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**THE RETIREMENT SYSTEM OF
THE CITY OF NORTH LITTLE
ROCK, ARKANSAS**

ACTUARIAL VALUATION
AS OF JANUARY 1, 2018

FILED A.M. 5:50 P.M.

BY K. Scott - Finance Dir.

DATE 7/23/18
Diane Whitby, City Clerk and Collector
North Little Rock, Arkansas

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Osborn, Carreiro & Associates, Inc.

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July 12, 2018

North Little Rock Pension Plan Board
City Services Building
120 Main Street
North Little Rock, AR 72119

RE: The Retirement System of the City of North Little Rock

Ladies and Gentlemen:

This report presents the results of our actuarial valuation of the assets and liabilities of the Retirement System of the City of North Little Rock, Arkansas as of January 1, 2018. This valuation determines the recommended contributions for the 2018 Plan Year and provides other accounting disclosures.

A brief summary of the more important figures developed in this valuation, with comparable results from prior reports, follows:

| | <u>1/1/2016</u> | <u>1/1/2017</u> | <u>1/1/2018</u> |
|---|--------------------------|--------------------------|--------------------------|
| Number in Plan | | | |
| a) Active Members | 468 | 500 | 501 |
| b) Inactive Members | 177 | 187 | 195 |
| Salary of Actives in Plan | \$ 19,641,076 | \$ 21,964,782 | \$ 22,770,923 |
| Assets | \$ 41,696,424 | \$ 44,028,730 | \$ 47,560,195 |
| City Contribution Levels (in dollars and as a percentage of covered payroll): | <u>2016</u> | <u>2017</u> | <u>2018</u> |
| a) Pay UAAL in 30 years | \$ 2,784,705 (14.18%) | \$ 3,407,577 (15.51%) | \$ 3,440,368 (15.11%) |
| b) Pay UAAL in 15 years | \$ 3,399,657 (17.31%) | \$ 4,271,668 (19.45%) | \$ 4,267,200 (18.74%) |
| c) Scheduled Contributions | \$ 1,964,108 (10.00%) | \$ 2,855,422 (13.00%) | \$ 3,415,638 (15.00%) |

Actuarial Status of Plan

The Contribution level for the 2018 Plan Year is recommended to be \$4,267,200 (18.74% of covered payroll). The city and member contributions scheduled for 2018 totals 15.00%. We continue to show the 30 year open amortization of unfunded (15.11% of payroll). The recent changes in GASB rules and actuarial "best practices" compel me to recommend an amount based on a fifteen year amortization. Please note that the 30 year percentage of payroll amortization does not cover the interest on the unfunded amount and leads to an unfunded liability that creeps upward even when assumptions are met.

This year, the funded status of the plan increased from 62.24% to 65.44% due primarily to higher than expected investment return. The plan earned 10.00% in 2017 compared to the assumed return of 6.50%.

The City continues to make contributions to the plan that are lower than the recommended amounts. The increases in contributions in 2017 and 2018 are a positive step in the right direction, but the City needs to continue to explore avenues to increase funding or reduce plan expenses.

Changes Since Last Year

The plan was amended effective January 1, 2018 to increase the employee contribution from 4% to 5% of compensation. In addition to this increase, the form of the employee contribution was changed to a "picked up" contribution, meaning that it is pre-tax to the employee. This reduced the impact of the increase on the employee. The employer contribution was also increased to 10%, so that the total contribution to the plan is now 15% of compensation.

Accounting Information

Exhibit 3 contains the accounting information needed in the financial statements of the Plan and the City. The new reporting standards of GASB Statement 67 became effective January 1, 2014 for the Plan's financial statements, and GASB 68 is effective for all participating employers as of January 1, 2015. (These items have replaced the GASB 27 items and that information is no longer a part of this report.) These new standards include several disclosures as well as new tables of Required Supplementary Information. These calculations and disclosures are found in the Appendices at the end of this report.

Scope of Report and Statement of Qualifications

The calculations in this report are based on the data and assumptions as outlined in the attached Exhibits. This report is based on the participant and financial data supplied by the plan sponsor. We did not audit this data, although we did review it for reasonableness and consistency. We have relied on the data provided to us. If any of this data is incorrect or incomplete, the results of our calculations could be materially different.

The purpose of this report is to help the plan sponsor evaluate the plan status and funding requirements for an on-going plan and to present certain actuarial items required for disclosure purposes. This report is not intended for any other purpose or for use by persons who are not familiar with such matters.

This report has been prepared by actuaries who have experience valuing public employee retirement systems. To the best of our knowledge, this report is complete and accurate and was completed in accordance with standards of practice promulgated by the Actuarial Standards Board and in conformance with applicable Arkansas law. The actuaries know of no significant conflicts of interest with the plan sponsor. The actuaries 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 contained in this report.

Sincerely,



Jody Carreiro, FCA, ASA, MAAA, EA
Actuary

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EXHIBIT 1
CONTRIBUTIONS

The following contribution level reflects the payment of the current year Normal Cost for benefits attributable to said year (see Exhibit 2) plus an amount sufficient to pay off the Unfunded Actuarial Accrued Liability ("UAAL") over a set number of years.

| | <u>2016</u> | <u>2017</u> | <u>2018</u> |
|---------------------------------|---------------|---------------|---------------|
| Annual Contribution necessary: | | | |
| A. Covered Salary | \$ 19,641,076 | \$ 21,964,782 | \$ 22,770,923 |
| B. Pay UAAL off in 30 years | | | |
| 1. Normal Cost | \$ 1,842,603 | \$ 2,081,105 | \$ 2,171,091 |
| 2. 30-year amortization of UAAL | 910,243 | 1,284,719 | 1,229,324 |
| 3. Interest adjustment | 31,859 | 41,753 | 39,953 |
| 4. Total City Cost | \$ 2,784,705 | \$ 3,407,577 | \$ 3,440,368 |
| As a Percentage of Pay | 14.18% | 15.51% | 15.11% |
| C. Pay UAAL off in 15 years | | | |
| 1. Normal Cost | \$ 1,842,603 | \$ 2,081,105 | \$ 2,171,091 |
| 2. 15-year amortization of UAAL | 1,504,400 | 2,121,611 | 2,030,130 |
| 3. Interest adjustment | 52,654 | 68,952 | 65,979 |
| 4. Total City Cost | \$ 3,399,657 | \$ 4,271,668 | \$ 4,267,200 |
| As a Percentage of Pay | 17.31% | 19.45% | 18.74% |
| D. Actual City Contribution | | | |
| 1. City Contribution | 6.00% | 9.00% | 10.00% |
| 2. Member Contribution | 4.00% | 4.00% | 5.00% |
| 3. Total Contribution | 10.00% | 13.00% | 15.00% |

EXHIBIT 2

COSTS AND LIABILITIES

| | <u>1/1/2016</u> | <u>1/1/2017</u> | <u>1/1/2018</u> |
|---|-------------------|-------------------|-------------------|
| A. <u>Normal Cost</u> (Cost to fund current active members) | | | |
| 1. Total Normal Cost | \$ 1,842,603 | \$ 2,081,105 | \$ 2,171,091 |
| 2. Covered Payroll | \$ 19,641,076 | \$ 21,964,782 | \$ 22,770,923 |
| 3. Normal Cost as Percent of Covered Pay | 9.38% | 9.47% | 9.53% |
| B. <u>Actuarial Accrued Liability</u> | | | |
| 1. <u>Active Lives</u> | | | |
| Retirement | \$ 40,112,524 | \$ 41,624,763 | \$ 42,581,416 |
| Pre-Retirement Death | | 214,859 | 217,607 |
| Disability | | 49,044 | 49,785 |
| Vested Termination/ROC | | 2,429,132 | 2,457,430 |
| Total Active Lives | <u>40,112,524</u> | <u>44,317,798</u> | <u>45,306,238</u> |
| 2. <u>Retired Lives</u> | | | |
| Regular/Early – Basic Benefit | 9,395,812 | 12,029,435 | 13,558,999 |
| Regular/Early – Joint and Survivor | 8,164,595 | 9,570,512 | 9,963,970 |
| Disableds | 590,970 | 661,534 | 1,142,257 |
| Widows | 1,552,613 | 2,094,430 | 2,147,270 |
| Total Inactive Lives | <u>19,703,990</u> | <u>24,355,911</u> | <u>26,812,496</u> |
| 3. <u>Vested Terminated/Return of Contrib.</u> | 512,553 | 863,555 | 563,489 |
| 4. <u>Total Accrued Liability</u> | \$ 60,329,067 | \$ 69,537,264 | \$ 72,682,223 |
| C. <u>Assets</u> | \$ 41,696,424 | \$ 43,283,200 | \$ 47,560,195 |
| D. <u>Unfunded Actuarial Accrued Liability</u> | \$ 18,632,643 | \$ 26,254,064 | \$ 25,122,028 |
| E. <u>Funded Percentage</u> | 69.11% | 62.24% | 65.44% |

EXHIBIT 3

SUMMARY OF FINANCIAL INFORMATION

(Items D-E determined by Osborn, Carreiro and Associates, Inc.)

| | Plan Year Ended | | |
|-----------------------------|--------------------|-------------------|-------------------|
| | <u>12/31/2015</u> | <u>12/31/2016</u> | <u>12/31/2017</u> |
| A. <u>INCOME</u> | | | |
| 1. <u>Contributions</u> | | | |
| Employee | \$ 755,749 | \$ 909,519 | \$ 996,081 |
| Employer | 1,133,620 | 1,364,281 | 2,220,368 |
| Other | 0 | 0 | 0 |
| 2. <u>Investment Income</u> | | | |
| Interest/Dividends | 1,811,857 | 1,052,817 | 1,298,564 |
| Realized Gain | - 1,091,840 | - 319,868 | - 100,662 |
| Unrealized Gain | - 2,112,191 | 1,578,399 | 3,298,844 |
| Investment Expense | - 204,121 | - 157,959 | - 170,680 |
| Net Investment Income | <u>- 1,596,295</u> | <u>2,153,389</u> | <u>4,326,066</u> |
| TOTAL INCOME | \$ 293,074 | \$ 4,427,189 | \$ 7,542,515 |
| B. <u>EXPENSES</u> | | | |
| 1. <u>Administrative</u> | | | |
| Trustee Fees | \$ 39,410 | \$ 37,266 | \$ 37,683 |
| Actuarial Fees | 15,600 | 15,600 | 17,400 |
| Auditing Fees | 0 | 0 | 15,000 |
| Legal Fees | 200 | 86 | 3,707 |
| 2. <u>Lump Sums</u> | 661,841 | 505,638 | 672,920 |
| 3. <u>Monthly Benefits</u> | <u>2,093,408</u> | <u>2,281,823</u> | <u>2,518,810</u> |
| TOTAL EXPENSES | \$ 2,810,459 | \$ 2,840,413 | \$ 3,265,520 |

EXHIBIT 3 (Continued)

| | <u>12/31/2015</u> | <u>12/31/2016</u> | <u>12/31/2017</u> |
|---|-------------------|-------------------|-------------------|
| C. <u>ASSETS (Market)</u> | | | |
| 1. <u>Short Term</u> | | | |
| Cash and Money Market | | | |
| a) Trustee Cash Equivalents | \$ 163,502 | \$ 10,984 | \$ 222,035 |
| b) SMC Cash Equivalents | 2,723,183 | 1,838,374 | 2,027,582 |
| c) Certificates of Deposit | 202,194 | 2,399,000 | 0 |
| 2. <u>Mutual Funds</u> | | | |
| Equity | 17,934,014 | 18,625,236 | 24,638,630 |
| Fixed Income | 16,594,704 | 16,517,681 | 16,960,235 |
| 3. <u>Equities</u> | | | |
| Common Stocks | 0 | 0 | 0 |
| Real Estate Investment Trust | 1,343,295 | 1,109,203 | 1,115,251 |
| Oil/Gas MLP | 1,493,569 | 1,867,340 | 1,718,828 |
| 4. <u>Bonds</u> | | | |
| Government Bonds | 218,818 | 214,340 | 207,264 |
| Corporate Bonds | 1,004,695 | 687,709 | 429,400 |
| 5. <u>Other</u> | | | |
| Contributions Receivable | 0 | 0 | 240,970 |
| Interest Receivable | 18,450 | 13,333 | 0 |
| Payables | 0 | 0 | 0 |
| Other | 0 | 0 | 0 |
| | | | |
| TOTAL ASSETS | \$ 41,696,424 | \$ 43,283,200 | \$ 47,560,195 |
| | | | |
| D. <u>RATIO OF ASSETS TO ANNUAL EXPENSES:</u> | 14.8 | 15.2 | 14.6 |
| | | | |
| E. <u>INVESTMENT RETURN</u> | | | |
| Gross (before inv. expense) | - 3.19% | 5.59% | 10.42% |
| Net (of investment expense) | - 3.65% | 5.20% | 10.00% |

EXHIBIT 4

ACTIVE EMPLOYEE PROFILE

Employee data needed for the valuation was obtained from the records furnished by the administrator. The following table shows a detailed breakdown of the included participants and salaries by age and years of service.

Actives

| Age | | Years of Service | | | | | | | Total |
|------------|--------|-------------------------|-------------|--------------|--------------|--------------|--------------|----------------|--------------|
| | | 0-5 | 5-10 | 10-15 | 15-20 | 20-25 | 25-30 | Over 30 | |
| Under 25 | Count | 15 | 1 | 0 | 0 | 0 | 0 | 0 | 16 |
| | Salary | 441,373 | 36,356 | 0 | 0 | 0 | 0 | 0 | 477,729 |
| 25-29 | Count | 37 | 12 | 0 | 0 | 0 | 0 | 0 | 49 |
| | Salary | 1,222,538 | 583,191 | 0 | 0 | 0 | 0 | 0 | 1,805,729 |
| 30-34 | Count | 23 | 13 | 1 | 0 | 0 | 0 | 0 | 37 |
| | Salary | 766,058 | 611,790 | 67,914 | 0 | 0 | 0 | 0 | 1,445,763 |
| 35-39 | Count | 20 | 11 | 8 | 5 | 0 | 0 | 0 | 44 |
| | Salary | 758,996 | 509,904 | 465,429 | 288,650 | 0 | 0 | 0 | 2,022,979 |
| 40-44 | Count | 13 | 11 | 12 | 9 | 1 | 0 | 0 | 46 |
| | Salary | 502,202 | 492,799 | 649,187 | 423,099 | 29,575 | 0 | 0 | 2,096,862 |
| 45-49 | Count | 17 | 7 | 6 | 10 | 4 | 2 | 1 | 47 |
| | Salary | 571,660 | 318,036 | 295,405 | 500,778 | 205,556 | 125,636 | 39,520 | 2,056,592 |
| 50-54 | Count | 25 | 12 | 14 | 12 | 10 | 5 | 1 | 79 |
| | Salary | 1,009,182 | 540,981 | 710,868 | 666,403 | 518,989 | 272,851 | 46,223 | 3,765,498 |
| 55-59 | Count | 17 | 16 | 7 | 11 | 8 | 6 | 13 | 78 |
| | Salary | 559,165 | 696,131 | 355,282 | 561,189 | 420,793 | 358,858 | 747,236 | 3,698,654 |
| 60-64 | Count | 12 | 8 | 8 | 11 | 2 | 3 | 14 | 58 |
| | Salary | 490,611 | 377,927 | 399,404 | 551,115 | 101,005 | 167,247 | 783,380 | 2,870,689 |
| 65-69 | Count | 10 | 5 | 2 | 5 | 3 | 2 | 8 | 35 |
| | Salary | 527,686 | 227,114 | 102,086 | 320,727 | 139,401 | 88,643 | 511,194 | 1,916,852 |
| 70 & Over | Count | 0 | 3 | 4 | 1 | 2 | 0 | 2 | 12 |
| | Salary | 0 | 133,898 | 189,448 | 59,326 | 137,239 | 0 | 93,665 | 613,576 |
| Total | Count | 189 | 99 | 62 | 64 | 30 | 18 | 39 | 501 |
| | Salary | 6,849,471 | 4,528,128 | 3,235,023 | 3,371,287 | 1,552,558 | 1,013,237 | 2,221,219 | 22,770,923 |

Average Attained Age: 47.91 years
 Average Actual Service: 11.08 years
 Average Salary: \$ 45,451

EXHIBIT 4 (Continued)

RETIREE PROFILE

Retiree data needed for the valuation was obtained from the records furnished by the administrator. The following table shows a detailed breakdown of the included retirees and beneficiaries by age and years since retirement. Benefits listed are annual amounts of annuities paid monthly.

Regular Retirees Receiving Annuities

| Age | | Years since Retirement | | | | | | | Total |
|------------|---------|-------------------------------|------------|------------|------------|------------|-------------|----------------|--------------|
| | | 0-1 | 1-2 | 2-3 | 3-4 | 4-5 | 5-10 | Over 10 | |
| Under 45 | Count | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Benefit | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 45-49 | Count | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Benefit | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 50-54 | Count | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Benefit | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 55-59 | Count | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 |
| | Benefit | 0 | 0 | 0 | 12,223 | 25,368 | 0 | 0 | 37,592 |
| 60-64 | Count | 8 | 2 | 2 | 3 | 0 | 3 | 2 | 20 |
| | Benefit | 196,538 | 57,386 | 52,643 | 55,772 | 0 | 26,044 | 28,896 | 417,279 |
| 65-69 | Count | 5 | 5 | 7 | 2 | 3 | 15 | 1 | 38 |
| | Benefit | 112,433 | 95,548 | 126,948 | 19,511 | 81,781 | 261,159 | 11,501 | 708,882 |
| 70-74 | Count | 2 | 1 | 2 | 0 | 3 | 17 | 7 | 32 |
| | Benefit | 14,736 | 6,478 | 36,718 | 0 | 29,206 | 222,839 | 82,038 | 392,015 |
| 75-79 | Count | 0 | 0 | 0 | 1 | 2 | 10 | 19 | 32 |
| | Benefit | 0 | 0 | 0 | 13,605 | 89,294 | 151,695 | 213,302 | 467,896 |
| 80-84 | Count | 0 | 0 | 0 | 0 | 0 | 4 | 21 | 25 |
| | Benefit | 0 | 0 | 0 | 0 | 0 | 67,986 | 188,182 | 256,168 |
| 85-89 | Count | 0 | 0 | 0 | 0 | 0 | 2 | 4 | 6 |
| | Benefit | 0 | 0 | 0 | 0 | 0 | 12,059 | 29,701 | 41,760 |
| 90 & Over | Count | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 |
| | Benefit | 0 | 0 | 0 | 0 | 0 | 0 | 9,395 | 9,395 |
| Total | Count | 15 | 8 | 11 | 7 | 9 | 51 | 56 | 157 |
| | Benefit | 323,707 | 159,412 | 216,309 | 101,112 | 225,649 | 741,783 | 563,015 | 2,330,987 |

Average Attained Age: 72.96 years
 Average Years since Retirement: 8.95 years

Average Annual Benefit: \$14,847
 Average Monthly Benefit: \$1,237

EXHIBIT 4 (Continued)

RETIREE PROFILE

Retiree data needed for the valuation was obtained from the records furnished by the administrator. The following table shows a detailed breakdown of the included retirees and beneficiaries by age and years since retirement. Benefits listed are annual amounts of annuities paid monthly.

Disabled Retirees Receiving Annuities

| Age | | Years since Retirement | | | | | | | Total |
|-----------|---------|------------------------|-----|-----|-----|--------|--------|---------|---------|
| | | 0-1 | 1-2 | 2-3 | 3-4 | 4-5 | 5-10 | Over 10 | |
| Under 45 | Count | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Benefit | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 45-49 | Count | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Benefit | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 50-54 | Count | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Benefit | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 55-59 | Count | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 3 |
| | Benefit | 39,559 | 0 | 0 | 0 | 11,645 | 0 | 0 | 51,204 |
| 60-64 | Count | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| | Benefit | 0 | 0 | 0 | 0 | 0 | 12,773 | 0 | 12,773 |
| 65-69 | Count | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| | Benefit | 0 | 0 | 0 | 0 | 0 | 16,855 | 0 | 16,855 |
| 70-74 | Count | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| | Benefit | 0 | 0 | 0 | 0 | 0 | 0 | 15,633 | 15,633 |
| 75-79 | Count | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Benefit | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 80-84 | Count | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| | Benefit | 0 | 0 | 0 | 0 | 0 | 0 | 5,618 | 5,618 |
| 85-89 | Count | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Benefit | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 90 & Over | Count | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Benefit | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | Count | 2 | 0 | 0 | 0 | 1 | 2 | 2 | 7 |
| | Benefit | 39,559 | 0 | 0 | 0 | 11,645 | 29,628 | 21,251 | 102,084 |

Average Attained Age: 64.43 years
 Average Years since Retirement: 8.17 years

Average Annual Benefit: \$14,583
 Average Monthly Benefit: \$1,215

EXHIBIT 4 (Continued)

RETIREE PROFILE

Retiree data needed for the valuation was obtained from the records furnished by the administrator. The following table shows a detailed breakdown of the included retirees and beneficiaries by age and years since retirement. Benefits listed are annual amounts of annuities paid monthly.

Widows and Beneficiaries Receiving Annuities

| Age | | Years since Retirement | | | | | | | Total |
|-----------|---------|------------------------|-----|--------|-----|--------|--------|---------|---------|
| | | 0-1 | 1-2 | 2-3 | 3-4 | 4-5 | 5-10 | Over 10 | |
| Under 45 | Count | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| | Benefit | 0 | 0 | 0 | 0 | 0 | 5,405 | 0 | 5,405 |
| 45-49 | Count | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Benefit | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 50-54 | Count | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 2 |
| | Benefit | 0 | 0 | 10,145 | 0 | 0 | 0 | 3,963 | 14,107 |
| 55-59 | Count | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | Benefit | 10,186 | 0 | 0 | 0 | 0 | 0 | 0 | 10,186 |
| 60-64 | Count | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 |
| | Benefit | 0 | 0 | 0 | 0 | 0 | 7,500 | 7,770 | 15,270 |
| 65-69 | Count | 0 | 0 | 1 | 0 | 0 | 2 | 2 | 5 |
| | Benefit | 0 | 0 | 52,388 | 0 | 0 | 16,626 | 20,759 | 89,772 |
| 70-74 | Count | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 3 |
| | Benefit | 0 | 0 | 0 | 0 | 10,594 | 13,511 | 0 | 24,105 |
| 75-79 | Count | 1 | 0 | 0 | 0 | 0 | 0 | 4 | 5 |
| | Benefit | 6,176 | 0 | 0 | 0 | 0 | 0 | 29,885 | 36,061 |
| 80-84 | Count | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| | Benefit | 0 | 0 | 0 | 0 | 0 | 0 | 2,971 | 2,971 |
| 85-89 | Count | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 |
| | Benefit | 0 | 0 | 0 | 0 | 0 | 0 | 8,130 | 8,130 |
| 90 & Over | Count | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 |
| | Benefit | 0 | 0 | 0 | 0 | 0 | 0 | 3,870 | 3,870 |
| Total | Count | 2 | 0 | 2 | 0 | 1 | 6 | 15 | 26 |
| | Benefit | 16,362 | 0 | 62,532 | 0 | 10,594 | 43,042 | 77,347 | 209,877 |

Average Attained Age: 72.54 years

Average Years since Retirement: 14.95 years

Average Annual Benefit: \$ 8,072

Average Monthly Benefit: \$ 673

EXHIBIT 5

PRINCIPAL PROVISIONS OF THE PLAN

| | |
|---------------------------------------|---|
| <u>EFFECTIVE DATE:</u> | January 1, 1977. Plan restated effective January 1, 2008, adopted January 26, 2009. Plan restated effective January 1, 2013, adopted January 7, 2014. Amendment effective January 1, 2017. Amendment effective January 1, 2018. |
| <u>EMPLOYEE:</u> | Non-Uniformed employees of the City of North Little Rock, North Little Rock Electric and the North Little Rock Library System. |
| <u>EMPLOYER:</u> | City of North Little Rock, NLR Electric, and NLR Library. |
| <u>PLAN YEAR:</u> | January 1 to December 31. |
| <u>PARTICIPATION:</u> | An Employee is eligible to enter the plan on the first of the month following employment. |
| <u>EMPLOYEE CONTRIBUTIONS:</u> | 5% of Compensation effective January 1, 2018. Beginning at this time the contribution is considered “picked up” by the Employer, that is, pre-tax to the Employee. Previously, the contribution was 4% of Compensation. |
| <u>COMPENSATION:</u> | Base Salary of the Member. |
| <u>FINAL AVERAGE EARNINGS:</u> | Average compensation over high five (5) calendar years. |
| <u>CREDITED SERVICE:</u> | Credited Service equals the actual period of continuous employment from the later of January 1, 1977 or the date of hire, to termination of employment. Partial service is credited for completed months. |

EXHIBIT 5 (Continued)

NORMAL RETIREMENT:

Eligibility: First of month after attaining age 65.
Attainment of Age 62 with 10 Years of Service.

Accrued Benefit: 1.80% of Final Average Earnings times Credited Service.
Upon attainment of age 65 and 20 years of service the multiplier is increased from 1.80% to 2.00% for all service.

Form: Life annuity with return of contributions.

ACCRUED BENEFIT: All Eligible Service times 1.80% times Final Average Earnings, unless eligible for the increased multiplier.

EARLY RETIREMENT:

Eligibility: Age 55 with at least 10 years of Credited Service.

Benefit: Accrued Benefit, reduced 1/3 of 1% per month times the number of month until attainment of age 60.

DISABILITY BENEFITS:

Eligibility: Age 50 with 10 years of Credited Service.

Benefit: Accrued Benefit.

EXHIBIT 5 (Continued)

DEATH BENEFITS:

Eligibility: Death of a Participant.

- Benefits:
1. Unless otherwise eligible, return of contributions
 2. Age 50 and 10 years of service, 50% of Accrued Benefit payable to eligible beneficiary.
 3. Age 55, not less than 100% Joint and Survivor benefit payable to eligible beneficiary.

VESTING: According to the following schedule:

| <u>Years of Service</u> | <u>Vested Percentage</u> |
|-------------------------|--------------------------|
| Under 10 | 0% |
| 10 + | 100% |

A participant is always 100% vested in their Employee Contributions with interest. At vesting, the first 6% of Employer Contributions with interest is also available as a lump sum in lieu of deferred vested accrued benefits.

**ACTUARIAL
EQUIVALENT:**

RP-2014 projected using MP-2016 to 2018 combined as a unisex table, otherwise known as the 417(e) applicable mortality table for 2018, with 6.5% interest.

EXHIBIT 6

ACTUARIAL COST METHODS AND ASSUMPTIONS

COST METHOD: The "entry age normal" cost method has been used in determining retirement cost.

PRE-RETIREMENT MORTALITY: Deaths have been projected on the basis of the Retirement Plans 2014 Mortality Table (RP-2014), without projection. Prior to the 2017 valuation report 1983 GAM was used. Mortality rates at a few sample ages are:

| <u>AGE</u> | <u>MORTALITY RATE PER 1,000</u> | |
|------------|---------------------------------|----------------|
| | <u>Males</u> | <u>Females</u> |
| 30 | 0.452 | 0.218 |
| 35 | 0.523 | 0.286 |
| 40 | 0.628 | 0.396 |
| 45 | 0.973 | 0.657 |
| 50 | 1.686 | 1.102 |
| 55 | 2.788 | 1.673 |
| 60 | 4.688 | 2.442 |

POST-RETIREMENT MORTALITY: The RP-2014 Table was used without projection. 1983 GAM was used prior to the 2017 valuation. The life expectancy according to this table is as follows:

| <u>AGE</u> | <u>MALES</u> | <u>FEMALES</u> |
|------------|--------------|----------------|
| 55 | 27.68 years | 30.16 years |
| 65 | 19.51 years | 21.50 years |
| 75 | 12.16 years | 13.73 years |

VOLUNTARY TERMINATIONS: We have assumed that voluntary terminations will be in accordance with The Select & Ultimate Table (5-9 years of service) from the 2003 SOA Pension Plan Turnover Study; these rates were modified by including a multiplier of 3.0 for those with less than one year of service, 2.5 for those with less than two years of service, 2.0 for those with less than three years of service, and 1.5 for those with less than four years of service. Table T-1 of the Actuary's Pension Handbook was used prior to 2017.

EXHIBIT 6 (Continued)

Annual termination rates at a few sample ages (prior to any multipliers) are:

| <u>AGE</u> | <u>TERMINATION RATE PER 1,000</u> |
|------------|-----------------------------------|
| 25 | 129.6 |
| 30 | 83.9 |
| 35 | 71.5 |
| 40 | 60.1 |
| 45 | 58.2 |
| 50 | 53.2 |

EXPECTED RETIREMENT PATTERN:

Retirement assumptions were updated in the 2017 valuation. Retirement was assumed to occur in the following pattern for those eligible:

| <u>AGE</u> | <u>LIKELIHOOD OF RETIRING</u> |
|------------|-------------------------------|
| 55-60 | 5% |
| 62 | 20% |
| 63-64 | 10% |
| 65 | 30% |
| 66-69 | 20% |
| 70 & Older | 100% |

DISABILITIES:

Taken from 1952 Society of Actuaries Disability incidence study.

ASSUMED INVESTMENT RETURN/DISCOUNT:

6.50% annually pre-retirement.
6.50% annually post-retirement.

PAYROLL GROWTH:

3.5% annually.

EXHIBIT 6 (Continued)

SALARY SCALE:

Individual's salaries were assumed to increase at rates over time according to the S-3 Scale from the *Actuary's Handbook*, less 0.25%, with a floor of 2.75%. Prior to the 2017 valuation, a 4% flat salary scale was used. Some representative rates (using the data analyzed in the experience study) are:

| <u>AGE</u> | <u>SALARY INCREASE</u> |
|------------|------------------------|
| Under 30 | 6.16% |
| 30-34 | 5.17% |
| 35-39 | 4.52% |
| 40-44 | 3.90% |
| 45-49 | 3.59% |
| 50-54 | 3.32% |
| 55-59 | 2.77% |
| 60-65 | 2.75% |
| Over 65 | 2.75% |

APPENDIX A

DISCUSSION OF GASB DISCLOSURES

Accounting Standards

For pension plans that are administered through trusts or equivalent arrangements, Governmental Accounting Standards Board (GASB) Statement No. 67, "Financial Reporting for Pension Plans," (GASB 67) replaces Statements No. 25 and No. 50. GASB 67 establishes standards of financial reporting and specifies the required approach for measuring the pension liability of employers for benefits provided through the pension plan.

This discussion provides a summary of the information that is required to be disclosed under GASB 67. A number of these disclosure items are provided. However, certain information, such as notes regarding accounting policies and investments, is not included in this report, and your internal staff will be responsible for preparing that information to fully comply with this accounting standard.

Financial Statements

GASB 67 requires defined benefit plans to present to financial statements: a statement of fiduciary plan net position and a statement of changes in fiduciary plan net position. Based on the information that was provided to our firm, we compiled the Financial Statements that are included in this report as Exhibit 3.

Notes to Financial Statements

Paragraph 30 of GASB 67 is an extensive list of notes to the plan's financial statements that are required to provide additional disclosure. Many of these notes concern the plan provisions and the actuarial assumptions used in making the calculations under this standard. Those items are included in Exhibits 5 and 6 in this report.

Please note that several items mentioned in Paragraph 30 are beyond the scope of the included information. Your internal staff will be responsible for preparing those notes.

This report includes some notes that are actuarial in nature written in the format we understand is desired by GASB 67. These are only selected notes and not intended to be a complete compilation of notes to the financial statements.

Appendix A (continued)

Required Supplementary Information

GASB 67 requires a 10-fiscal year history of various types of information about the pension liability. These schedules may be built prospectively since the presentation is not the same as all previous years under previous standards. The four schedules are:

- Schedule of changes in the net pension liability.
- Schedule of the components of net pension liability along with related ratios.
- Comparison of actual employer contributions to the actuarially determined contributions based on the plan's funding policy.
- Schedule of the annual money-weighted rate of return on pension plan investments.

These compilations can be found in Appendix C of this report. Please note that the money-weighted rate of return schedule is based on all transactions occurring at mid-year. The standard calls for a monthly calculation of the weighted, but we do not have the data sufficient to make that calculation.

Single Discount Rate

Projected benefit payments are required to be discounted to 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) a tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating as of the measurement date (to the extent that the plan's net position with contributions associated with current plan members and the long-term expected rate of return are not sufficient to pay benefits). We used the S&P Municipal Bond 20 Year High Grade Index to obtain the municipal bond rate. See Appendix F for the calculation of the single discount rate.

Valuation Date and Measurement Date

GASB 67 is effective for fiscal years beginning after June 15, 2013. GASB 68 is effective for sponsor fiscal years beginning after June 15, 2014.

This report covers the employer fiscal year, which is also the plan fiscal year, ended December 31, 2017 (the measurement date). The corresponding financial statement covers the fiscal year from January 1, 2017 to December 31, 2017. The actuarial valuation date is as of December 31, 2017/January 1, 2018 (the valuation date). The calculations included in this report are not projected and there is no "roll forward" of a prior valuation.

Your plan is a "single-employer" plan under GASB 67/68 with the component units treated as "cost-sharing" employers (see paragraph 18 of GASB 67). The details of the cost-sharing are found in Appendix G.

APPENDIX B

PENSION EXPENSE/(INCOME) UNDER GASB 68

| | <u>January 1, 2016- December 31, 2016</u> | <u>January 1, 2017- December 31, 2017</u> |
|--|---|---|
| 1. Service Cost | \$ 1,842,603 | \$ 2,081,105 |
| 2. Interest on Total Pension Liability | 4,189,965 | 4,483,827 |
| 3. Current Period Benefit Changes | 0 | 0 |
| 4. Offset for Employee Contributions | (909,519) | (996,081) |
| 5. Projected Earnings on Plan Assets | (2,898,918) | (2,811,813) |
| 6. Administrative Expenses | 52,952 | 73,790 |
| 7. Other Changes in Plan Net Position | 0 | 0 |
| 8. Rec. of outflow (inflow) due to liabilities | (529,428) | (562,034) |
| 9. Rec. of outflow (inflow) due to assets | 1,080,910 | 778,060 |
| | <hr/> | <hr/> |
| 10. Total Pension Expense/(Income) | <u>\$ 2,828,565</u> | <u>\$ 3,046,854</u> |

This schedule is provided to assist with bringing forward all balance sheet items. It is not a required schedule under GASB 67/68. Summary of Balance Sheet Items:

| | (A) Net Pension Asset / <u>(Liability)</u> | (B) Deferred Outflow of <u>Resources</u> | (C) Deferred (Inflow) of <u>Resources</u> | (D) Total Assets <u>(A)+(B)+(C)</u> |
|---|---|---|--|--|
| 1. Balance 1/1/2017 | (26,254,064) | 8,692,360 | (8,343,961) | (25,905,665) |
| 2. Contributions during measuring period | 2,220,368 | 0 | 0 | 2,220,368 |
| 3. Pension Expense | (2,830,828) | (1,743,478) | 1,527,451 | (3,046,855) |
| 4. Addition to Deferred outflows | 0 | 0 | 0 | 0 |
| 5. Addition to Deferred inflows | 1,742,496 | 0 | (1,742,496) | 0 |
| 6. Balance 12/31/2017 | <hr/> <u>(25,122,028)</u> | <hr/> <u>6,948,882</u> | <hr/> <u>(8,559,006)</u> | <hr/> <u>(26,732,152)</u> |

APPENDIX C

GASB 68 PENSION EXPENSE – DETAIL OF OUTFLOW/INFLOW OF RESOURCES

| Description | Year | Original Amount | Recognition Period | Outflow (Inflow) In Current Expense | Deferred Outflow (Inflow) 12/31/2017 |
|-----------------------------|------|--------------------|-----------------------|--|---|
| (1) Actual vs Expected | 2015 | (1,495,386) | 9.0 | (166,154) | (996,924) |
| (2) Assumption change | 2015 | (9,232,564) | 9.0 | (1,025,840) | (6,155,043) |
| (3) Proj vs Actual earnings | 2015 | 4,659,023 | 5.0 | 931,805 | 1,863,609 |
| (4) Actual vs Expected | 2016 | 1,873,765 | 9.0 | 208,196 | 1,457,373 |
| (5) Assumption change | 2016 | 4,089,326 | 9.0 | 454,370 | 3,180,586 |
| (6) Proj vs Actual earnings | 2016 | 745,529 | 5.0 | 149,106 | 447,317 |
| (7) Actual vs Expected | 2017 | (228,243) | 7.0 | (32,606) | (195,637) |
| (8) Proj vs Actual earnings | 2017 | (1,514,253) | 5.0 | (302,851) | (1,211,402) |
| TOTAL | | | | <u>216,026</u> | <u>(1,610,121)</u> |
| Due to Liabilities | | | | (562,034) | (2,709,645) |
| Due to Assets | | | | 778,060 | 1,099,524 |
| Total | | | | <u>216,026</u> | <u>(1,610,121)</u> |
| Inflows of Resources | | | | (1,527,451) | (8,559,006) |
| Outflows of Resources | | | | 1,743,477 | 6,948,885 |
| Total | | | | <u>216,026</u> | <u>(1,610,121)</u> |

Appendix C (continued)

GASB 68 Pension Expense and Deferred Outflows/Inflows

For the year ended December 31, 2017, the City of North Little Rock (and agency employers) recognized pension expense of \$3,046,854. At December 31, 2017, the City of North Little Rock reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

| | Deferred Outflows Of Resources | Deferred Inflows Of Resources |
|--|--------------------------------------|----------------------------------|
| Difference between expected and actual experience | 1,457,373 | 1,192,561 |
| Changes of assumptions | 3,180,586 | 6,155,043 |
| Net difference between projected and actual earnings on pension plan investments | 2,310,926 | 1,211,402 |
| Subtotal | 6,948,885 | 8,559,006 |
| Contributions subsequent to measurement date | 0 | 0 |
| Total | 6,948,885 | 8,559,006 |

Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

| Year ending December 31: | Net Deferred Outflow/(Inflow) of Resources |
|-----------------------------|--|
| 2017 | 216,026 |
| 2018 | 216,026 |
| 2019 | (715,780) |
| 2020 | (864,884) |
| 2021 | (562,035) |
| Total thereafter | 100,526 |
| | |
| Total | (1,610,121) |

APPENDIX D

GASB 67 NOTES TO THE FINANCIAL STATEMENTS

Cost of Living Adjustment (COLA)

The plan does not provide cost of living adjustments (COLA), and none are anticipated or included in these calculations.

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. The target allocation of the plan as discussed in the Investment note and the long-term expected real rates of return are shown in the table below:

| Asset Class | Target Allocation | Long-term Expected Rate Of Return |
|--------------------|-------------------|-----------------------------------|
| Fixed Income | 40% | 2.25% |
| Domestic Equity | 40% | 4.75% |
| Foreign Equity | 12% | 6.25% |
| Alternatives | 4% | 4.50% |
| Cash | 4% | 0.25% |
| Total | 100% | |
| | | |
| Expected Inflation | | 2.50% |

Single Discount Rate

A single discount rate of 6.50% 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 6.5%. The projection of cash flows, based on the assumptions made, found that the pension plan's net position was not available to make all projected future benefit payments of current plan members. Therefore, the single discount rate calculated in Appendix F was applied to all periods of projected benefit payments to determine the Total Pension Liability.

Components of Net Pension Liability

The components of the net pension liability at December 31, 2017 were as follows:

| | |
|---|---------------------|
| Total Pension Liability | \$72,682,223 |
| Plan's Fiduciary Net Position | <u>47,560,195</u> |
| Net Pension Liability | <u>\$25,122,028</u> |
| | |
| Plan Fiduciary Net Position as a Percentage of Total Pension Liability | 65.44% |

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 6.50%, as well as what the plan's Net Pension Liability would be if it were calculated using a single discount rate one percentage point lower and one percentage point higher:

| | 1% Decrease 5.50% | Current Single Rate Assumed | 1% Increase 7.50% |
|-------------------------|----------------------|--------------------------------|----------------------|
| Total Pension Liability | 83,224,516 | 72,682,223 | 65,301,154 |
| Net Pension Liability | 35,664,321 | 25,122,028 | 17,740,959 |

Changes in the Net Pension Liability

| | Total Pension Liability | Plan Fiduciary Net Position | Net Pension Liability |
|--|-------------------------------|-----------------------------------|-----------------------------|
| Balances at 12/31/2016 | \$ 69,537,264 | \$ 43,283,200 | \$ 26,254,064 |
| Changes for the year: | | | |
| a) Service Cost | 2,081,105 | | 2,081,105 |
| b) Interest on NPL | 4,483,827 | | 4,483,827 |
| c) Differences between expected and actual experience | (228,243) | | (228,243) |
| d) Employer contributions | | 2,220,368 | (2,220,368) |
| e) Employee contributions | | 996,081 | (996,081) |
| f) Service Purchases | | | 0 |
| g) Net investment income | | 4,326,066 | (4,326,066) |
| h) Benefits and refunds | (3,191,730) | (3,191,730) | 0 |
| i) Administrative expenses | | (73,790) | 73,790 |
| j) Assumption change | 0 | | 0 |
| k) Other | | 0 | 0 |
| Net changes | 3,144,959 | 4,276,995 | (1,132,036) |
| | | | |
| Balances at 12/31/2017 | \$ 72,682,223 | \$ 47,560,195 | \$ 25,122,028 |

APPENDIX E

REQUIRED SUPPLEMENTARY INFORMATION

GASB 67 requires a 10-fiscal year history of various types of information about the pension liability. These schedules may be built prospectively since the presentation is not the same as all previous years under previous standards. The four schedules are:

- Schedule of changes in the net pension liability.
- Schedule of the components of net pension liability along with related ratios.
- Comparison of actual employer contributions to the actuarially determined contributions based on the plan's funding policy.
- Schedule of the annual money-weighted rate of return on pension plan investments.

Please note that the money-weighted rate of return schedule is based on all transactions occurring at mid-year. The standard calls for a monthly calculation of the weighted, but we do not have the data sufficient to make that calculation.

The actuarially determined contribution rate was not calculated in the fashion described historically. Therefore, that schedule will be completed prospectively.

Appendix E (continued)

**The Retirement System of the City of North Little Rock, Arkansas
Schedule of Required Supplementary Information
Schedule of Changes in the Employers' Net Pension Liability and Related Ratios**

| | <u>2016</u> | <u>2016</u> | <u>2015</u> | <u>2014</u> | <u>2013</u> | <u>2011</u> | <u>2010</u> | <u>2009</u> | <u>2008</u> | <u>2007</u> |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Fiscal Year ending December 31, | | | | | | | | | | |
| Total Pension Liability | | | | | | | | | | |
| Service Cost | 2,081,105 | 1,842,603 | 2,432,932 | 1,864,257 | 1,817,824 | | | | | |
| Interest | 4,483,827 | 4,189,965 | 3,885,117 | 3,918,262 | 3,719,151 | | | | | |
| Benefit Changes | 0 | 0 | 0 | | | | | | | |
| Difference between Actual & Expected Experience | -228,243 | 1,873,765 | -1,495,386 | -1,694,088 | -158,110 | | | | | |
| Assumption changes | 0 | 4,089,326 | -9,232,564 | 9,665,047 | 0 | | | | | |
| Benefit Payments | -3,191,730 | -2,787,461 | -2,755,249 | -2,604,613 | -2,510,652 | | | | | |
| Net Change in Total Pension Liability | 3,144,959 | 9,208,198 | -7,165,150 | 11,148,865 | 2,868,213 | | | | | |
| Total Pension Liability - Beginning | 69,537,265 | 60,329,067 | 67,494,217 | 56,345,351 | 53,477,138 | | | | | |
| Total Pension Liability - Ending | 72,682,223 | 69,537,265 | 60,329,067 | 67,494,217 | 56,345,351 | | | | | |
| Plan Fiduciary Net Position | | | | | | | | | | |
| Contributions - Employee Mandatory | 996,081 | 909,519 | 755,749 | 846,533 | 776,207 | | | | | |
| Contributions - Employer | 2,220,368 | 1,364,281 | 1,133,620 | 1,228,646 | 1,164,511 | | | | | |
| Net Investment Income | 4,326,066 | 2,153,389 | -1,596,295 | 1,113,897 | 4,546,615 | | | | | |
| Benefit Payments | -3,191,730 | -2,787,461 | -2,755,249 | -2,604,613 | -2,510,652 | | | | | |
| Administrative Expense | -73,790 | -52,951 | -55,210 | -72,146 | -58,516 | | | | | |
| Reconciliation | 0 | 0 | 0 | 0 | 0 | | | | | |
| Net Change in Plan Net Position | 4,276,995 | 1,586,777 | -2,517,385 | 512,317 | 3,918,165 | | | | | |
| Plan Fiduciary N P - Beginning | 43,283,200 | 41,696,424 | 44,213,809 | 43,701,492 | 39,783,327 | | | | | |
| Plan Fiduciary N P - Ending | 47,560,195 | 43,283,200 | 41,696,424 | 44,213,809 | 43,701,492 | | | | | |
| Plan Fiduciary Net Position as a Percentage of Total Pension Liability | 65.44% | 62.24% | 69.11% | 65.51% | 77.56% | | | | | |
| Covered Employee Payroll | 22,770,923 | 21,964,782 | 19,641,076 | 19,305,847 | 19,610,843 | | | | | |
| Net Pension Liability as a Percentage of Covered Employee Payroll | 110.33% | 119.53% | 94.87% | 120.59% | 64.47% | | | | | |

Appendix E (continued)

**The Retirement System of the City of North Little Rock, Arkansas
Schedule of Required Supplementary Information**

Schedule of Net Pension Liability

| FY ending December 31, | Discount Rate | (TPL) Total Pension Liability | Plan Net Position | (NPL) Net Pension Liability | Net Position as % of TPL | Covered Payroll | NPL as % of Payroll |
|------------------------|---------------|-------------------------------|-------------------|-----------------------------|--------------------------|-----------------|---------------------|
| 2008 | 7.00% | 42,591,315 | 31,285,983 | 11,305,332 | 73.46% | 17,951,501 | 63% |
| 2009 | 7.00% | 46,151,778 | 34,731,961 | 11,419,817 | 75.26% | 18,318,954 | 62% |
| 2010 | 7.00% | 47,964,598 | 37,772,958 | 10,191,640 | 78.75% | 18,361,969 | 55% |
| 2011 | 7.00% | 50,918,897 | 37,213,435 | 13,705,463 | 73.08% | 18,665,836 | 73% |
| 2012 | 7.00% | 53,477,138 | 39,783,327 | 13,693,811 | 74.39% | 19,361,786 | 71% |
| 2013 | 7.00% | 56,345,351 | 43,701,492 | 12,643,859 | 77.56% | 19,610,843 | 64% |
| 2014 | 5.77% | 67,494,217 | 44,213,809 | 23,280,408 | 65.51% | 19,305,847 | 121% |
| 2015 | 7.00% | 60,329,067 | 41,696,424 | 18,632,643 | 69.11% | 19,641,076 | 95% |
| 2016 | 6.50% | 69,537,264 | 43,283,200 | 26,254,064 | 62.24% | 21,964,782 | 120% |
| 2017 | 6.50% | 72,682,223 | 47,560,195 | 25,122,028 | 65.44% | 22,770,923 | 110% |

Appendix E (continued)

**The Retirement System of the City of North Little Rock, Arkansas
Schedule of Required Supplementary Information**

Schedule of Contributions

| FY ending December 31, | Actuarially Determined Contribution | Actual Contribution | Contribution Deficiency (Excess) | Covered Payroll | Contribution as % of Payroll |
|---------------------------|---|------------------------|--|--------------------|------------------------------------|
| 2008 | | | | | |
| 2009 | | | | | |
| 2010 | | | | | |
| 2011 | | | | | |
| 2012 | | | | | |
| 2013 | | | | | |
| 2014 | 2,136,418 | 1,228,646 | 907,772 | 19,610,843 | 6.27% |
| 2015 | 2,185,569 | 1,133,620 | 1,051,949 | 19,305,847 | 5.87% |
| 2016 | 2,923,512 | 1,364,281 | 1,559,231 | 21,964,782 | 6.21% |
| 2017 | 3,518,108 | 2,220,368 | 1,297,740 | 22,770,923 | 9.75% |

Key Assumptions for ADC:

| | |
|----------------------------|---------------------------------------|
| Cost Method | Entry Age Normal |
| *Amortization Method | Level Percentage of Pay (3.5% Growth) |
| Remaining amortization | 15 years |
| Asset Valuation | Market Value |
| *Investment rate of return | 6.5% |
| *Mortality | RP-2014 Table |

*Starting in FYE 2017, ADC calculations will reflect updated assumptions. Prior to 2017, 4% payroll growth, 7.0% investment return, and 1983 GAM mortality were used.
Note: a full 10 year schedule will be completed as information is available.

Appendix E (continued)

**The Retirement System of the City of North Little Rock, Arkansas
Schedule of Required Supplementary Information**

Schedule of Investment Returns

| FY ending December 31, | Annual Money-weighted Rate of Return |
|---------------------------|--|
| | |
| | |
| | |
| | |
| | |
| 2013 | 11.52% |
| 2014 | 2.57% |
| 2015 | - 3.65% |
| 2016 | 5.20% |
| 2017 | 10.00% |

The amounts shown are net of investment expenses.

The actuary calculated these rates with the information that was provided, therefore, these rates are annual money-weighted. Monthly money-weighted returns are not available.

APPENDIX F

GASB 67 CALCULATION OF THE SINGLE DISCOUNT RATE

GASB 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 projected and compared to the 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. The single discount rate is equivalent to applying these two rates to the benefits that are projected to be paid during the different time periods.

Our projections show that Plan Net Position (assets) together with employer contributions and projected investment returns will be sufficient to meet benefit payments and expenses in all future years. Therefore, for the purpose of this valuation, the expected rate of return on pension plan investments is 6.50%, the municipal bond rate is 3.71%, and the resulting single discount rate is 6.50%.

These projections are generated under the guidelines of GASB 67 and the related implementation guide. They should be used solely to determine the single discount rate as defined in the GASB statements. Any implication beyond that determination is beyond the scope of this report.

For the purpose of this valuation, the expected rate of return on pension plan investments is 6.50%; the municipal bond rate is 3.16%; since assets are projected to be sufficient to meet benefit payments, the resulting single discount rate is 6.50%. The details of these projections are available upon request.

APPENDIX G

ALLOCATION OF PENSION EXPENSE TO COMPONENT UNITS

The Retirement System of the City of North Little Rock is a “single-employer” plan as defined under GASB 67/68 with the component units treated as “cost-sharing” employers (see paragraph 18 of GASB 67). Paragraph 48 of GASB 68 defines the proportionate share to be allocated to each participating employer. In part, “The basis for the employer’s proportion should be consistent with the manner in which contributions to the pension plan are determined.” Therefore, based on discussions with the plan sponsor, the proportion is based on the actual contributions by the employers in the measurement period. The proportionate share is rounded to the nearest 0.1%. The major City funds were similarly allocated and included here based upon the request of the plan sponsor.

Please note that the Employer Contributions used are from payroll records. The financials were updated to reflect accrual accounting in 2017 for contributions and therefore the financials have a higher number in 2017.

Some totals may not match previous schedules due to rounding.

Calculation of Proportionate Share and Allocation of Net Pension Liability

| <u>Employer</u> | 2017 <u>Employer Contribution</u> | Proportionate <u>Share</u> | Net Pension <u>Liability – 6.5%</u> | NPL 1% Lower <u>Discount – 5.5%</u> | NPL 1% Higher <u>Discount – 7.5%</u> |
|-----------------|--|-------------------------------|--|--|---|
| City | 883,373 | 42.1% | 10,576,374 | 15,014,679 | 7,468,944 |
| Airport | 7,572 | 0.4% | 100,488 | 142,657 | 70,964 |
| Community Dev. | 9,521 | 0.5% | 125,610 | 178,322 | 88,705 |
| Parks | 233,639 | 11.1% | 2,788,545 | 3,958,740 | 1,969,246 |
| Street | 217,851 | 10.4% | 2,612,691 | 3,709,089 | 1,845,060 |
| Electric | 565,206 | 27.0% | 6,782,948 | 9,629,367 | 4,790,059 |
| UAD | 67,604 | 3.2% | 803,905 | 1,141,258 | 567,711 |
| Library | 112,032 | 5.3% | 1,331,467 | 1,890,209 | 940,271 |
| Total | 2,096,798 | 100.0% | 25,122,028 | 35,664,321 | 17,740,959 |

Allocation of Employer Pension Expense

| <u>Employer</u> | Proportionate <u>Share</u> | Proportionate Share of Plan <u>Pension Expense</u> | Net Amortization Of Deferred Amounts from Changes in <u>Proportion</u> | Total Employer Pension <u>Expense</u> |
|-----------------|-------------------------------|--|---|--|
| City | 42.1% | 1,282,725 | 10,528 | 1,293,253 |
| Airport | 0.4% | 12,187 | 3,701 | 15,888 |
| Community Dev. | 0.5% | 15,234 | -8,827 | 6,407 |
| Parks | 11.1% | 338,201 | 4,275 | 342,476 |
| Street | 10.4% | 316,873 | 34,455 | 351,328 |
| Electric | 27.0% | 822,650 | 52,089 | 874,739 |
| UAD | 3.2% | 97,499 | -119,573 | -22,074 |
| Library | 5.3% | 161,483 | 23,352 | 184,835 |
| Total | 100.0% | 3,046,852 | 0 | 3,046,852 |

Appendix G (continued)

Deferred Outflows of Resources

| <u>Employer</u> | Differences Between Expected and Actual Experience | Changes Of Assumptions | Changes In Proportion | Difference Between Projected and Actual Investment Earnings | Total Deferred Outflows of Resources |
|-----------------|--|------------------------------|-----------------------------|--|---|
| City | 613,554 | 1,339,027 | 88,820 | 972,900 | 3,014,301 |
| Airport | 5,829 | 12,722 | 22,205 | 9,244 | 50,000 |
| Community Dev. | 7,287 | 15,903 | 0 | 11,555 | 34,745 |
| Parks | 161,768 | 353,045 | 29,922 | 256,513 | 801,248 |
| Street | 151,567 | 330,781 | 215,280 | 240,336 | 937,964 |
| Electric | 393,491 | 858,758 | 355,278 | 623,950 | 2,231,477 |
| UAD | 46,636 | 101,779 | 0 | 73,950 | 222,365 |
| Library | 77,241 | 168,571 | 148,666 | 122,479 | 516,957 |
| Total | 1,457,373 | 3,180,586 | 860,169 | 2,310,927 | 7,809,055 |

Deferred Inflows of Resources

| <u>Employer</u> | Differences Between Expected and Actual Experience | Changes Of Assumptions | Changes In Proportion | Difference Between Projected and Actual Investment Earnings | Total Deferred Inflows of Resources |
|-----------------|--|------------------------------|-----------------------------|--|--|
| City | 502,068 | 2,591,273 | 29,922 | 510,000 | 3,633,263 |
| Airport | 4,770 | 24,620 | 0 | 4,846 | 34,236 |
| Community Dev. | 5,963 | 30,775 | 54,383 | 6,057 | 97,178 |
| Parks | 132,374 | 683,210 | 0 | 134,466 | 950,050 |
| Street | 124,026 | 640,124 | 0 | 125,986 | 890,136 |
| Electric | 321,991 | 1,661,862 | 49,871 | 327,079 | 2,360,803 |
| UAD | 38,162 | 196,961 | 725,992 | 38,765 | 999,880 |
| Library | 63,206 | 326,217 | 0 | 64,204 | 453,627 |
| Total | 1,192,560 | 6,155,042 | 860,168 | 1,211,403 | 9,419,173 |

Schedule of Amortization of Net Deferred Outflows and (Inflows)

| <u>Employer</u> | <u>2018</u> | <u>2019</u> | <u>2020</u> | <u>2021</u> | <u>2022</u> | <u>2023</u> | <u>2024</u> |
|-----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| City | 101,474 | 101,474 | -290,815 | -353,588 | -226,089 | -226,089 | 274,665 |
| Airport | 4,565 | 4,565 | 838 | 241 | 1,453 | 1,453 | 2,650 |
| Community Dev. | -7,747 | -7,747 | -12,406 | -13,151 | -11,637 | -11,637 | 1,888 |
| Parks | 28,254 | 28,254 | -75,177 | -91,727 | -58,111 | -58,111 | 77,820 |
| Street | 56,922 | 56,922 | -39,986 | -55,493 | -23,997 | -23,997 | 77,456 |
| Electric | 110,416 | 110,416 | -141,172 | -181,430 | -99,660 | -99,660 | 171,769 |
| UAD | -112,660 | -112,660 | -142,478 | -147,249 | -137,558 | -137,558 | 12,653 |
| Library | 34,801 | 34,801 | -14,584 | -22,487 | -6,436 | -6,436 | 43,665 |
| Total | 216,025 | 216,025 | -715,780 | -864,884 | -562,035 | -562,035 | 662,566 |