMPLOYED ANNUITANTS

The School District shall make the regular employer contribution and additional employer contribution, plus a supplemental contribution equal to 2.5% of salary, on behalf of any retired member who is reemployed by the School District. Reemployed annuitants do not accrue additional benefits.

## NORMAL FORM OF RETIREMENT BENEFITS

Straight life annuity. Actuarially equivalent options are available to provide post-retirement beneficiary or survivor benefits.

## BENEFIT INCREASES

If the Accrued Liability Funding Ratio, based on Actuarial Value of Assets, as determined by the two consecutive and most recent actuarial valuations are:

Less than 80 percent for two consecutive years, the COLA: 1.00 percent

Between 80 percent and 90 percent for two consecutive years, the COLA: 2.00 percent

If at least 90 percent for two consecutive years, the COLA: 2.50 percent

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**SECTION 7**

ADDITIONAL DISCLOSURES

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**TABLE 14**  
**ADDITIONAL DISCLOSURES – SCHEDULE OF FUNDING PROGRESS**  
(dollars in thousands)

| <b>Actuarial Valuation Date</b> | <b>Actuarial Value of Assets (A)</b> | <b>Actuarial Accrued Liability (B)</b> | <b>Unfunded AAL (UAAL) (B)-(A)</b> | <b>Funded Ratio (A)/(B)</b> | <b>Actual Covered Payroll (Previous FY) (C)</b> | <b>UAAL as % of Covered Payroll ((B)-(A))/(C)</b> |
|---------------------------------|--------------------------------------|--|------------------------------------|-----------------------------|---|---|
| 07/01/95                        | \$ 445,733                           | \$ 633,070                             | \$ 187,337                         | 70.41%                      | \$ 139,175                                      | 134.61%   |
| 07/01/96                        | 494,931                              | 664,072                                | 169,141                            | 74.53%                      | 145,677   | 116.11%   |
| 07/01/97                        | 556,406                              | 805,066                                | 248,660                            | 69.11%                      | 151,363   | 164.28%   |
| 07/01/98                        | 625,053                              | 861,584                                | 236,531                            | 72.55%                      | 168,564   | 140.32%   |
| 07/01/99                        | 704,233                              | 938,847                                | 234,614                            | 75.01%                      | 178,254   | 131.62%   |
| 07/01/00                        | 801,823                              | 998,253                                | 196,430                            | 80.32%                      | 187,950   | 104.51%   |
| 07/01/01                        | 869,045                              | 1,060,931                              | 191,886                            | 81.91%                      | 202,915   | 94.56%  |
| 07/01/02                        | 899,572                              | 1,141,300                              | 241,728                            | 78.82%                      | 201,456   | 119.99%   |
| 07/01/03                        | 898,760                              | 1,189,361                              | 290,601                            | 75.57%                      | 205,655   | 141.31%   |
| 07/01/04                        | 898,860                              | 1,251,460                              | 352,600                            | 71.82%                      | 221,685   | 159.05%   |
| 07/01/05                        | 905,292                              | 1,299,832                              | 394,540                            | 69.65%                      | 223,762   | 176.32%   |
| 07/01/06                        | 938,919                              | 1,346,072                              | 407,153                            | 69.75%                      | 226,351   | 179.88%   |
| 07/01/07                        | 1,015,722                            | 1,380,151                              | 364,429                            | 73.59%                      | 229,172   | 159.02%   |
| 07/01/08                        | 1,075,951                            | 1,432,040                              | 356,089                            | 75.13%                      | 235,993   | 150.89%   |
| 07/01/09                        | 1,049,954                            | 1,454,314                              | 404,360                            | 72.20%                      | 243,166   | 166.29%   |
| 07/01/10                        | 1,001,444                            | 1,471,630                              | 470,185                            | 68.05%                      | 239,996   | 195.91%   |
| 07/01/11                        | 972,718                              | 1,389,875                              | 417,157                            | 69.99%                      | 239,738   | 174.01%   |
| 07/01/12                        | 911,930                              | 1,471,216                              | 559,286                            | 61.98%                      | 239,053   | 233.96%   |
| 07/01/13                        | 886,296                              | 1,467,350                              | 581,054                            | 60.40%                      | 247,432   | 234.83%   |
| 07/01/14                        | 947,972                              | 1,533,603                              | 585,631                            | 61.81%                      | 259,740   | 225.47%   |
| 07/01/15                        | 999,736                              | 1,596,770                              | 597,034                            | 62.61%                      | 263,844   | 226.28%   |

**TABLE 15**  
**ADDITIONAL DISCLOSURES – SCHEDULE OF EMPLOYER CONTRIBUTIONS**  
(dollars in thousands)

| <b>Year Ended June 30</b> | <b>Actuarially Required Contribution Rate (A)</b> | <b>Actual Covered Payroll (B)</b> | <b>Actual Member Contributions (C)</b> | <b>Annual Required Contributions (D) = [(A)*(B)]-(C)</b> | <b>Actual Employer Contributions <sup>(1)</sup> (E)</b> | <b>Percentage Contributed (E) / (D)</b> |
|---------------------------|---|-----------------------------------|--|--|---|---|
| 1996                      | 17.96%  | \$ 145,677                        | \$ 9,093                               | \$ 17,071  | \$ 15,101   | 88.46%                                  |
| 1997                      | 16.97%  | 151,363                           | 9,484                                  | 16,202   | 16,043  | 99.02                                   |
| 1998                      | 20.35%  | 168,564                           | 11,057                                 | 23,246   | 21,702  | 93.36                                   |
| 1999                      | 18.82%  | 178,254                           | 11,649                                 | 21,898   | 21,066  | 96.20                                   |
| 2000                      | 18.09%  | 187,950                           | 13,184                                 | 20,816   | 22,622  | 108.68                                  |
| 2001                      | 16.57%  | 202,915                           | 13,170                                 | 20,453   | 23,569  | 115.23                                  |
| 2002                      | 15.81%  | 201,456                           | 14,468                                 | 17,382   | 24,216  | 139.32                                  |
| 2003                      | 18.56% <sup>(2)</sup>                             | 205,655                           | 14,222                                 | 23,948   | 23,370  | 97.59                                   |
| 2004                      | 20.36%  | 221,685                           | 14,308                                 | 30,827   | 23,771  | 77.11                                   |
| 2005                      | 21.59%  | 223,762                           | 13,587                                 | 34,723   | 23,833  | 68.64                                   |
| 2006                      | 23.78%  | 226,351                           | 13,453                                 | 40,373   | 24,015  | 59.48                                   |
| 2007                      | 24.55%  | 229,172                           | 13,438                                 | 42,823   | 24,117  | 56.32                                   |
| 2008                      | 23.40%  | 235,993                           | 13,642                                 | 41,580   | 24,285  | 58.40                                   |
| 2009                      | 17.63%  | 243,166                           | 13,864                                 | 29,007   | 24,844  | 85.65                                   |
| 2010                      | 18.40%  | 239,996                           | 13,832                                 | 30,328   | 25,126  | 82.85                                   |
| 2011                      | 19.84%  | 239,738                           | 13,745                                 | 33,819   | 25,090  | 74.19                                   |
| 2012                      | 18.37%  | 239,053                           | 14,117                                 | 29,797   | 25,109  | 84.27                                   |
| 2013                      | 22.87%  | 247,432                           | 15,164                                 | 41,424   | 26,445  | 63.84                                   |
| 2014                      | 22.13%  | 259,740                           | 16,564                                 | 40,916   | 35,197  | 86.02                                   |
| 2015                      | 21.94%  | 263,844                           | 17,567                                 | 40,320   | 36,711  | 91.05                                   |

<sup>(1)</sup> Includes contributions from other sources (if applicable).

<sup>(2)</sup> Actuarially Required Contribution Rate prior to change in Actuarial Assumptions is 16.19%.

**TABLE 16**  
**ADDITIONAL DISCLOSURES – DEVELOPMENT OF THE FUND**  
(dollars in thousands)

| <u>Year Ended<br/>June 30</u> | <u>Employer<br/>Contributions</u> | <u>Employee<br/>Contributions</u> | <u>Supplemental<br/>Contributions*</u> | <u>Actuarial<br/>Net Investment<br/>Return</u> | <u>Administrative<br/>Expenses</u> | <u>Benefit<br/>Payments</u> | <u>Actuarial<br/>Value of<br/>Assets EOY</u> |
|-------------------------------|-----------------------------------|-----------------------------------|--|--|------------------------------------|-----------------------------|--|
| 2005                          | \$ 20,435                         | \$ 13,587                         | \$ 3,398                               | \$ 43,082                                      | \$ 559                             | \$ 73,510                   | \$ 905,293                                   |
| 2006                          | 19,815                            | 13,453                            | 4,200                                  | 76,317   | 591                                | 79,567                      | 938,919                                      |
| 2007                          | 19,666                            | 13,438                            | 4,451                                  | 124,214  | 696                                | 84,271                      | 1,015,722                                    |
| 2008                          | 20,775                            | 13,642                            | 3,509                                  | 112,804  | 691                                | 89,810                      | 1,075,951                                    |
| 2009                          | 21,501                            | 13,864                            | 3,343                                  | 28,924   | 605                                | 93,024                      | 1,049,954                                    |
| 2010                          | 21,018                            | 13,832                            | 4,108                                  | 9,496  | 602                                | 96,362                      | 1,001,444                                    |
| 2011                          | 21,013                            | 13,745                            | 4,077                                  | 31,391   | 722                                | 98,230                      | 972,718                                      |
| 2012                          | 21,452                            | 14,117                            | 3,658                                  | 3,447  | 736                                | 102,726                     | 911,930                                      |
| 2013                          | 22,780                            | 15,164                            | 3,665                                  | 37,919   | 751                                | 104,411                     | 886,296                                      |
| 2014                          | 24,532                            | 16,564                            | 10,665                                 | 117,499  | 739                                | 106,845                     | 947,972                                      |
| 2015                          | 25,505                            | 17,567                            | 11,206                                 | 107,987  | 748                                | 109,753                     | 999,736                                      |

\* Includes employer contributions for reemployed annuitants

**TABLE 17**  
**ADDITIONAL DISCLOSURES – SUPPLEMENTARY INFORMATION**

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|                                     |   |
|-------------------------------------|---|
| <b>Valuation Date</b>               | July 1, 2015  |
| <b>Actuarial Cost Method</b>        | Entry Age Normal  |
| <b>Amortization Method</b>          | Level Percent of Pay, Closed, Assuming Four Percent Payroll Growth                        |
| <b>Amortization Period</b>          | Closed Period ending June 30, 2042  |
| <b>Asset Valuation Method</b>       | 5-Year Smoothed Market  |
| <b>Actuarial Assumptions:</b>       |   |
| Investment rate of return           | 8.00%   |
| Projected salary increases          | 4.00% - 8.90%; age and service based  |
| Cost-of-living adjustments          | 1% per year through 2040; 2% beginning January 1, 2041;<br>2.5% beginning January 1, 2051 |
| <b>Plan Membership:</b>             |   |
| Active Members                      | 3,756   |
| Retirees and Beneficiaries          | 3,633   |
| Terminated Vested Members           | 1,892   |
| Other Non-Vested Terminated Members | <u>1,981</u>  |
| Total                               | 11,262  |