## ARKANSAS JUDICIAL RETIREMENT SYSTEM

 GASB STATEMENT NOS. 67 AND 68 ACCOUNTING AND FINANCIAL REPORTING FOR PENSIONSJUNE 30, 2015

November 17, 2015
The Board of Trustees
Arkansas Judicial Retirement System
Little Rock, Arkansas
Ladies and Gentlemen:
This report provides information required by the Retirement System in connection with the Governmental Accounting Standards Board (GASB) Statement No. 67 "Financial Reporting for Pension Plans" and Governmental Accounting Standards Board (GASB) Statement No. 68 "Accounting and Financial Reporting for Pensions."

Our actuarial calculations for this report were prepared for the purpose of complying with the requirements of GASB Statement Nos. 67 and 68. These calculations have been made on a basis that is consistent with our understanding of these accounting standards.

Our calculation of the liability associated with the benefits described in this report was performed for the purpose of satisfying the requirements of GASB Statement Nos. 67 and 68. The calculation of the plan's liability for this report may not be applicable for funding purposes of the plan. A calculation of the plan's liability for purposes other than satisfying the requirements of GASB Statement Nos. 67 and 68 may produce significantly different results. This report may be provided to parties other than the System only in its entirety and only with the permission of the Retirement Board.

This report is based upon information, furnished to us by Retirement System staff, concerning retirement and ancillary benefits, active members, deferred vested members, retirees and beneficiaries, and financial data. If your understanding of this information is different, please let us know. This information was checked for internal consistency, but it was not otherwise audited.

This information is presented in draft form for review by the plan's auditor. Please let us know if there are any items that the auditor changes so that we may maintain consistency with the plan's financial statements.

Please see the actuarial valuation report as of June 30, 2015 for additional discussions of the nature of actuarial calculations and more information related to participant data, economic and demographic assumptions, and benefit provisions.

To the best of our knowledge, this report is complete, accurate, and in accordance with generally recognized actuarial methods. Mita D. Drazilov and Heidi G. Barry are Members of the American Academy of Actuaries and meet the Qualification Standards of the Academy of Actuaries to render the actuarial opinions herein. The signing individuals are independent of the plan sponsor.

## Respectfully submitted,



## MDD/DLH:sc

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## SECTION A

EXECUTIVE SUMMARY

## EXECUTIVE SUMMARY <br> As OF JUNE 30, 2015

| Actuarial Valuation Date |  |  | June 30, 2015 |  |
| :---: | :---: | :---: | :---: | :---: |
| Measurement Date of the Net Pension Liability |  |  | June 30, 2015 |  |
| Employer's Fiscal Year Ending Date (Reporting Date) |  |  | June 30, 2015 |  |
| Membership |  |  |  |  |
| Number of |  |  |  |  |
| - Retirees and Beneficiaries |  |  |  | 137 |
| - Inactive, Nonretired Members |  |  |  | 4 |
| - Active Members |  |  |  | 139 |
| - Total |  |  |  | 280 |
| Covered Payroll |  |  | \$ | 22,308,000 |
| Net Pension Liability |  |  |  |  |
| Total Pension Liability |  |  | \$ | 254,713,985 |
| Plan Fiduciary Net Position |  |  |  | 223,123,751 |
| Net Pension Liability |  |  | \$ | 31,590,234 |
| Plan Fiduciary Net Position as a Percentage |  |  |  |  |
| Net Pension Liability as a Percentage |  |  |  |  |
| Development of the Single Discount Rate |  |  |  |  |
| Single Discount Rate |  |  |  | 6.25\% |
| Long-Term Expected Rate of Investment Return |  |  |  | 6.25\% |
| Long-Term Municipal Bond Rate* |  |  |  | 3.80\% |
| Last year ending June 30 in the 2016 to 2115 projection period |  |  |  |  |
| Total Pension Expense |  |  | \$ | 15,566,343 |
| Deferred Outflows and Deferred Inflows of Resources by Source to be Recognized in Future Pension Expenses |  |  |  |  |
|  |  | ed Outflows Resources |  | red Inflows Resources |
| Difference between expected and actual experience | \$ | 9,269,573 | \$ | - |
| Changes in assumptions |  | 17,360,262 |  | - |
| Net difference between projected and actual earnings on pension plan investments |  | 4,509,433 |  | - |
| Total | \$ | 31,139,268 | \$ | - |

[^0]
## DISCUSSION

## Accounting Standard

For pension plans that are administered through trusts or equivalent arrangements, Governmental Accounting Standards Board (GASB) Statement No. 67 establishes standards of financial reporting for separately issued financial reports and specifies the required approach for measuring the pension liability. Similarly, GASB Statement No. 68 establishes standards for state and local government employers (as well as non-employer contributing entities) to account for and disclose the net pension liability, pension expense, and other information associated with providing retirement benefits to their employees (and former employees) on their basic financial statements.

The following discussion provides a summary of the information that is required to be disclosed under these accounting standards. A number of these disclosure items are provided in this report. However, certain information, such as notes regarding accounting policies and investments, is not included in this report and the Retirement System and/or plan sponsor will be responsible for preparing and disclosing that information to comply with these accounting standards.

## Financial Statements

GASB Statement No. 68 requires state or local governments to recognize the net pension liability and the pension expense on their financial statements. The net pension liability is the difference between the total pension liability and the plan's fiduciary net position. In traditional actuarial terms, this is analogous to the accrued liability less the market value of assets (not the smoothed actuarial value of assets that is often encountered in actuarial valuations performed to determine the employer's contribution requirement).

Paragraph 57 of GASB Statement No. 68 states, "Contributions to the pension plan from the employer subsequent to the measurement date of the collective net pension liability and before the end of the employer's reporting period should be reported as a deferred outflow of resources related to pensions." The information contained in this report does not incorporate any contributions made to the Arkansas Judicial Retirement System subsequent to the measurement date of June 30, 2015.

The pension expense recognized each fiscal year is equal to the change in the net pension liability from the beginning of the year to the end of the year, adjusted for deferred recognition of the liability and investment experience.

Pension plans that prepare their own, stand-alone financial statements are required to present two financial statements - a statement of fiduciary net position and a statement of changes in fiduciary net position in accordance with GASB Statement No. 67. The statement of fiduciary net position presents the assets and liabilities of the pension plan at the end of the pension plan's reporting period. The statement of changes in fiduciary net position presents the additions, such as contributions and investment income, and deductions, such as benefit payments and expenses, and net increase or decrease in the fiduciary net position.

## Notes to Financial Statements

GASB Statement No. 68 requires the notes of the employer's financial statements to disclose the total pension expense, the pension plan's liabilities and assets, and deferred outflows and inflows of resources related to pensions.

GASB Statement Nos. 67 and 68 require the notes of the financial statements for the employers and pension plans, to include certain additional information. The list of disclosure items should include:

- a description of benefits provided by the plan;
- the type of employees and number of members covered by the pension plan;
- a description of the plan's funding policy, which includes member and employer contribution requirements;
- the pension plan's investment policies;
- the pension plan's fiduciary net position, net pension liability, and the pension plan's fiduciary net position as a percentage of the total pension liability;
- the net pension liability using a discount rate that is $1 \%$ higher and $1 \%$ lower than used to calculate the total pension liability and net pension liability for financial reporting purposes;
- significant assumptions and methods used to calculate the total pension liability;
- inputs to the discount rates; and
- certain information about mortality assumptions and the dates of experience studies.

Retirement systems that issue stand-alone financial statements are required to disclose additional information in accordance with GASB Statement No. 67. This information includes:

- the composition of the pension plan's board and the authority under which benefit terms may be amended;
- a description of how fair value is determined;
- information regarding certain reserves and investments, which include concentrations of investments greater than or equal to $5 \%$, receivables, and insurance contracts excluded from plan assets; and
- annual money-weighted rate of return.


## Required Supplementary Information

GASB Statement No. 67 requires a 10-year fiscal history of:

- sources of changes in the net pension liability;
- information about the components of the net pension liability and related ratios, including the pension plan's fiduciary net position as a percentage of the total pension liability, and the net pension liability as a percent of covered-employee payroll; and
- a comparison of the actual employer contributions to the actuarially determined contributions based on the plan's funding policy.


## Timing of the Valuation

An actuarial valuation to determine the total pension liability is required to be performed at least every two years. The net pension liability and pension expense should be measured as of the pension plan's fiscal year end (measurement date) on a date that is within the employer's prior fiscal year. If the actuarial valuation used to determine the total pension liability is not calculated as of the measurement date, the total pension liability is required to be rolled forward from the actuarial valuation date to the measurement date.

The total pension liability shown in this report is based on an actuarial valuation performed as of June 30, 2015 and a measurement date of June 30, 2015.

## Single Discount Rate

Projected benefit payments are required to be discounted to their actuarial present values using a Single Discount Rate that reflects (1) a long-term expected rate of return on pension plan investments (to the extent that the plan's fiduciary net position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating (which is published by the Federal Reserve) as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is $6.25 \%$; the municipal bond rate is $3.80 \%$ (based on the weekly rate closest to but not later than the measurement date of the "state \& local bonds" rate from Federal Reserve statistical release (H.15)); and the resulting Single Discount Rate is 6.25\%.

## SECTION B

FINANCIAL STATEMENTS

## Pension Expense Under GASB Statement No. 68 Fiscal Year Ended June 30, 2015

A. Expense

1. Service Cost
2. Interest on the Total Pension Liability
3. Current-Period Benefit Changes
4. Employee Contributions (made negative for addition here)
5. Projected Earnings on Plan Investments (made negative for addition here)
6. Pension Plan Administrative Expense
7. Other Changes in Plan Fiduciary Net Position
8. Recognition of Outflow (Inflow) of Resources due to Liabilities 10,630,247
9. Recognition of Outflow (Inflow) of Resources due to Assets
10. Total Pension Expense
\$ 5,342,168
14,883,382
0
$(946,149)$
$(15,608,614)$
137,951
0

1,127,358
\$ 15,566,343

# Statement of OUTFlows and Inflows Arising from Current Reporting Period Fiscal Year Ended June 30, 2015 

A. Outflows (Inflows) of Resources due to Liabilities

1. Difference between expected and actual experienceof the Total Pension Liability (gains) or losses\$ 12,969,853
2. Assumption Changes (gains) or losses ..... \$ 24,290,229
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees \{in years \} ..... 3.5051
4. Outflow (Inflow) of Resources to be recognized in the current pension expense for the difference between expected and actual experience of the Total Pension Liability ..... \$ 3,700,280
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for Assumption Changes ..... \$ 6,929,967
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities: 4. + 5 . ..... \$ 10,630,247
7. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for the difference between expected and actual experience of the Total Pension Liability: 1. - 4. ..... \$ 9,269,573
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for Assumption Changes: 2. - 5. ..... \$17,360,262
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities: 7. + 8. ..... \$26,629,835
B. Outflows (Inflows) of Resources due to Assets
10. Net difference between projected and actual earnings on pension plan investments (gains) or losses $\quad \$ 5,636,791$
11. Recognition period for Assets \{in years \} ..... 5.0000
12. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Assets ..... \$ 1,127,358
13. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets: 1. - 3. ..... \$ 4,509,433

## Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods

## Fiscal Year Ended June 30, 2015

A. Outflows and Inflows of Resources due to Liabilities and Assets to be Recognized in Current Pension Expense

|  | Outflows of Resources |  | Inflows of Resources |  | Net Outflows of Resources |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1. Due to Liabilities | \$ | 10,630,247 | \$ | 0 | \$ | 10,630,247 |
| 2. Due to Assets |  | 1,127,358 |  | - |  | 1,127,358 |
| 3. Total | \$ | 11,757,605 | \$ | 0 | \$ | 11,757,605 |

B. Outflows and Inflows of Resources by Source to be Recognized in Current Pension Expense

|  | Outflows of Resources |  | Inflows of Resources |  | Net Outflows of Resources |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1. Differences between expected and actual experience | \$ | 3,700,280 | \$ | 0 | \$ | 3,700,280 |
| 2. Assumption Changes |  | 6,929,967 |  | - |  | 6,929,967 |
| 3. Net Difference between projected and actual earnings on pension plan investments |  | 1,127,358 |  | - |  | 1,127,358 |
| 4. Total | \$ | 11,757,605 | \$ | 0 | \$ | 1,757,605 |

C. Deferred Outflows and Deferred Inflows of Resources by Source to be Recognized in Future Pension Expenses

|  | Deferred Outflows of Resources |  | Deferred Inflows of Resources |  | Net Deferred Outflows of Resources |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1. Differences between expected and actual experience | \$ | 9,269,573 | \$ | 0 | \$ | 9,269,573 |
| 2. Assumption Changes |  | 17,360,262 |  | - |  | 17,360,262 |
| 3. Net Difference between projected and actual earnings on pension plan investments |  | 4,509,433 |  | - |  | 4,509,433 |
| 4. Total | \$ | 31,139,268 | \$ | 0 | \$ | 31,139,268 |

D. Deferred Outflows and Deferred Inflows of Resources by Year to be Recognized in Future Pension Expenses

| Year Ending <br> June 30 |  | Net Deferred <br> Outflows <br> of Resources |  |
| :---: | :---: | ---: | ---: |
|  |  |  | $11,757,606$ <br> 2016 |
|  | $\$$ | $11,757,606$ |  |
| 2017 |  | $6,496,698$ |  |
| 2018 |  | $1,127,358$ |  |
| 2019 |  | 0 |  |
| 2020 |  | 0 |  |
| Thereafter |  | $\mathbf{3 1 , 1 3 9 , 2 6 8}$ |  |

# Statement of Fiduciary Net Position As OF JUNE 30, 2015 

## To be provided by system

## Assets

Cash and Deposits
Receivables
Accounts Receivable - Sale of Investments
Accrued Interest and Other Dividends
Contributions
Accounts Receivable - Other
Total Receivables
Investments
Fixed Income
Domestic Equities
International Equities
Real Estate
Other
Total Investments
Total Assets

## Liabilities

Payables
Accounts Payable - Purchase of Investments
Accrued Expenses
Accounts Payable - Other
Total Liabilities

Net Position Restricted for Pensions
\$ 223,123,751

## Statement of Changes in Fiduciary Net Position FOR YEAR ENDED JUNE 30, 2015

## Additions

Contributions

| Employer | \$ | 5,690,381 |
| :---: | :---: | :---: |
| Employee |  | 946,149 |
| Other |  | - |
| Total Contributions | \$ | 6,636,530 |

Investment Income
Net Appreciation in Fair Value of Investments
\$ 11,175,526
Interest and Dividends
$(1,203,703)$
Net Investment Income

| $\$$ | $9,971,823$ |
| :--- | :---: |
| $\$$ | - |
| $\$$ | $16,608,353$ |

## Deductions

Benefit payments, including refunds of employee contributions $\quad \$ 10,777,191$
Pension Plan Administrative Expense
Other

Total Deductions

Net Increase in Net Position

Net Position Restricted for Pensions
Beginning of Year
End of Year
\$ 217,430,540 \$ 223,123,751

## SECTION C <br> REQUIRED SUPPLEMENTARY INFORMATION

# SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION Schedule of Changes in Net Pension Liability and Related RATIOS CURRENT PERIOD 

## Fiscal Year Ended June 30, 2015

## A. Total pension liability

1. Service Cost
2. Interest on the Total Pension Liability
3. Changes of benefit terms
4. Difference between expected and actual experience of the Total Pension Liability
5. Changes of assumptions
6. Benefit payments, including refunds of employee contributions
7. Net change in total pension liability
8. Total pension liability - beginning
9. Total pension liability - ending

## B. Plan fiduciary net position

1. Contributions - employer
\$ 5,690,381
2. Contributions - employee
3. Net investment income
4. Benefit payments, including refunds of employee contributions
5. Pension Plan Administrative Expense
6. Other
7. Net change in plan fiduciary net position
8. Plan fiduciary net position - beginning
9. Plan fiduciary net position - ending

## C. Net pension liability

D. Plan fiduciary net position as a percentage of the total pension liability
E. Covered-employee payroll
F. Net pension liability as a percentage of covered-employee payroll

946,149
9,971,823 $(10,777,191)$
87.60\%
\$ 5,342,168
14,883,382
0
12,969,853
24,290,229
$\begin{array}{r}(10,777,191) \\ \hline \$ 46,708,441\end{array}$
208,005,544
\$ 254,713,985
$(137,951)$

| - |
| :---: |
| $\$ \quad 5,693,211$ |

$\begin{array}{r}217,430,540 \\ \hline \$ 223,123,751 \\ \hline\end{array}$
\$ 31,590,234
\$ 22,308,000
$141.61 \%$

# SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION Schedule of Changes in Net Pension Liability and Related Ratios 

## Ultimately 10 Fiscal Years will be Displayed

Fiscal year ending June 30,

## Total Pension Liability

Service Cost
Interest on the Total Pension Liability
Benefit Changes
Difference between Expected and Actual Experience
Assumption Changes
Benefit Payments
Refunds
Net Change in Total Pension Liability
Total Pension Liability - Beginning
Total Pension Liability - Ending (a)
Plan Fiduciary Net Position
Employer Contributions
Employee Contributions
Pension Plan Net Investment Income
Benefit Payments
Refunds
Pension Plan Administrative Expense
Other
Net Change in Plan Fiduciary Net Position
Plan Fiduciary Net Position - Beginning
Plan Fiduciary Net Position - Ending (b)
Net Pension Liability - Ending (a) - (b)
Plan Fiduciary Net Position as a Percentage of Total Pension Liability
Covered-Employee Payroll
Net Pension Liability as a Percentage of Covered-Employee Payroll

| $\mathbf{2 0 1 5}$ | $\mathbf{2 0 1 4}$ |  |
| ---: | ---: | ---: |
|  |  |  |
| $\$$ | $5,342,168$ | $\$$ |
| $14,383,382$ | $14,607,426$ |  |
| - | - |  |
| $12,969,853$ | $(5,751,106)$ |  |
| $24,290,229$ | - |  |
| $(10,762,871)$ | $(9,966,020)$ |  |
| $(14,320)$ | $(18,836)$ |  |
| $46,708,441$ | $4,191,300$ |  |
| $\mathbf{\$ 2 0 8 , 0 0 5}, \mathbf{5 4 4}$ | $\mathbf{\$ 2 0 3 , 8 1 4 , 2 4 4}$ |  |
| $\mathbf{\$ 2 5 4 , 7 1 3 , 9 8 5}$ | $\mathbf{\$ 2 0 8 , 0 0 5 , 5 4 4}$ |  |


| $\$ 5,690,381$ | $\$$ | $6,117,327$ |
| ---: | ---: | ---: |
| 946,149 | 925,324 |  |
| $9,971,823$ | $29,793,113$ |  |
| $(10,762,871)$ | $(9,966,020)$ |  |
| $(14,320)$ | $(18,836)$ |  |
|  | $(137,951)$ | $(130,529)$ |


|  | - | - |
| :--- | ---: | ---: |
| $\$$ | $5,693,211$ | $\$ 26,720,379$ |
| $\$ 217,430,540$ | $\$ 190,710,161$ |  |
| $\$ 223,123,751$ | $\$ 217,430,540$ |  |
| $\$ 31,590,234$ | $\$$ | $(9,424,996)$ |


|  | $87.60 \%$ | $104.53 \%$ |
| :---: | :--- | :---: |
| $\$ 22,308,000$ | $\$ 19,781,628$ |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

Notes to Schedule:
N/A

## SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION Schedule of the Net Pension Liability

## Ultimately 10 Fiscal Years will be Displayed

| FY Ending June 30, |  | Total <br> Pension <br> Liability |  | Plan Net <br> Position | Net Pension Liability | Plan Net Position as a \% of Total <br> Pension Liability | Covered Payroll | Net Pension Liability as a \% of Covered Payroll |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2014 | \$ | 208,005,544 | \$ | 217,430,540 | \$ (9,424,996) | 104.53\% | \$ 19,781,628 | (47.65)\% |
| 2015 |  | 254,713,985 |  | 223,123,751 | 31,590,234 | 87.60\% | 22,308,000 | 141.61\% |

## SCHEDULE OF CONTRIBUTIONS

## Last 10 Fiscal Years

| FY Ending June 30, | Actuarially <br> Determined <br> Contribution | Actual <br> Contribution |  |  | Covered Payroll | Actual Contribution as a \% of Covered Payroll* |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2006 | \$ 4,904,699 | \$4,904,699 | \$ | - | \$ 17,009,056 | 29.46\% |
| 2007 | 5,182,016 | 5,182,016 |  | - | 17,333,983 | 30.44\% |
| 2008 | 5,144,958 | 5,144,958 |  | - | 18,074,314 | 29.36\% |
| 2009 | 4,466,571 | 4,466,571 |  | - | 18,874,986 | 24.20\% |
| 2010 | 4,667,612 | 4,667,612 |  | - | 18,629,861 | 24.59\% |
| 2011 | 5,220,623 | 5,220,623 |  | - | 19,337,991 | 27.43\% |
| 2012 | 5,465,079 | 5,465,079 |  | - | 19,201,734 | 29.08\% |
| 2013 | 5,672,291 | 5,672,291 |  | - | 19,585,755 | 29.93\% |
| 2014 | 6,117,327 | 6,117,327 |  | - | 19,781,628 | 31.46\% |
| 2015 | 5,690,381 | 5,690,381 |  | - | 22,308,000 | 29.12\% |

* Actual contributions are based on covered payroll at the time of the contribution. This payroll is not reported to the actuary. The covered payroll shown on this page is the valuation payroll.


## Notes to Schedule of Contributions

Valuation Date: June 30, 2015
Methods and Assumptions Used to Determine Contribution Rates:

| Actuarial Cost Method | Entry Age Normal |
| :--- | :--- |
| Amortization Method | Level Percentage of Payroll, Closed |
| Remaining Amortization Period | 28 years |
| Asset Valuation Method | 4-Year smoothed market; 25\% corridor |
| Inflation | $2.50 \%$ price inflation |
| Salary Increases | $3.25 \%$ |
| Investment Rate of Return | $6.25 \%$ |

Retirement Age
Experience-based table of rates that are specific to the type of eligibility condition.

Mortality
RP-2000 mortality tables projected to 2020 using projection scale BB.

## Other Information:

Notes

There were no benefit changes during the year. An Investment Rate of Return assumption of $6.25 \%$ and a Salary Increase assumption of $3.25 \%$ were first used in the June 30, 2015 valuation.

# Schedule of Investment Returns Multiyear 

## To be provided by system

\author{
Last 10 Fiscal Years <br> FY Ending Annual <br> June 30, Retum ${ }^{1}$ <br> 2006 <br> 2007 <br> 2008 <br> 2009 <br> 2010 <br> 2011 <br> 2012 <br> 2013 <br> 2014 <br> 2015 <br> [^1]}

## SECTION D

NOTES TO FINANCIAL STATEMENTS

## Long-Term Expected Return on Plan Assets

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected price inflation. Best estimates of arithmetic real rates of return for the 10-year period from 2015 to 2024 were based upon capital market assumptions provided by plan's investment consultant(s). For each major asset class that is included in the pension plan's target asset allocation as of June 30, 2015, these best estimates are summarized in the following table:

| Asset Class |  | $\begin{array}{c}\text { Target } \\ \text { Allocation }\end{array}$ |  |
| :--- | :---: | :---: | :---: | \(\left.\begin{array}{c}Long-Term <br>

Expected Real <br>
Rate of Return\end{array}\right]\)

## Single Discount Rate

A single discount rate of $6.25 \%$ was used to measure the total pension liability. This single discount rate was based on the expected rate of return on pension plan investments of $6.25 \%$. The projection of cash flows used to determine this single discount rate assumed that plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on these assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Regarding the sensitivity of the net pension liability to changes in the single discount rate, the following presents the plan's net pension liability, calculated using a single discount rate of $6.25 \%$, as well as what the plan's net pension liability would be if it were calculated using a single discount rate that is 1-percentage-point lower or 1-percentage-point higher:

## Sensitivity of Net Pension Liability to the Single Discount Rate Assumption

|  | Current Single |  |  |  |
| ---: | :---: | :---: | :---: | :---: |
|  | $\mathbf{1 \%}$ Decrease | Rate Assumption | $\mathbf{1 \%}$ Increase |  |
|  | $\mathbf{5 . 2 5 \%}$ | $\mathbf{6 . 2 5 \%}$ | $\mathbf{7 . 2 5 \%}$ |  |
| Total Pension Liability (TPL) | $\$ 284,115,868$ | $\$$ | $254,713,985$ | $\$ 229,777,104$ |
| Net Position Restricted for Pensions | $223,123,751$ |  | $223,123,751$ | $223,123,751$ |
|  | Net Pension Liability (NPL) | $\$ \mathbf{6 0 , 9 9 2 , 1 1 7}$ | $\mathbf{\$}$ | $\mathbf{3 1 , 5 9 0}, \mathbf{2 3 4}$ |
| $\mathbf{\$}$ | $\mathbf{6 , 6 5 3 , 3 5 3}$ |  |  |  |

# Summary of Population Statistics As OF June 30, 2015 

Inactive Plan Members or Beneficiaries Currently Receiving Benefits ..... 137
Inactive Plan Members Entitled to But Not Yet Receiving Benefits ..... 4
Active Plan Members ..... 139
Total Plan Members ..... 280

## SECTION E <br> SUMMARY OF BENEFITS

# SUMMARY OF PROVISIONS CONSIDERED <br> (JULY 1, 2015) 

Tier One
Tier Two

## Description

Elected or appointed prior to the effective date of Act 399 of 1999 and who do not elect to participate in Tier Two.

Elected or appointed after the effective date of Act 399 of 1999 or elected to participate in Tier Two.

## Regular Retirement

An active member may retire at age 65 with 10 or more years of credited service, or after 20 years of credited service regardless of age. Persons who become members after June 30, 1983 must also have at least 8 years of actual service as a justice of the Supreme Court, or as a judge of the Circuit or Chancery Courts or the Court of Appeals.

An active member or former member may retire at age 65 with 8 or more years of credited service, or after 20 years of credited service regardless of age.

## Compulsory Retirement

Any judge or justice who attains 70 years of age during a term of office to which he has been elected may complete the term without forfeiting rights to retirement benefits. Any judge or justice who is not eligible to retire at age 70 may continue to serve as judge until completion of the term in which there has accrued sufficient credited service to retire. Otherwise, judges or justices must retire by their 70th birthday or lose their retirement benefits.

Any judge or justice who attains 70 years of age during a term of office to which he has been elected may complete the term without forfeiting rights to retirement benefits. Any judge or justice who is not eligible to retire at age 70 may continue to serve as judge until completion of the term in which there has accrued sufficient credited service to retire. Otherwise, judges or justices must retire by their 70th birthday or lose their retirement benefits.

## Final Salary

The annual salary for the last judicial office held.

The annual salary for the last judicial office held.

## Age \& Service Annuity

$60 \%$ of the judge's final salary, for life.
Each year of additional service after twenty (20) years of judicial service, the benefit shall be increased by two and one-half percent (2.5\%) with a maximum benefit payable of seventy-five percent (75\%) of the judge's final salary.
$3.2 \%$ of the salary of the last judicial office held multiplied by the number of years of service not to exceed $80 \%$ of the salary of the last judicial office held.

# Summary of Provisions Considered (CONTINUED) 

## Deferred Retirement

An inactive member who has 14 or more years of credited service and left judicial service before attaining age 65 will be entitled to an age and service annuity beginning at age 65 . Persons who become members after June 30, 1983 must also have at least 8 years of actual service as a justice of the Supreme Court, or as a judge of the Circuit or Chancery Courts or the Court of Appeals.

An inactive member who has 8 or more years of credited service and left judicial service before attaining age 65 will be entitled to an age and service annuity beginning at age 65 .

## Disability Retirement

An active member with 3 or more consecutive years of credited service who becomes totally and permanently disabled may be retired and receive a disability annuity computed in the same manner as an age and service annuity. The 3 years of service is not required for persons who were members before July 1, 1983.

An active member with 3 or more consecutive years of credited service who becomes totally and permanently disabled may be retired and receive a disability annuity computed in the same manner as an age and service annuity, except that the benefit shall not be less than $25.6 \%$ of final salary.

## Early Retirement

A member who became a member before July 1, 1983 and who has 18 but less than 20 years credited service may retire, regardless of age, and receive an immediate annuity. The amount is the full age and service amount reduced proportionately for service less than 20 years.

A member with 14 years of credited service may retire between ages 62 and 65 and receive an immediate annuity. The amount is the full age and service amount reduced $1 / 2$ of $1 \%$ for each month that retirement age is younger than age 65. Persons who become members after June 30, 1983 must also have at least 8 years of actual service as a justice of the Supreme Court, or as a judge of the Circuit Court or Chancery Courts or the Court of Appeals.

A member with 8 years of credited service may retire between ages 62 and 65 and receive an immediate annuity. The amount is the full age and service amount reduced $1 / 2$ of $1 \%$ for each month retirement age is younger than age 65.

# Summary of Provisions Considered (CONCLUDED) 

## Survivor Benefits

Upon the death of a member with 3 or more years of service, before or after retirement, an annuity of $67 \%$ of the judge's benefit is payable to the following survivors (shared if there is more than one eligible survivor):

- A surviving spouse married to the judge more than 1 year at the time of death.
- A minor child of the judge.

The 3 -year service requirement is not required of those who became members prior to July 1, 1983.

Upon the death of a member with 3 or more years of service, before or after retirement, an annuity of $67 \%$ of the judge's benefit, but not less than $17.152 \%$ of final salary, is payable to the following survivors (shared if there is more than one eligible survivor):

- A surviving spouse married to the judge more than 1 year at the time of death.
- A minor child of the judge.

The 3-year service requirement is not required of those who became members prior to July 1, 1983.

## Increases After Retirement

For any person who was a member on or before June 30, 1983, the retirement benefits are increased or decreased from time to time as the salary for the particular judicial office is increased or decreased. For all judges or justices first elected after June 30, 1983, and who have received retirement benefits from the System for at least 12 full calendar months, the retirement benefits are increased each July 1st by 3\%.

For all judges or justices who have received retirement benefits from the System for at least 12 full calendar months, the retirement benefits are increased each July 1st by $3 \%$.

## Member Contributions

Active members contribute 6\% of their salaries. Members with 20 or more years of service and members age 65 or older with 10 or more years of service do not contribute to the Retirement System. At any time a member is accruing the additional $2.5 \%$ of final salary benefit, member contributions would be required. If a member leaves service before becoming eligible to retire, accumulated contributions may be refunded.

Active members contribute 5\% of their salaries. Members with 25 or more years of service do not contribute to the Retirement System. If a member leaves service before becoming eligible to retire, accumulated contributions may be refunded.

## SECTION F

ACTUARIAL ASSUMPTIONS

# SUMMARY OF Assumptions UsEd for Arkansas Judicial Actuarial Valuations Assumptions Adopted by Board of Trustees After CONSULTING WITH THE ACTUARY 

The actuarial assumptions used in the valuation are shown in this Section. Assumptions were established based upon an Experience Study covering the period July 1, 2006 through June 30, 2011 (please see report dated April 30, 2012) and updated in conjunction with an Economic Assumption Review dated August 6, 2015. The actuarial assumptions represent estimates of future experience.

## Economic Assumptions

The investment return rate used in making the valuation was $6.25 \%$ per year, compounded annually (net after investment expenses). The investment return assumption was revised for the June 30, 2015 valuation.

Pay increase assumptions for individual active members are shown on page 24. Part of the assumption for each age is for a merit and/or seniority increase, and the other $3.25 \%$ recognizes wage inflation. This wage inflation assumption consists of $2.50 \%$ for price inflation and $0.75 \%$ for real wage growth. The wage inflation assumption was revised for the June 30, 2015 valuation.

Total active member payroll is assumed to increase $3.25 \%$ a year, which is the portion of the individual pay increase assumptions recognizing inflation.

The number of active members is assumed to continue at the present number.

## Non-Economic Assumptions

The mortality tables used to measure retired life mortality were the RP-2000 mortality tables projected to 2020 using projection scale BB . Related values are shown on page 26. The mortality rates used in evaluating disability allowances were the RP-2000 Combined Healthy mortality tables, set forward 10 years for males and set forward 10 years for females. Related values are shown on page 26. Based upon the experience observed in the most recent experience study for APERS, it appears that, at the time of the study, the current table provides for approximately 8 years of future mortality improvement. Adopted 2012.
(Concluded on the following page.)

# SUMMARY OF AsSUMPTIONS USED <br> FOR ARKANSAS JUDICIAL ACTUARIAL VALUATIONS ASSUMPTIONS ADOPTED BY BOARD OF TRUSTEES AFTER CONSULTING WITH THE ACTUARY (CONCLUDED) 

The probabilities of retirement for members eligible to retire are shown on page 25. Adopted 2012.

The probabilities of withdrawal from service, death-in-service and disability are shown for sample ages on page 24. Adopted 2012.

Normal Cost. Normal Cost and the allocation of benefit values between service rendered before and after the valuation date was determined using an individual entry-age actuarial cost method having the following characteristics.

- The annual normal cost for each individual active member, payable from the date of employment to the date of retirement, is sufficient to accumulate the value of the member's benefit at the time of retirement; and
- Each annual normal cost is a constant percentage of the member's year-by-year projected covered pay.

The normal cost, the present value of future normal cost and the present value of benefits are based on the benefit levels available to each member. The accrued liability is the difference between the present value of benefits and the present value of future normal cost.

Funding value of assets (cash \& investments) was determined by phasing-in differences between actual market return and the assumed rate of return over a four-year period.

The data about persons now covered and about present assets was furnished by the System's administrative staff. Although examined for general reasonableness, the data was not audited by the actuary.

The actuarial valuation computations were made by or under the supervision of a Member of the American Academy of Actuaries (MAAA).

## Decrement and Pay Increase Assumptions for Active Members <br> June 30, 2015

| Sample <br> Ages | Years of Service | Percent of Active Members Separating Within the Next Year |  |  |  |  | Pay Increase Assumptions for Individual Member |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Male |  | Female |  | Withdrawal | Merit \& Seniority | Base(Economic) | Increase Next Year |
|  |  | Death | Disability | Death | Disability |  |  |  |  |
|  | 0 |  |  |  |  | 10.00\% |  |  |  |
|  | 1 |  |  |  |  | 6.00\% |  |  |  |
|  | 2 |  |  |  |  | 4.20\% |  |  |  |
|  | 3 |  |  |  |  | 3.36\% |  |  |  |
|  | 4 |  |  |  |  | 3.02\% |  |  |  |
| 30 | 5+ | 0.02\% | 0.04\% | 0.01\% | 0.05\% | 0.85\% | 0.00\% | 3.25\% | 3.25\% |
| 35 |  | 0.04\% | 0.04\% | 0.02\% | 0.05\% | 0.85\% | 0.00\% | 3.25\% | 3.25\% |
| 40 |  | 0.05\% | 0.10\% | 0.03\% | 0.18\% | 0.85\% | 0.00\% | 3.25\% | 3.25\% |
| 45 |  | 0.07\% | 0.13\% | 0.05\% | 0.20\% | 0.85\% | 0.00\% | 3.25\% | 3.25\% |
| 50 |  | 0.10\% | 0.25\% | 0.08\% | 0.28\% | 0.85\% | 0.00\% | 3.25\% | 3.25\% |
| 55 |  | 0.17\% | 0.45\% | 0.12\% | 0.38\% | 0.85\% | 0.00\% | 3.25\% | 3.25\% |
| 60 |  | 0.29\% | 0.71\% | 0.21\% | 0.51\% | 0.85\% | 0.00\% | 3.25\% | 3.25\% |
| 65 |  | 0.50\% | 0.83\% | 0.38\% | 0.62\% | 0.85\% | 0.00\% | 3.25\% | 3.25\% |

The pay increase assumptions are age based only, and not service based.

## Probabilities of Retirement for Members Eligible to Retire JUNE 30, 2015

| Retirement <br> Ages | Percent of Eligible <br> Active Members Retiring <br> Within Next Year |
| :---: | :---: | | Percent of Eligible <br> Active Members Electing <br> Early Retirement <br> Within Next Year |
| :---: |
| 50 |
| 51 |

For Tier One, a member was assumed eligible to retire at age 50 with 20 years of service, or at age 65 with 10 years of service. A member was assumed eligible to retire early at age 62 with 14 years of service.

For Tier Two, a member was assumed eligible to retire at age 50 with 20 years of service, or at age 65 with 8 years of service. A member was assumed eligible to retire early at age 62 with 8 years of service.

## Single Life Retirement Values

 June 30, 2015| Sample <br> Ages | Present Value of <br> \$1 Monthly for Life |  | Present Value of <br> \$1 Monthly for Life <br> Increasing 3\% Annually |  | Future Life <br> Expectancy (Years) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Women | Men | Women | Men | Women |  |
|  |  |  |  |  |  |  |
| 50 | $\$ 164.26$ | $\$ 168.65$ | $\$ 239.67$ | $\$ 250.44$ | 32.99 | 35.59 |
| 55 | 154.63 | 160.07 | 218.09 | 230.04 | 28.37 | 30.90 |
| 60 | 143.02 | 149.36 | 194.61 | 207.34 | 23.94 | 26.34 |
| 65 | 129.36 | 136.56 | 169.59 | 182.83 | 19.74 | 21.98 |
| 70 | 113.67 | 121.98 | 143.44 | 157.39 | 15.83 | 17.93 |
| 75 | 96.28 | 105.90 | 116.96 | 131.66 | 12.26 | 14.25 |
| 80 | 78.11 | 88.66 | 91.43 | 106.26 | 9.13 | 10.95 |
|  |  |  |  |  |  |  |


| Sample <br> Attained <br> Ages | \$100 Benefit <br> Increasing 3\% Annually | Portion of Age 65 Lives <br> Still Alive |  |
| :---: | :---: | :---: | :---: |
|  | Men | Women |  |
|  |  |  |  |
| 75 | $\$ 100.00$ | $100 \%$ | $100 \%$ |
| 70 | 115.93 | $94 \%$ | $95 \%$ |
| 75 | 134.39 | $85 \%$ | $88 \%$ |
| 80 | 155.80 | $71 \%$ | $76 \%$ |
| 85 | 180.61 | $52 \%$ | $61 \%$ |
|  |  |  |  |

# Summary of Assumptions Used JUNE 30, 2015 <br> Miscellaneous and Technical Assumptions 

Marriage Assumption:

Pay Increase Timing:

Decrement Timing:
Eligibility Testing:

Benefit Service:

Decrement Relativity:

Decrement Operation:

Normal Form of Benefit:

Incidence of Contributions:

Tier 1 2.5\% Benefit
Multiplier Election:

Administrative Expenses:
$80 \%$ of males and $80 \%$ of females are assumed to be married for purposes of death-in-service benefits. $80 \%$ of members are assumed to be married at retirement. Male spouses are assumed to be six years older than female spouses for active member valuation purposes. Actual data is used for retired valuation purposes.

Beginning of (Fiscal) year. This is equivalent to assuming that reported pays represent amounts paid to members during the year ended on the valuation date.

Decrements of all types are assumed to occur mid-year.
Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.

Exact fractional service is used to determine the amount of benefit payable.

Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.

Disability and withdrawal do not operate during retirement eligibility.

The assumed normal form of benefit is the $67 \%$ joint and survivor benefit.

Contributions are assumed to be received continuously throughout the year based upon the computed percent-of-payroll shown in this report, and the actual payroll payable at the time contributions are made.

For present value of future benefit purposes, it was assumed that all Tier 1 members will elect to accrue the additional $2.5 \%$ benefit multiplier (if they have not already done so). Member contribution rates are based upon those members that have elected to accrue the additional $2.5 \%$ benefit multiplier as of the valuation date.

The computed contribution rate was increased by $0.7 \%$ of payroll to fund for administrative expenses.

## SECTION G

CALCULATION OF THE SINGLE DISCOUNT RATE

## CALCULATION OF THE SINGLE DISCOUNT RATE

GASB Statement No. 67 includes a specific requirement for the discount rate that is used for the purpose of the measurement of the Total Pension Liability. This rate considers the ability of the fund to meet benefit obligations in the future. To make this determination, employer contributions, employee contributions, benefit payments, expenses and investment returns are projected into the future. The Plan Net Position (assets) in future years can then be determined and compared to its obligation to make benefit payments in those years. As long as assets are projected to be on hand in a future year, the assumed valuation discount rate is used. In years where assets are not projected to be sufficient to meet benefit payments, the use of a "risk-free" rate is required, as described in the following paragraph.

The Single Discount Rate (SDR) is equivalent to applying these two rates to the benefits that are projected to be paid during the different time periods. The SDR reflects (1) the long-term expected rate of return on pension plan investments (during the period in which the fiduciary net position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating (which is published by the Federal Reserve) as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is $6.25 \%$; the municipal bond rate is $3.80 \%$; and the resulting single discount rate is $6.25 \%$.

The tables in this section provide background for the development of the single discount rate.

The Projection of Contributions table shows the development of expected contributions in future years. Normal Cost contributions for future hires are not included (nor are their liabilities).

The Projection of Plan Fiduciary Net Position table shows the development of expected asset levels in future years.

The Present Values of Projected Benefit Payments table shows the development of the Single Discount Rate (SDR). It breaks down the benefit payments into present values for funded and unfunded portions and shows the equivalent total at the SDR.

## Single Discount Rate Development Projection of Contributions

| Year | Contributions from Current Employees | Normal Cost and Expense Contributions | UAL <br> Contributions | Total Contributions |
| :---: | :---: | :---: | :---: | :---: |
| 0 |  |  |  |  |
| 1 | \$ 1,006,457 | \$ 6,375,589 | \$ 2,071,690 | \$ 9,453,735 |
| 2 | 893,906 | 5,802,099 | 1,802,433 | 8,498,439 |
| 3 | 821,630 | 5,254,429 | 1,675,148 | 7,751,206 |
| 4 | 758,867 | 4,729,710 | 1,808,920 | 7,297,497 |
| 5 | 683,691 | 4,252,514 | 1,867,710 | 6,803,915 |
| 6 | 622,362 | 3,816,195 | 1,928,411 | 6,366,968 |
| 7 | 566,309 | 3,430,182 | 1,991,084 | 5,987,575 |
| 8 | 514,626 | 3,074,845 | 2,055,794 | 5,645,265 |
| 9 | 464,723 | 2,746,432 | 2,122,607 | 5,333,762 |
| 10 | 411,912 | 2,478,306 | 2,191,592 | 5,081,810 |
| 11 | 371,107 | 2,222,967 | 2,262,819 | 4,856,892 |
| 12 | 334,376 | 1,967,497 | 2,336,360 | 4,638,233 |
| 13 | 285,726 | 1,745,890 | 2,412,292 | 4,443,908 |
| 14 | 255,206 | 1,540,358 | 2,490,692 | 4,286,255 |
| 15 | 225,897 | 1,364,173 | 2,571,639 | 4,161,709 |
| 16 | 196,616 | 1,203,047 | 2,655,217 | 4,054,880 |
| 17 | 167,901 | 1,047,613 | 2,741,512 | 3,957,026 |
| 18 | 143,916 | 897,913 | 2,830,611 | 3,872,440 |
| 19 | 95,915 | 789,305 | 2,922,606 | 3,807,826 |
| 20 | 76,101 | 666,143 | 3,017,591 | 3,759,835 |
| 21 | 57,550 | 555,253 | 3,115,662 | 3,728,465 |
| 22 | 48,005 | 453,440 | 3,216,921 | 3,718,367 |
| 23 | 27,801 | 379,545 | 3,321,471 | 3,728,817 |
| 24 | 22,309 | 306,992 | 3,429,419 | 3,758,720 |
| 25 | 1,894 | 263,967 | 3,540,875 | 3,806,736 |
| 26 | - | 213,383 | 3,655,954 | 3,869,337 |
| 27 | - | 168,039 | 3,774,772 | 3,942,811 |
| 28 | - | 129,552 | 3,897,452 | 4,027,004 |
| 29 | - | 97,169 | - | 97,169 |
| 30 | - | 70,166 | - | 70,166 |
| 31 | - | 51,451 | - | 51,451 |
| 32 | - | 37,809 | - | 37,809 |
| 33 | - | 26,945 | - | 26,945 |
| 34 | - | 18,814 | - | 18,814 |
| 35 | - | 13,286 | - | 13,286 |
| 36 | - | 8,980 | - | 8,980 |
| 37 | - | 5,882 | - | 5,882 |
| 38 | - | 4,181 | - | 4,181 |
| 39 | - | 2,619 | - | 2,619 |
| 40 | - | 892 | - | 892 |
| 41 | - | - | - | - |
| 42 | - | - | - | - |
| 43 | - | - | - | - |
| 44 | - | - | - | - |
| 45 | - | - | - | - |
| 46 | - | - | - | - |
| 47 | - | - | - | - |
| 48 | - | - | - | - |
| 49 | - | - | - | - |
| 50 | - | - | - | - |

## SINGLE DISCOUNT RATE DEVELOPMENT Projection of Plan Fiduciary Net Position

| Year | Projected Beginning Plan Net Position | Projected Total Contributions | Projected <br> Benefit <br> Payments | Projected Administrative Expenses | Projected Investment Earnings at 6.25\% | Projected Ending Plan <br> Net Position |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (a) | (b) | (c) | (d) | (e) |  | (c)-(d)+(e) |
| 1 | \$ 223,123,751 | \$ 9,453,735 | \$ 12,384,308 | \$ 151,779 | \$ 13,850,371 | \$ | 233,891,770 |
| 2 | 233,891,770 | 8,498,439 | 13,754,998 | 138,120 | 14,452,207 |  | 242,949,298 |
| 3 | 242,949,298 | 7,751,206 | 14,983,080 | 125,773 | 14,957,889 |  | 250,549,540 |
| 4 | 250,549,540 | 7,297,497 | 16,223,619 | 114,075 | 15,381,121 |  | 256,890,464 |
| 5 | 256,890,464 | 6,803,915 | 17,383,967 | 102,967 | 15,726,869 |  | 261,934,315 |
| 6 | 261,934,315 | 6,366,968 | 18,451,337 | 92,918 | 15,996,122 |  | 265,753,150 |
| 7 | 265,753,150 | 5,987,575 | 19,351,183 | 84,012 | 16,195,702 |  | 268,501,232 |
| 8 | 268,501,232 | 5,645,265 | 20,182,817 | 75,721 | 16,331,583 |  | 270,219,543 |
| 9 | 270,219,543 | 5,333,762 | 20,947,060 | 67,981 | 16,406,108 |  | 270,944,371 |
| 10 | 270,944,371 | 5,081,810 | 21,594,257 | 61,403 | 16,423,940 |  | 270,794,462 |
| 11 | 270,794,462 | 4,856,892 | 22,178,708 | 55,273 | 16,389,850 |  | 269,807,223 |
| 12 | 269,807,223 | 4,638,233 | 22,722,439 | 49,192 | 16,304,871 |  | 267,978,696 |
| 13 | 267,978,696 | 4,443,908 | 23,219,109 | 43,554 | 16,169,495 |  | 265,329,435 |
| 14 | 265,329,435 | 4,286,255 | 23,603,724 | 38,609 | 15,987,379 |  | 261,960,737 |
| 15 | 261,960,737 | 4,161,709 | 23,934,406 | 34,269 | 15,762,959 |  | 257,916,729 |
| 16 | 257,916,729 | 4,054,880 | 24,161,113 | 30,230 | 15,500,068 |  | 253,280,334 |
| 17 | 253,280,334 | 3,957,026 | 24,321,869 | 26,320 | 15,202,454 |  | 248,091,624 |
| 18 | 248,091,624 | 3,872,440 | 24,415,244 | 22,620 | 14,872,797 |  | 242,398,997 |
| 19 | 242,398,997 | 3,807,826 | 24,438,019 | 19,278 | 14,514,421 |  | 236,263,946 |
| 20 | 236,263,946 | 3,759,835 | 24,390,970 | 16,213 | 14,131,045 |  | 229,747,644 |
| 21 | 229,747,644 | 3,728,465 | 24,250,508 | 13,420 | 13,727,220 |  | 222,939,401 |
| 22 | 222,939,401 | 3,718,367 | 24,011,405 | 11,013 | 13,308,827 |  | 215,944,178 |
| 23 | 215,944,178 | 3,728,817 | 23,686,740 | 8,971 | 12,882,002 |  | 208,859,286 |
| 24 | 208,859,286 | 3,758,720 | 23,272,618 | 7,268 | 12,452,914 |  | 201,791,034 |
| 25 | 201,791,034 | 3,806,736 | 22,769,951 | 5,880 | 12,028,139 |  | 194,850,078 |
| 26 | 194,850,078 | 3,869,337 | 22,197,975 | 4,729 | 11,613,895 |  | 188,130,606 |
| 27 | 188,130,606 | 3,942,811 | 21,568,558 | 3,735 | 11,215,591 |  | 181,716,714 |
| 28 | 181,716,714 | 4,027,004 | 20,884,428 | 2,885 | 10,838,395 |  | 175,694,800 |
| 29 | 175,694,800 | 97,169 | 20,161,629 | 2,170 | 10,363,346 |  | 165,991,516 |
| 30 | 165,991,516 | 70,166 | 19,410,407 | 1,574 | 9,779,198 |  | 156,428,899 |
| 31 | 156,428,899 | 51,451 | 18,621,178 | 1,157 | 9,205,261 |  | 147,063,277 |
| 32 | 147,063,277 | 37,809 | 17,806,501 | 853 | 8,644,572 |  | 137,938,303 |
| 33 | 137,938,303 | 26,945 | 16,984,442 | 609 | 8,099,234 |  | 129,079,432 |
| 34 | 129,079,432 | 18,814 | 16,160,797 | 425 | 7,570,659 |  | 120,507,683 |
| 35 | 120,507,683 | 13,286 | 15,340,699 | 300 | 7,059,998 |  | 112,239,968 |
| 36 | 112,239,968 | 8,980 | 14,531,284 | 204 | 6,568,047 |  | 104,285,508 |
| 37 | 104,285,508 | 5,882 | 13,735,553 | 134 | 6,095,290 |  | 96,650,992 |
| 38 | 96,650,992 | 4,181 | 12,955,419 | 95 | 5,642,092 |  | 89,341,751 |
| 39 | 89,341,751 | 2,619 | 12,195,625 | 60 | 5,208,601 |  | 82,357,286 |
| 40 | 82,357,286 | 892 | 11,458,198 | 21 | 4,794,715 |  | 75,694,674 |
| 41 | 75,694,674 | - | 10,741,263 | - | 4,400,340 |  | 69,353,750 |
| 42 | 69,353,750 | - | 10,044,658 | - | 4,025,471 |  | 63,334,563 |
| 43 | 63,334,563 | - | 9,370,093 | - | 3,670,032 |  | 57,634,503 |
| 44 | 57,634,503 | - | 8,717,022 | - | 3,333,878 |  | 52,251,358 |
| 45 | 52,251,358 | - | 8,084,989 | - | 3,016,883 |  | 47,183,252 |
| 46 | 47,183,252 | - | 7,473,755 | - | 2,718,938 |  | 42,428,435 |
| 47 | 42,428,435 | - | 6,883,749 | - | 2,439,920 |  | 37,984,606 |
| 48 | 37,984,606 | - | 6,315,575 | - | 2,179,667 |  | 33,848,698 |
| 49 | 33,848,698 | - | 5,770,107 | - | 1,937,960 |  | 30,016,551 |
| 50 | 30,016,551 | - | 5,248,471 | - | 1,714,505 |  | 26,482,586 |

## SINGLE DISCOUNT RATE DEVELOPMENT Present Values of Projected Benefits

| Year | Projected <br> Beginning <br> Plan Net <br> Position | Projected <br> Benefit <br> Payments | Funded <br> Portion of <br> Benefit <br> Payments | Unfunded <br> Portion of <br> Benefit <br> Payments | Present Value of <br> Funded Benefit <br> Payments using <br> Expected Return <br> Rate (v) | Present Value of <br> Unfunded Benefit <br> Payments using Municipal Bond Rate (v) | Present Value of Benefit <br> Payments using Single Discount Rate (sdr) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (a) | (b) | (c) | (d) | (e) | (f) $\left.=(\mathrm{d}) * \mathrm{v}^{\wedge}(\mathrm{a})-.5\right)$ | (g)=(e)*vf $\wedge((\mathrm{a}) .-5)$ | (h) $=(\text { (c)/( } 1+\mathrm{sdr})^{\wedge}(\mathrm{a}-.5)$ |
| 1 | \$ 223,123,751 | \$ 12,384,308 | \$ 12,384,308 | \$ | \$ 12,014,543 | \$ | \$ 12,014,543 |
| 2 | 233,891,770 | 13,754,998 | 13,754,998 | - | 12,559,349 | - | 12,559,349 |
| 3 | 242,949,298 | 14,983,080 | 14,983,080 | - | 12,875,934 | - | 12,875,934 |
| 4 | 250,549,540 | 16,223,619 | 16,223,619 | - | 13,121,892 | - | 13,121,892 |
| 5 | 256,890,464 | 17,383,967 | 17,383,967 | - | 13,233,315 | - | 13,233,315 |
| 6 | 261,934,315 | 18,451,337 | 18,451,337 | - | 13,219,611 | - | 13,219,611 |
| 7 | 265,753,150 | 19,351,183 | 19,351,183 | - | 13,048,765 | - | 13,048,765 |
| 8 | 268,501,232 | 20,182,817 | 20,182,817 | - | 12,808,986 | - | 12,808,986 |
| 9 | 270,219,543 | 20,947,060 | 20,947,060 | - | 12,512,011 | - | 12,512,011 |
| 10 | 270,944,371 | 21,594,257 | 21,594,257 | - | 12,139,850 | - | 12,139,850 |
| 11 | 270,794,462 | 22,178,708 | 22,178,708 | - | 11,734,981 | - | 11,734,981 |
| 12 | 269,807,223 | 22,722,439 | 22,722,439 | - | 11,315,458 | - | 11,315,458 |
| 13 | 267,978,696 | 23,219,109 | 23,219,109 | - | 10,882,629 | - | 10,882,629 |
| 14 | 265,329,435 | 23,603,724 | 23,603,724 | - | 10,412,137 | - | 10,412,137 |
| 15 | 261,960,737 | 23,934,406 | 23,934,406 | - | 9,936,949 | - | 9,936,949 |
| 16 | 257,916,729 | 24,161,113 | 24,161,113 | - | 9,441,008 | - | 9,441,008 |
| 17 | 253,280,334 | 24,321,869 | 24,321,869 | - | 8,944,776 | - | 8,944,776 |
| 18 | 248,091,624 | 24,415,244 | 24,415,244 | - | 8,450,933 | - | 8,450,933 |
| 19 | 242,398,997 | 24,438,019 | 24,438,019 | - | 7,961,239 | - | 7,961,239 |
| 20 | 236,263,946 | 24,390,970 | 24,390,970 | - | 7,478,505 | - | 7,478,505 |
| 21 | 229,747,644 | 24,250,508 | 24,250,508 | - | 6,998,059 | - | 6,998,059 |
| 22 | 222,939,401 | 24,011,405 | 24,011,405 | - | 6,521,468 | - | 6,521,468 |
| 23 | 215,944,178 | 23,686,740 | 23,686,740 | - | 6,054,861 | - | 6,054,861 |
| 24 | 208,859,286 | 23,272,618 | 23,272,618 | - | 5,599,061 | - | 5,599,061 |
| 25 | 201,791,034 | 22,769,951 | 22,769,951 | - | 5,155,884 | - | 5,155,884 |
| 26 | 194,850,078 | 22,197,975 | 22,197,975 | - | 4,730,700 | - | 4,730,700 |
| 27 | 188,130,606 | 21,568,558 | 21,568,558 | - | 4,326,177 | - | 4,326,177 |
| 28 | 181,716,714 | 20,884,428 | 20,884,428 | - | 3,942,546 | - | 3,942,546 |
| 29 | 175,694,800 | 20,161,629 | 20,161,629 | - | 3,582,209 | - | 3,582,209 |
| 30 | 165,991,516 | 19,410,407 | 19,410,407 | - | 3,245,869 | - | 3,245,869 |
| 31 | 156,428,899 | 18,621,178 | 18,621,178 | - | 2,930,721 | - | 2,930,721 |
| 32 | 147,063,277 | 17,806,501 | 17,806,501 | - | 2,637,649 | - | 2,637,649 |
| 33 | 137,938,303 | 16,984,442 | 16,984,442 | - | 2,367,886 | - | 2,367,886 |
| 34 | 129,079,432 | 16,160,797 | 16,160,797 | - | 2,120,525 | - | 2,120,525 |
| 35 | 120,507,683 | 15,340,699 | 15,340,699 | - | 1,894,509 | - | 1,894,509 |
| 36 | 112,239,968 | 14,531,284 | 14,531,284 | - | 1,688,988 | - | 1,688,988 |
| 37 | 104,285,508 | 13,735,553 | 13,735,553 | - | 1,502,588 | - | 1,502,588 |
| 38 | 96,650,992 | 12,955,419 | 12,955,419 | - | 1,333,878 | - | 1,333,878 |
| 39 | 89,341,751 | 12,195,625 | 12,195,625 | - | 1,181,789 | - | 1,181,789 |
| 40 | 82,357,286 | 11,458,198 | 11,458,198 | - | 1,045,017 | - | 1,045,017 |
| 41 | 75,694,674 | 10,741,263 | 10,741,263 | - | 922,005 | - | 922,005 |
| 42 | 69,353,750 | 10,044,658 | 10,044,658 | - | 811,492 | - | 811,492 |
| 43 | 63,334,563 | 9,370,093 | 9,370,093 | - | 712,466 | - | 712,466 |
| 44 | 57,634,503 | 8,717,022 | 8,717,022 | - | 623,820 | - | 623,820 |
| 45 | 52,251,358 | 8,084,989 | 8,084,989 | - | 544,555 | - | 544,555 |
| 46 | 47,183,252 | 7,473,755 | 7,473,755 | - | 473,775 | - | 473,775 |
| 47 | 42,428,435 | 6,883,749 | 6,883,749 | - | 410,704 | - | 410,704 |
| 48 | 37,984,606 | 6,315,575 | 6,315,575 | - | 354,641 | - | 354,641 |
| 49 | 33,848,698 | 5,770,107 | 5,770,107 | - | 304,951 | - | 304,951 |
| 50 | 30,016,551 | 5,248,471 | 5,248,471 | - | 261,066 | - | 261,066 |

# SINGLE DISCOUNT RATE DEVELOPMENT Present Values of Projected Benefits (CONCLUDED) 

| Year | Projected <br> Beginning Plan Net Position | Projected Benefit Payments | Funded <br> Portion of <br> Benefit <br> Payments | Unfunded <br> Portion of <br> Benefit Payments | Present Value of Funded Benefit Payments using Expected Return Rate (v) | Present Value of Unfunded Benefit Payments using Municipal Bond Rate (v) | Present Value of Benefit <br> Payments using Single Discount Rate (sdr) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (a) | (b) | (c) | (d) | (e) | $(\mathrm{f})=(\mathrm{d}) * \mathrm{v}^{\wedge}\left((\mathrm{a}) .5\right.$. ${ }^{\text {a }}$ | (g) $=(\mathrm{e})^{*} \mathrm{vf} \wedge($ (a) -5$)$ | (h) $=\left((\mathrm{c})(1+\mathrm{sdr})^{\wedge}(\mathrm{a}-5)\right.$ |
| 51 | \$ 26,482,586 | \$ 4,751,821 | 4,751,821 | \$ - | 222,458 | \$ - | 222,458 |
| 52 | 23,239,682 | 4,281,138 | 4,281,138 | - | 188,634 | - | 188,634 |
| 53 | 20,279,267 | 3,837,344 | 3,837,344 | - | 159,133 | - | 159,133 |
| 54 | 17,591,277 | 3,420,907 | 3,420,907 | - | 133,519 | - | 133,519 |
| 55 | 15,164,542 | 3,031,968 | 3,031,968 | - | 111,378 | - | 111,378 |
| 56 | 12,987,044 | 2,670,594 | 2,670,594 | - | 92,332 | - | 92,332 |
| 57 | 11,045,949 | 2,336,953 | 2,336,953 | - | 76,044 | - | 76,044 |
| 58 | 9,327,445 | 2,031,203 | 2,031,203 | - | 62,207 | - | 62,207 |
| 59 | 7,816,694 | 1,753,088 | 1,753,088 | - | 50,531 | - | 50,531 |
| 60 | 6,498,196 | 1,501,893 | 1,501,893 | - | 40,744 | - | 40,744 |
| 61 | 5,356,217 | 1,276,486 | 1,276,486 | - | 32,592 | - | 32,592 |
| 62 | 4,375,210 | 1,075,541 | 1,075,541 | - | 25,846 | - | 25,846 |
| 63 | 3,540,017 | 897,866 | 897,866 | - | 20,307 | - | 20,307 |
| 64 | 2,835,770 | 742,227 | 742,227 | - | 15,800 | - | 15,800 |
| 65 | 2,247,935 | 607,138 | 607,138 | - | 12,164 | - | 12,164 |
| 66 | 1,762,607 | 490,967 | 490,967 | - | 9,258 | - | 9,258 |
| 67 | 1,366,693 | 392,153 | 392,153 | - | 6,960 | - | 6,960 |
| 68 | 1,047,889 | 309,200 | 309,200 | - | 5,165 | - | 5,165 |
| 69 | 794,666 | 240,708 | 240,708 | - | 3,784 | - | 3,784 |
| 70 | 596,217 | 185,201 | 185,201 | - | 2,740 | - | 2,740 |
| 71 | 442,579 | 140,994 | 140,994 | - | 1,963 | - | 1,963 |
| 72 | 324,908 | 106,257 | 106,257 | - | 1,393 | - | 1,393 |
| 73 | 235,687 | 79,262 | 79,262 | - | 978 | - | 978 |
| 74 | 168,716 | 58,418 | 58,418 | - | 678 | - | 678 |
| 75 | 119,045 | 42,459 | 42,459 | - | 464 | - | 464 |
| 76 | 82,719 | 30,390 | 30,390 | - | 313 | - | 313 |
| 77 | 56,564 | 21,387 | 21,387 | - | 207 | - | 207 |
| 78 | 38,054 | 14,787 | 14,787 | - | 135 | - | 135 |
| 79 | 25,190 | 10,054 | 10,054 | - | 86 | - | 86 |
| 80 | 16,401 | 6,717 | 6,717 | - | 54 | - | 54 |
| 81 | 10,502 | 4,400 | 4,400 | - | 33 | - | 33 |
| 82 | 6,623 | 2,838 | 2,838 | - | 20 | - | 20 |
| 83 | 4,112 | 1,806 | 1,806 | - | 12 | - | 12 |
| 84 | 2,507 | 1,122 | 1,122 | - | 7 | - | 7 |
| 85 | 1,507 | 686 | 686 | - | 4 | - | 4 |
| 86 | 894 | 409 | 409 | - | 2 | - | 2 |
| 87 | 528 | 252 | 252 | - | 1 | - | 1 |
| 88 | 301 | 156 | 156 | - | 1 | - | 1 |
| 89 | 159 | 96 | 96 | - | - | - | - |
| 90 | 70 | 54 | 54 | - | - | - | - |
| 91 | 18 | 18 | 18 | - | - | - | - |
| 92 | 1 | 1 | 1 | - | - | - | - |
| 93 | - | - | - | - | - | - | - |
| 94 | - | - | - | - | - | - | - |
| 95 | - | - | - | - | - | - | - |
| 96 | - | - | - | - | - | - | - |
| 97 | - | - | - | - | - | - | - |
| 98 | - | - | - | - | - | - | - |
| 99 | - | - | - | - | - | - | - |
| 100 | - | - | - | - | - | - | - |



## SECTION H

GLOSSARY OF TERMS

## GLOSSARY OF TERMS

## Actuarial Accrued Liability (AAL)

## Actuarial Assumptions

Accrued Service<br>Actuarial Equivalent<br>Actuarial Cost Method<br>Actuarial Gain (Loss)<br>Actuarial Present Value (APV)

Actuarial Valuation

Actuarial Valuation Date
Actuarially Determined
Contribution (ADC) or Annual Required
Contribution (ARC)

The AAL is the difference between the actuarial present value of all benefits and the actuarial value of future normal costs. The definition comes from the fundamental equation of funding which states that the present value of all benefits is the sum of the Actuarial Accrued Liability and the present value of future normal costs. The AAL may also be referred to as "accrued liability" or "actuarial liability."

These assumptions are estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and compensation increases. Actuarial assumptions are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (compensation increases, payroll growth, inflation and investment return) consist of an underlying real rate of return plus an assumption for a long-term average rate of inflation.

Service credited under the system which was rendered before the date of the actuarial valuation.

A single amount or series of amounts of equal actuarial value to another single amount or series of amounts, computed on the basis of appropriate actuarial assumptions.

A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of the pension trust benefits between future normal cost and actuarial accrued liability. The actuarial cost method may also be referred to as the actuarial funding method.

The difference in liabilities between actual experience and expected experience during the period between two actuarial valuations is the gain (loss) on the accrued liabilities.

The amount of funds currently required to provide a payment or series of payments in the future. The present value is determined by discounting future payments at predetermined rates of interest and probabilities of payment.

The actuarial valuation report determines, as of the actuarial valuation date, the service cost, total pension liability, and related actuarial present value of projected benefit payments for pensions.

The date as of which an actuarial valuation is performed.
A calculated contribution into a defined benefit pension plan for the reporting period, most often determined based on the funding policy of the plan. Typically the Actuarially Determined Contribution has a normal cost payment and an amortization payment.

## GLOSSARY OF TERMS

## Amortization Payment

## Amortization Method

Cost-of-Living Adjustments

Cost-Sharing MultipleEmployer Defined Benefit
Pension Plan (cost-sharing pension plan)

Covered-Employee Payroll

Deferred Retirement Option Program (DROP)

## Deferred Inflows and Outflows

## Discount Rate

The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.

The method used to determine the periodic amortization payment may be a level dollar amount, or a level percent of pay amount. The period will typically be expressed in years, and the method will either be "open" (meaning, reset each year) or "closed" (the number of years remaining will decline each year).

Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.

A multiple-employer defined benefit pension plan in which the pension obligations to the employees of more than one employer are pooled and pension plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan.

The payroll of covered employees, which is typically only the pensionable pay and does not include pay above any pay cap.

A program that permits a plan member to elect a calculation of benefit payments based on service credits and salary, as applicable, as of the DROP entry date. The plan member continues to provide service to the employer and is paid for the service by the employer after the DROP entry date; however, the pensions that would have been paid to the plan member are credited to an individual member account within the defined benefit pension plan until the end of the DROP period. Other variations for DROP exist and will be more fully detailed in the plan provision section of the valuation report.

The deferred inflows and outflows of pension resources are amounts used under GASB Statement No. 68 in developing the annual pension expense. Deferred inflows and outflows arise with differences between expected and actual experiences; changes of assumptions. The portion of these amounts not included in pension expense should be included in the deferred inflows or outflows of resources.

For GASB purposes, the discount rate is the single rate of return that results in the present value of all projected benefit payments to be equal to the sum of the funded and unfunded projected benefit payments, specifically:

1. The benefit payments to be made while the pension plan's fiduciary net position is projected to be greater than the benefit payments that are projected to be made in the period; and
2. The present value of the benefit payments not in (1) above, discounted using the municipal bond rate.

## GLOSSARY OF TERMS

## Entry Age Actuarial Cost Method (EAN)

GASB

Fiduciary Net Position
Long-Term Expected Rate of Return

Money-Weighted Rate of Return

The EAN is a funding method for allocating the costs of the plan between the normal cost and the accrued liability. The actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis (either level dollar or level percent of pay) over the earnings or service of the individual between entry age and assumed exit ages(s). The portion of the actuarial present value allocated to a valuation year is the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is the actuarial accrued liability. The sum of the accrued liability plus the present value of all future normal costs is the present value of all benefits.

The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.

The fiduciary net position is the value of the assets of the trust.
The long-term rate of return is the expected return to be earned over the entire trust portfolio based on the asset allocation of the portfolio.

The money-weighted rate of return is a method of calculating the returns that adjusts for the changing amounts actually invested. For purposes of GASB Statement No. 67, money-weighted rate of return is calculated as the internal rate of return on pension plan investments, net of pension plan investment expense.

Multiple-Employer Defined
Benefit Pension Plan
Municipal Bond Rate

Net Pension Liability (NPL)

Non-Employer Contribution Entities

Normal Cost

A multiple-employer plan is a defined benefit pension plan that is used to provide pensions to the employees of more than one employer.

The Municipal Bond Rate is the discount rate to be used for those benefit payments that occur after the assets of the trust have been depleted.

The NPL is the liability of employers and non-employer contribution entities to plan members for benefits provided through a defined benefit pension plan.

Non-employer contribution entities are entities that make contributions to a pension plan that is used to provide pensions to the employees of other entities. For purposes of the GASB Accounting statement plan members are not considered non-employer contribution entities.

The actuarial present value of the pension trust benefits allocated to the current year by the actuarial cost method.

## GLOSSARY OF TERMS

## Other Postemployment Benefits (OPEB)

## Real Rate of Return

Service Cost

Total Pension Expense

All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits regardless of the manner in which they are provided. Other postemployment benefits do not include termination benefits.

The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.

The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year.

The total pension expense is the sum of the following items that are recognized at the end of the employer's fiscal year:

1. Service Cost
2. Interest on the Total Pension Liability
3. Current-Period Benefit Changes
4. Employee Contributions (made negative for addition here)
5. Projected Earnings on Plan Investments (made negative for addition here)
6. Pension Plan Administrative Expense
7. Other Changes in Plan Fiduciary Net Position
8. Recognition of Outflow (Inflow) of Resources due to Liabilities
9. Recognition of Outflow (Inflow) of Resources due to Assets

Total Pension Liability (TPL) The TPL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service.

Unfunded Actuarial Accrued Liability (UAAL)

Valuation Assets
The UAAL is the difference between actuarial accrued liability and valuation assets.

The valuation assets are the assets used in determining the unfunded liability of the plan. For purposes of the GASB Statement No. 67, the valuation asset is equal to the market value of assets.


[^0]:    *Source: State \& local bonds "rate from Federal Reserve statistical release (H.15) as of June 25, 2015. The statistical release describes this rate as "Bond Buyer Index, general obligation, 20 years to maturity, mixed quality." In describing this index, the Bond Buyer notes that the bonds' average credit quality is roughly equivalent to Moody's Investors Service's Aa2 rating and Standard \& Poor's Corp.'s AA.

[^1]:    ${ }^{1}$ Annual money-weighted rate of return, net of investment expenses.

