

**ARKANSAS STATE HIGHWAY
EMPLOYEES RETIREMENT
SYSTEM (ASHERS)**

GASB 67/68 DISCLOSURES
AS OF JUNE 30, 2018

Osborn, Carreiro & Associates, Inc.

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November 16, 2018

Board of Trustees
Arkansas State Highway Employees
Retirement System (ASHERS)
P. O. Box 2261
Little Rock, AR 72203

RE: GASB 67/68 Disclosures as of June 30, 2018

Ladies and Gentlemen:

This report presents the results of our actuarial valuation of the assets and liabilities of the Arkansas State Highway Employees Retirement System (ASHERS) as of June 30, 2018. This valuation is for the purposes of determining the GASB 67 and 68 disclosures for accounting purposes. This report should not be used for other determinations or with review of the actuarial funding valuation report upon which it is based.

This report is a supplement to the November 14, 2018 Actuarial Valuation Report. It should be reviewed with that report. There is additional information in the valuation report that be explanatory to the information in this report.

Organization of Report

Following this cover letter and a table of contents, there is an Executive Summary of the results of the valuation as well as a discussion of the highlights. The Exhibits then show the details of the calculations. The Appendices then disclose the plan provisions and assumptions used.

Appendix A	Discussion of GASB Disclosures
Appendix B	Net Pension Expense
Appendix C	Details of Outflow/Inflows of Resources
Appendix D	Notes to Financial Statements
Appendix E	Required Supplementary Information
Appendix F	Calculation of Single Discount Rate

Statement of Qualifications

This report has been prepared by actuaries who have experience valuing public employee retirement systems, with the undersigned taking the primary responsibility. 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 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.

The actuaries know of no significant conflicts of interest with the plan sponsor. We have previously disclosed that we also serve the Bureau of Legislative Research by preparing reports for the Joint Retirement Committee. We do not view this relationship as a significant conflict.

We look forward to discussing this report with you in detail. Please let us know if you have any questions or comments.

Sincerely,

A handwritten signature in black ink that reads "Jody Carreiro". The signature is written in a cursive style with a large initial "J" and "C".

Jody Carreiro, FCA, ASA, EA, MAAA
Actuary

APPENDIX A

DISCUSSION OF GASB DISCLOSURES

Accounting Standard

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 two 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 the actuarial valuation report as Exhibit 3 and summarized in Appendix D of this report..

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 Appendices 1 and 3 of the actuarial valuation 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. In particular, this plan has Deferred Retirement Option Plan (DROP) provisions. Those are described in Appendix 1 of the actuarial valuation and a footnote will be needed.

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 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 E 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 Fidelity Municipal General Obligation Bond 20 Year AA Index to obtain the municipal bond rate. This is the same as the previous year. 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 June 30, 2018 (the measurement date). The corresponding financial statement covers the fiscal year from July 1, 2017 to June 30, 2018. The actuarial valuation date is as of June 30, 2018 (the valuation date). The calculations included in this report are not projected and there is no "roll forward" of a prior valuation. We understand that these disclosures may be used for a June 30, 2019 reporting date and would be adjusted accordingly.

Your plan is a "single-employer" plan under GASB 67/68.

APPENDIX B

PENSION EXPENSE/(INCOME) UNDER GASB 68

Collective Pension Expense/(Income)

	<u>July 1, 2017-</u> <u>June 30, 2017</u>
1. Service Cost	\$ 23,601,075
2. Interest on Total Pension Liability	113,808,845
3. Current Period Benefit Changes	0
4. Offset for Employee Contributions	(9,163,176)
5. Projected Earnings on Plan Assets	(104,851,857)
6. Administrative Expenses	55,703
7. Other Changes in Plan Net Position	0
8. Rec. of outflow (inflow) due to liabilities	103,522,850
9. Rec. of outflow (inflow) due to assets	89,166
10. Total Pension Expense/(Income)	<u>\$ 127,062,606</u>

APPENDIX C

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

Description	Year	Original Amount	Recognitio n Period	Outflow (Inflow) In Current <u>Expense</u>	Deferred Outflow (Inflow) <u>6/30/2018</u>
(1) Proj vs Actual earnings	2014	-130,846,759	5.00	-26,169,352	0
(2) Actual vs Expected	2015	20,790,869	4.76	4,367,830	3,319,550
(3) Assumption change	2015	91,940,822	4.76	19,315,299	14,679,627
(4) Proj vs Actual earnings	2015	91,124,770	5.00	18,224,954	18,224,954
(5) Actual vs Expected	2016	20,925,790	4.73	4,424,057	7,653,619
(6) Assumption change	2016	790,989,712	4.73	167,228,269	289,304,905
(7) Proj vs Actual earnings	2016	172,809,930	5.00	34,561,986	69,123,972
(8) Actual vs Expected	2017	-31,506,816	4.77	-6,605,203	-18,296,410
(9) Assumption change	2017	-137,435,476	4.77	-28,812,469	-79,810,538
(10) Proj vs Actual earnings	2017	-31,996,325	5.00	-6,399,265	-19,197,795
(11) Actual vs Expected	2018	49,165,072	5.00	9,833,014	39,332,058
(12) Assumption change	2018	-331,139,733	5.00	-66,227,947	-264,911,786
(13) Proj vs Actual earnings	2018	-100,645,786	5.00	-20,129,157	-80,516,629
TOTAL				103,612,016	-21,094,473
Due to Liabilities				103,522,850	-8,728,975
Due to Assets				89,166	-12,365,498
Total				103,612,016	-21,094,473
Outflows of Resources				-154,343,393	-462,733,158
Inflows of Resources				257,955,409	441,638,685
Total				103,612,016	-21,094,473

Appendix C (continued)

GASB 68 Pension Expense and Deferred Outflows/Inflows

For the year ended June 30, 2018, ASHERS recognized pension expense of \$3,548,676. At June 30, 2018, the City of 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	Net Outflows (Inflows)
Difference between expected and actual experience	50,305,227	18,296,410	32,008,817
Changes of assumptions	303,984,532	344,722,324	-40,737,792
Net difference between projected and actual earnings on pension plan investments	87,348,926	99,714,424	-12,365,498
Subtotal	441,638,685	462,733,158	-21,094,473
Contributions subsequent to measurement date	0		0
Total	441,638,685	462,733,158	-21,094,473

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 June 30:	Net Deferred Outflow of Resources
2019	124,097,418
2020	41,527,158
2021	(110,194,961)
2022	(76,524,088)
Total thereafter	0
Total	(21,094,473)

APPENDIX D

GASB 67 NOTES TO THE FINANCIAL STATEMENTS

Cost of Living Adjustment (COLA)

Effective July 1 2017, the benefit increase will be the lesser of 3% or the percentage change in the Consumer Price Index for Urban Wage Earners and Clerical Workers as determined by the United States Department of Labor over the one-year period ending in the December immediately preceding the date of which the redetermined amount is being calculated. However, the redetermined amount of the benefit to be paid shall not be less than the redetermined amount of the benefit paid in the preceding year.

Based on our expected inflation assumption, we have used an assumption that a permanent 2.25% compound cost-of-living adjustment will be made.

Deferred Retirement Option Plan

This plan includes a Deferred Retirement Option Plan (DROP). Active members eligible for normal retirement are eligible to participate in the DROP program while continuing active employment. During DROP, the member will receive the regular retiree cost of living adjustments. A member can remain in DROP to the later of age 65 or the completion of five years of participation in DROP. DROP is divided into Tier I and Tier II. Tier I consists of the first five years of DROP participation, while Tier II is the remaining period. In Tier I, 90% of the retirement annuity will be deposited in the DROP account, whereas in Tier II, 79% of the retirement annuity will be deposited. The DROP account is credited with interest in Tier I and Tier II (as set by the Board, currently 6%). Furthermore, the member and employer contributions cease during DROP until the member enters Tier II; during Tier II participation, the member contributes 6.00% of their total payroll earnings and the employer contributes 6.90%. At actual retirement, the member will receive the DROP balance and commence receiving the regular annuity payments.

Single Discount Rate

A single discount rate of 6.62% 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 8.00%. The projection of cash flows, based on the assumptions made, found that the pension plan's net position was not projected to make all projected future benefit payments of current plan members. Therefore, the single discount rate of 6.62%, discussed in Appendix F, was applied to all periods of projected benefit payments to determine the Total Pension Liability.

Appendix D (continued)

Components of Net Pension Liability

The components of the net pension liability at June 30, 2018 were as follows:

Total Pension Liability	\$1,991,358,627
Plan's Fiduciary Net Position	<u>1,472,472,865</u>
Net Pension Liability	<u><u>\$518,885,762</u></u>

Plan Fiduciary Net Position as a Percentage of Total Pension Liability	73.94%
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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 6.5%, 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 5.62%	Current Single Rate Assumed	1% Increase 7.62%
Total Pension Liability	2,252,797,099	1,991,358,627	1,782,192,920
Net Pension Liability	780,324,234	518,885,762	309,720,055

Changes in the Net Pension Liability

	Total Pension Liability	Plan Fiduciary Net Position	Net Pension Liability
Balances at 6/30/2017	\$2,251,671,098	\$1,354,321,200	\$897,349,898
Changes for the year:			
a) Service Cost	23,601,075		23,601,075
b) Interest on NPL	113,808,845		113,808,845
c) Differences between expected and actual experience	49,165,072		49,165,072
d) Employer contributions		19,294,283	(19,294,283)
e) Employee contributions		9,163,176	(9,163,176)
f) Net investment income		205,497,639	(205,497,639)
g) Benefits and refunds	(115,747,730)	(115,747,730)	0
h) Administrative expenses		(55,703)	55,703
i) Assumption/method change	(331,139,733)		(331,139,733)
j) Other	0	0	0
Net changes	(260,312,471)	118,151,665	(378,464,136)
Balances at 6/30/2018	\$1,991,358,627	\$1,472,472,865	\$518,885,762

APPENDIX E

REQUIRED SUPPLEMENTARY INFORMATION

GASB 67 requires a 10-fiscal year history of various 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.

*** Note on Covered Payroll on these schedules.** The next three schedules of Required Supplementary Information all include Covered Payroll as a data point. Paragraph 5 of GASB 82 clarified this definition by adding the following: Covered payroll is the payroll on which contributions to a pension plan are based. Beginning with the 2018 disclosures we disclose that amount to the extent the data allows. The amounts for previous years in the schedule have not been adjusted.

Appendix E (continued)

Arkansas State Highway Employees Retirement System
Schedule of Required Supplementary Information
Schedule of Changes in the Employers' Net Pension Liability and Related Ratios

Fiscal Year ending December 31,	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>2011</u>	<u>2010</u>	<u>2009</u>
Total Pension Liability										
Service Cost	23,601,075	42,816,372	18,935,319	18,412,588	16,862,918					
Interest	113,808,845	110,543,661	126,929,266	115,441,556	112,962,064					
Benefit Changes	0	(101,042,380)	-	-	-					
Difference between Actual & Expected Experience	49,165,072	(31,506,816)	20,925,790	20,790,869	-					
Assumption changes	(331,139,733)	(137,435,476)	790,989,712	91,940,822	-					
Benefit Payments	(115,747,730)	(111,904,597)	(106,755,840)	(102,245,806)	(95,454,598)					
Net Change in Total Pension Liability	(260,312,471)	(228,529,236)	850,924,247	144,340,029	34,370,384					
Total Pension Liability - Beginning	2,251,671,098	2,480,200,334	1,629,276,087	1,484,936,058	1,450,565,674					
Total Pension Liability - Ending	1,991,358,627	2,251,671,098	2,480,200,334	1,629,276,087	1,484,936,058					
Plan Fiduciary Net Position										
Contributions – Employer	19,294,283	19,175,401	19,231,804	19,059,012	18,614,507					
Contributions - Employee Mandatory	9,163,176	9,143,408	9,379,784	9,138,451	8,884,829					
Net Investment Income	205,497,639	133,167,344	(60,344,122)	25,383,756	234,208,606					
Benefit Payments	(115,747,730)	(111,904,597)	(106,755,840)	(102,245,806)	(95,454,598)					
Administrative Expense	(55,703)	(130,076)	(118,199)	(91,542)	(43,282)					
Other	-	-	-	-	-					
Net Change in Plan Net Position	118,151,665	49,451,480	(138,606,573)	(48,756,129)	166,210,062					
Plan Fiduciary N P - Beginning	1,354,321,200	1,304,869,720	1,443,476,293	1,492,232,422	1,326,022,360					
Plan Fiduciary N P – Ending	1,472,472,865	1,354,321,200	1,304,869,720	1,443,476,293	1,492,232,422					
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	73.94%	60.15%	52.61%	88.60%	100.49%					
Covered Employee Payroll *	148,527,851	141,154,763	141,906,487	140,544,393	137,261,720					
Net Pension Liability as a Percentage Of Covered Employee Payroll	349.35%	635.72%	828.24%	132.20%	(5.32%)					

Appendix E (continued)

**Arkansas State Highway Employees Retirement System
Schedule of Required Supplementary Information
Schedule of Net Pension Liability**

FY ending December 31,	(TPL) Total Pension Liability	Plan Net Position	(NPL) Net Pension Liability	Net Position as % of TPL	Covered Payroll*	NPL as % of Payroll
2009						
2010						
2011						
2012						
2013						
2014	1,484,936,058	1,492,232,422	(7,296,364)	100.49%	137,261,720	(5.32%)
2015	1,629,276,087	1,443,476,293	185,799,794	88.60%	140,544,393	132.20%
2016	2,480,200,334	1,304,869,720	1,175,330,614	52.61%	141,906,487	828.24%
2017	2,251,671,098	1,354,321,200	897,349,898	60.15%	141,154,763	635.72%
2018	1,991,358,627	1,472,472,865	518,885,762	73.94%	148,527,851	349.35%

Appendix E (continued)

**Arkansas State Highway Employees Retirement System
Schedule of Required Supplementary Information
Schedule of Contributions**

FY ending December 31,	ADC Rate	Actuarially Determined Contribution	Actual Contribution	Contribution Deficiency (Excess)	Covered Payroll*	Contribution as % of Payroll
2009						
2010						
2011						
2012						
2013						
2014			18,614,507		137,261,720	13.56%
2015			19,059,012		140,544,393	13.56%
2016			19,231,804		141,906,487	13.55%
2017			19,175,401		141,154,763	13.58%
2018			19,294,283		148,527,851	12.99%

Key Assumptions for ADC:

Cost Method	Entry Age Normal
Amortization Method	Level Percent of Salary
Remaining amortization	years
Asset Valuation	4-year smoothed Market Value
Investment rate of return	8.0%
Inflation	2.5%
Salary Scale	3.5% to 10.5%, total payroll growth of 3.0%
Mortality	RP 2000 Combined Healthy Lives with Blue Collar adjustment scaled at 105%, Projected with scale AA. RP 2000 Combined Healthy Lives with Blue Collar adjustment scaled at 100%, Projected with scale AA.

Appendix E (continued)

**Arkansas State Highway Employees Retirement System
Schedule of Required Supplementary Information
Schedule of Investment Returns**

FY ending December 31,	Annual Money-weighted Rate of Return
2009	
2010	
2011	
2012	
2013	
2014	18.12%
2015	1.74%
2016	-4.31%
2017	10.53%
2018	15.68%

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

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 sufficient 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 not 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 8.00%, the municipal bond rate is 3.62%, and the resulting single discount rate is 6.62%.

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 8.00%; the municipal bond rate is 3.62%; since assets are projected not to be sufficient to meet benefit payments, the resulting single discount rate is 6.62%. The details of these projections are available upon request.