

**Arkansas Local Fire and Police
Pension and Relief Funds**

Summary of
Actuarial Valuation Data and Results
As of December 31, 2015

Osborn, Carreiro & Associates, Inc.

ACTUARIES • CONSULTANTS • ANALYSTS

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August 23, 2016

Arkansas Fire & Police Pension Review Board
620 West Third
Suite 200
Little Rock, AR 72201

Ladies and Gentlemen:

We have completed the actuarial valuations of the 118 Fire and Police Pension Funds as of December 31, 2015. This report contains summary information from those valuations, as well as comparable information from the December 31, 2012, 2013 and 2014 valuations.

The following table shows the progress of the funds over the last several years:

	<u>12/31/2012</u>	<u>12/31/2013</u>	<u>12/31/2014</u>	<u>12/31/2015</u>
Plans Valued	139	132	124	118
Number of Active Members	54	47	42	38
Number on DROP	30	21	14	6
Number of Recipients	2,878	2,381	2,257	2,124
Assets	301,321,223	243,407,142	240,211,713	228,544,607
Unfunded Actuarial Accrued Liability	297,457,965	189,793,222	181,807,414	153,647,693
Market Value of Assets	314,999,370	266,042,854	257,145,991	228,072,139
Unfunded AL on Market Value	283,779,818	167,157,510	164,873,136	154,120,161
Percent of Liability Funded:				
Police	47%	57%	59%	63%
Full Paid Fire	49%	52%	52%	54%
Volunteer & Part-Paid Fire	79%	89%	90%	95%
Reported Employer Contribution as a Percent of Actuarially Determined Contributions				
Police	38%	37%	38%	43%
Full Paid Fire	34%	35%	36%	41%
Volunteer & Part-Paid Fire	41%	59%	71%	94%

FORMAT OF REPORT

Following this cover letter, our report contains the following exhibits:

- EXHIBIT 1 – Summarizes various information as of December 31, 2015, broken out by Police, Full Paid Fire, and Volunteer Fire.
- EXHIBIT 2 – Compares the December 31, 2015 valuation results with those of December 31, 2014, 2013 and 2012.
- EXHIBIT 3 – Develops a "funded status" and summarizes information for each "funded status".
- EXHIBIT 4 – Summarizes the number of plans by various funding criteria.
- EXHIBIT 5 – Summary of the Rates of Return.
- EXHIBIT 6 – Lists certain financial information for all of the plans valued at December 31, 2015.

PROGRESS OF FUNDING

The percentage of actuarial accrued liabilities that are covered by assets had generally increased over the ten years before 2008 for police and full-paid fire funds, even after benefit increases. The market changes of 2008-2009 had a significant negative impact on the plans.

The following table shows how many plans improved/reduced their percentage of valuation assets to actuarial accrued liabilities since December 31, 2014:

	Number of Plans That <u>Improved</u>	Number of Plans That <u>Declined</u>
Police Plans	7	2
Paid/Mixed Fire Plans	19	14
Volunteer/Part Paid Fire	63	13

Overall, the actual employer contributions to the plans are still less than the actuarially required amounts for police and paid firefighter funds. Of course, some plans receive more contributions than required, while others receive less than required.

In general, the plans experienced investment returns less than assumed in 2015. The change in programming, discussed below, had a positive effect for most plans. Many of the changes in the Volunteer Fire plans (good and bad) are the result of the difference in mortality experienced compared to assumed rates.

GOVERNMENT ACCOUNTING STANDARDS BOARD STATEMENTS Nos. 67 and 68

The implementation of Government Accounting Standards Board Statement No. 68 (GASB 68) was included in the valuation reports for the first time this cycle. There are six Appendices added to the valuation reports to disclose the necessary items for GASB 67 and 68.

GASB 67 is the accounting standard for the financial statements of the plans. The standards of GASB 68 are for the financial statements of the employers. The most visible change of the new standards is that the Net Pension Liability (usually the same as the Unfunded Accrued Liability) is promoted from the footnotes of the employer's (city's) financial statements to the balance sheet. The Pension Expense (similar to the ARC under GASB 27) will be an expense entry on the employer's statement of changes. The complete implementation of these new standards and the practical effects they will have are still a matter of much discussion.

One additional demonstration that was completed in this process is a projection of benefits and income sources to determine the single discount rate used for the measurement of the liability numbers. The details were not included in the valuation reports, but they were promptly provided to locations that needed this information due to a GASB-compliant audit. The results of this projection provide one of our risk indicators, the crossover point.

One of the valuation reports is appended to this summary report as an example of the format for this year.

FUNDED STATUS

Exhibit 3 (pages 6 to 9) develops six categories of "funded status" and shows how many plans fall into each group. Last year we made some changes to the bottom three status definitions to align with the new initial risk indicator.

Funded status A and B currently meet the Board's definition of "actuarially sound". Funded status C plans do not currently meet the definition of "actuarially sound", but they are projected to be "actuarially sound" at some point in the future. Funded status D plans are not making the required contributions. Funded status E plans have an initial risk indicator showing depletion of funds in 10-20 years, these plans are "At Risk". Those plans with an initial risk indicator showing depletion of funds in less than ten year receive funded status F. There is not a separate notification to plans of the "At Risk" category this year; that notice is now given as part of the valuation report.

The following table shows how many plans improved/reduced their funded status since December 31, 2014:

	Number of Plans That <u>Improved</u>	Number of Plans That <u>Declined</u>
Police Plans	1	2
Paid/Mixed Fire Plans	1	5
Volunteer/Part Paid Fire	11	7

A review of Exhibit 3, and the graph on page 9, shows that the majority of the plans are in funded status D and below. The plans with a status of D and below have a total shortfall of \$23.7 million in contributions. In other words, the employer contributions to these plans are \$23.7 million less than the actuarially computed contributions. This difference is about \$5 million less than last year.

INVESTMENT RETURNS

The PRB decided to return to a single valuation discount rate beginning with the 2013 valuations. That rate is 5%. Many plans exceeded this assumed rate of return in 2013. In 2014, only 35 of the 124 plans met or exceeded the assumption. As you know, 2015 was not a good year for investments and it was reflected in the results for these plans. Almost all plans earned 1% or less for 2015; eighty seven of them had investment losses.

Exhibit 5 shows the 2015 (market value) investment returns as well as the five year and ten year average returns. In general, the smallest plans had the worst history of investment earnings and most did not have professional investment advice. If plans do not achieve a long term average investment return of 5% or more, the ultimate cost of the plan will be greater than the value of the liabilities shown in the valuation report. We noted this information in the valuation reports at the end of the Exhibit 3 financial reports as well as included it as one of the plan's risk indicators.

OUTLOOK FOR INSOLVENT PLANS

Exhibit 6 lists some financial and actuarial information for each plan. We have disclosed both the Valuation Assets and the Market Value of Assets. You can see in detail the large number of plans in Status D and below and the amount of unfunded liability associated with those plans. This is an area we have discussed with the board in detail. This continues to deserve much attention since 81% of the total liability is associated with plans with a status D or lower.

Beginning with the 2014 Summary Report, we aligned the projected years before assets are depleted (crossover point) with the status definitions discussed above. Therefore, all status E plans will show "10-20 years", that is, indicated for At Risk designation. Status F plans will show "Less than 10 years", that is, indicated for Projected Insolvent designation. The status D plans all show "20+ years", although there are varying levels of funding risk within that category.

VALUATION REPORT CHANGES

We converted our valuation programs we have used for some time to use the same software processes needed to complete the GASB calculations. This change of program in itself did not create any significant change in liabilities. However, it did allow us to better value the spouse portion of retired member liabilities which created small actuarial gains for most plans. We added some additional appendices for GASB reporting as noted above. We also added the four risk indicators, as previously discussed with the PRB. These indicators are summarized in Exhibit 6 of this report. We were able to make these changes and also move up our schedule so that all valuation reports were completed by June 30th this year.

DATA RECEIVED FROM PLANS

The results of these valuations are based on the financial and participant data supplied by each plan through the PRB staff. We did not audit this data, although we did review it for reasonableness and consistency.

In total, we returned four plan reports because of missing or incorrect data. The PRB staff did tremendous work this year in verifying the demographic information. The majority of issues that made it to us were in the financial statements and categorization of assets. There were no reports this year for which we had to disclose significant data concerns.

If you have any questions or comments, please feel free to contact us.

Sincerely,



Jody Carreiro, ASA, MAAA, FCA, EA
Actuary



Lawrence P. Watts, Jr., CFA, ASA, MAAA
Associate Actuary

EXHIBIT 1

Arkansas Municipal Police and Fire Pension and Relief Funds

Summary of Valuation Data and Results December 31, 2015

	<u>Police</u>	<u>Fire*</u>	<u>Volunteer Fire*</u>	<u>Total</u>
Plans Valued	9	33	106	118
Active Members	0	7	31	38
Active Payroll	\$ 0	\$ 318,636	\$ 0	\$ 318,636
DROP Members	1	5	0	6
DROP Annual Benefits	\$ 19,236	\$ 192,853	\$ 0	\$ 212,089
Retired Members and Beneficiaries	289	729	1,106	2,124
Annual Benefits	\$ 8,032,526	\$ 18,605,569	\$ 2,444,860	\$ 29,082,955
Retirant, Beneficiary & DROP Accrued Liability	\$ 109,907,276	\$ 241,154,428	\$ 26,736,796	\$ 377,798,500
Active Member Accrued Liability	\$ 0	\$ 2,934,718	\$ 1,459,081	\$ 4,393,800
Total Actuarial Accrued Liability	\$ 109,907,276	\$ 244,089,146	\$ 28,195,877	\$ 382,192,300
Assets Applied	68,905,836	132,728,941	26,909,830	228,544,607
Unfunded Actuarial Accrued Liability	\$ 41,001,440	\$ 111,360,205	\$ 1,286,047	\$ 153,647,693
% Funded	63%	54%	95%	60%
Based on the Market Value of Assets				
Total Actuarial Accrued Liability	\$ 109,907,276	\$ 244,089,146	\$ 28,195,877	\$ 382,192,300
Assets Applied	71,774,016	129,890,640	26,407,483	228,072,139
Unfunded Actuarial Accrued Liability	\$ 41,659,377	\$ 121,105,658	\$ 2,108,101	\$ 164,873,136
% Funded	65%	53%	94%	60%
Employer Contributions				
Computed	\$ 10,749,005	\$ 25,338,562	\$ 813,619	\$ 36,901,186
Reported	\$ 4,673,081	\$ 10,360,498	\$ 762,506	\$ 15,796,086
% Covered	43%	41%	94%	43%

* 30 fire plans covering both paid and volunteer are included in the number of plans valued for both paid and volunteers. Some summary data in this report was prepared treating each mixed fund as two separate funds.

EXHIBIT 2

Arkansas Municipal Police and Fire Pension and Relief Funds

Comparison of Valuation Results

	POLICE FUNDS				2015
	<u>12/31/2012</u>	<u>12/31/2013</u>	<u>12/31/2014</u>	<u>12/31/2015</u>	<u>% Change</u>
Plans Valued	14	13	11	9	-18%
Active Members	3	1	1	0	-100%
Active Payroll	\$ 155,194	\$ 53,024	\$ 54,754	0	-100%
DROP Members	3	4	1	1	0%
Retired Members and Beneficiaries	661	340	309	289	-6%
Retirant, Beneficiary & DROP Accrued Liability	\$ 243,764,404	\$ 131,049,314	\$ 123,269,551	\$ 109,907,276	-11%
Active Member Accrued Liability	\$ 1,286,393	\$ 389,983	\$ 431,974	0	-100%
Total Actuarial Accrued Liability	\$ 245,050,797	\$ 131,439,297	\$ 123,701,525	\$ 109,907,276	-11%
Assets Applied	\$ 115,235,734	\$ 74,533,384	\$ 73,198,000	\$ 68,905,836	-6%
% Funded	47%	57%	59%	63%	
Unfunded Actuarial Accrued Liability	\$ 129,815,063	\$ 56,905,913	\$ 50,503,525	\$ 41,001,440	-19%
Employer Contributions Computed	\$ 29,638,697	\$ 13,498,733	\$ 12,461,214	\$ 10,749,005	-14%
Reported	\$ 11,198,789	\$ 5,003,903	\$ 4,703,193	\$ 4,673,081	-1%
% Covered	38%	37%	38%	43%	

EXHIBIT 2

Arkansas Municipal Police and Fire Pension and Relief Funds

Comparison of Valuation Results

	FULL PAID FIRE FUNDS				2015
	<u>12/31/2012</u>	<u>12/31/2013</u>	<u>12/31/2014</u>	<u>12/31/2015</u>	<u>% Change</u>
Plans Valued	37	35	35	33	-6%
Active Members	7	8	7	7	0%
Active Payroll	\$ 276,919	\$ 319,831	\$ 292,572	\$ 318,636	9%
DROP Members	27	17	13	5	-62%
Retired Members and Beneficiaries	860	770	771	729	-5%
Retirant, Beneficiary & DROP Accrued Liability	\$ 313,153,363	\$ 266,440,227	\$ 264,928,888	\$ 241,154,428	-9%
Active Member Accrued Liability	\$ 2,214,315	\$ 2,366,814	\$ 2,239,120	\$ 2,934,718	31%
Total Actuarial Accrued Liability	\$ 315,367,678	\$ 268,807,041	\$ 267,168,008	\$ 244,089,146	-9%
Assets Applied	\$ 155,890,313	\$ 139,625,097	\$ 138,961,579	\$ 132,728,941	-4%
% Funded	49%	52%	52%	54%	
Unfunded Actuarial Accrued Liability	\$ 159,477,365	\$ 129,181,944	\$ 128,206,429	\$ 111,360,205	-13%
Employer Contributions Computed	\$ 35,820,446	\$ 29,392,639	\$ 29,249,525	\$ 25,338,562	-13%
Reported	\$ 12,156,614	\$ 10,298,082	\$ 10,670,120	\$ 10,360,498	-3%
% Covered	34%	35%	36%	41%	

EXHIBIT 2

Arkansas Municipal Police and Fire Pension and Relief Funds

Comparison of Valuation Results

VOLUNTEER FIRE FUNDS

	<u>12/31/2012</u>	<u>12/31/2013</u>	<u>12/31/2014</u>	<u>12/31/2015</u>	<u>2015 % Change</u>
Plans Valued	121	116	110	106	-4%
Active Members	44	38	34	31	-9%
Active Payroll	\$ 0	\$ 0	\$ 0	0	N/A
DROP Members Retired Members and Beneficiaries	0 1357	0 1271	0 1177	0 1,106	N/A -6%
Retirant, Beneficiary & DROP Accrued Liability	\$ 36,087,970	\$ 31,338,556	\$ 29,636,552	\$ 26,736,796	-10%
Active Member Accrued Liability	\$ 2,272,743	\$ 1,615,470	\$ 1,513,042	\$ 1,459,081	-4%
Total Actuarial Accrued Liability	\$ 38,360,713	\$ 32,954,026	\$ 31,149,594	\$ 28,195,877	-9%
Assets Applied	\$ 30,195,176	\$ 29,248,661	\$ 28,052,134	\$ 26,909,830	-4%
% Funded	79%	89%	90%	95%	
Unfunded Actuarial Accrued Liability	\$ 8,165,537	\$ 3,705,365	\$ 3,097,460	\$ 1,286,047	-58%
Employer Contributions Computed	\$ 2,020,560	\$ 1,219,015	\$ 1,090,861	\$ 813,619	-25%
Reported	\$ 834,259	\$ 716,334	\$ 773,843	\$ 762,506	-1%
% Covered	41%	59%	71%	94%	

EXHIBIT 2

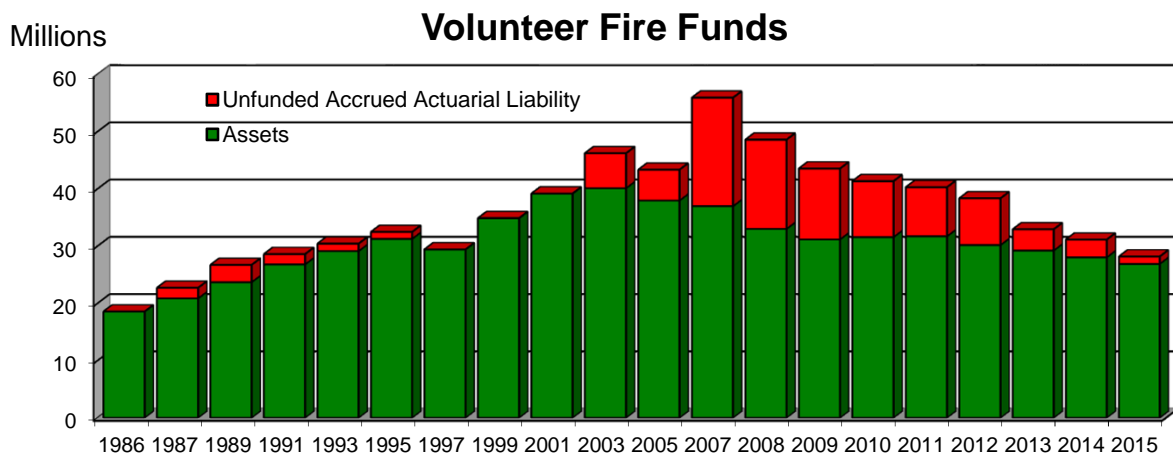
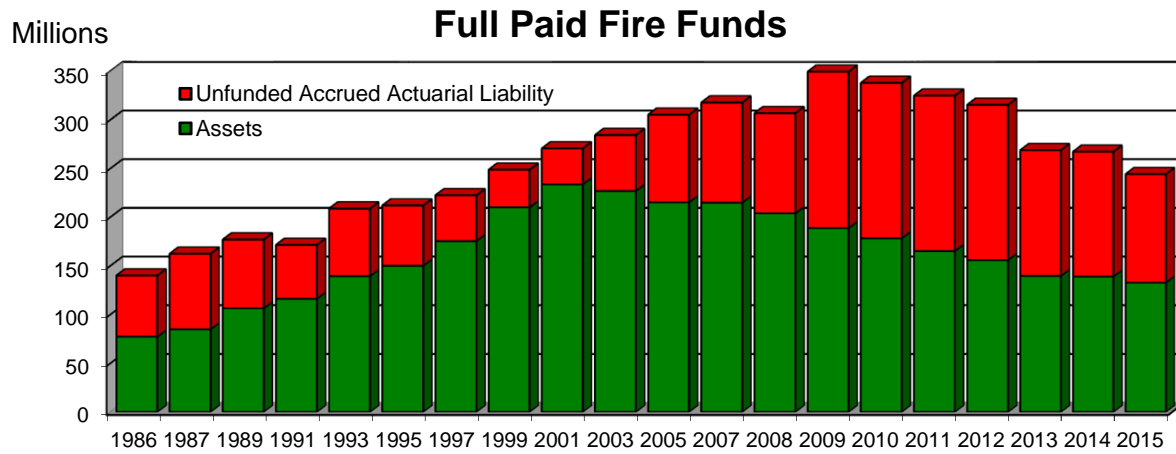
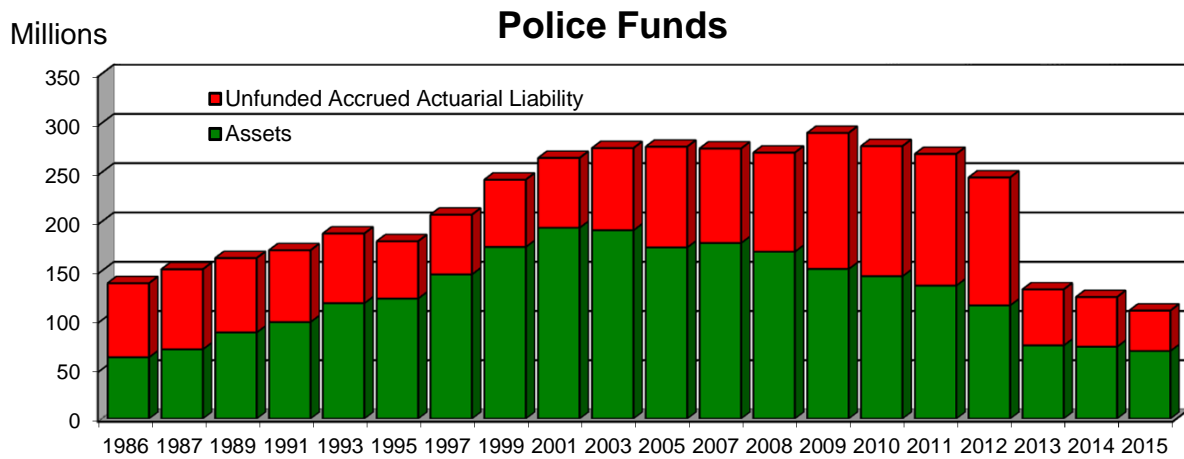


EXHIBIT 3

Arkansas Municipal Police and Fire Pension and Relief Funds

Summary by Funding Status

This exhibit gives a summary of certain plan information classified by a funding status which is based on standards of actuarial soundness. Funding Status is defined here for use by the board in understanding the risks facing the various plans. We have changed definitions for status D and below beginning with the December 31, 2015 report.

The Board has adopted a definition of actuarial soundness, which is based on two tests:

1. Contribution Test: The actual contributions for the previous year exceeded the actuarially calculated contribution (fully funded in five years).
2. Ratio Tests: The assets allocated to cover accrued actuarial liabilities for active participants (i.e. the "short condition test" for category (3)) must be greater than 100% OR the "funded percentage" (total assets divided by total Actuarial Accrued Liabilities) must be at least 97%.

In order to further evaluate potential funding risks, we have assigned a "Funding Status" to each plan. The "Funding Status" for each plan is determined as follows:

- A. (Fully Funded) The calculated contribution amount is \$0. A plan in this classification should remain adequately funded even with no further contributions.
- B. (Actuarially Sound) A plan in this classification meets both the contribution test and the ratio test of the definition of actuarial soundness. These plans meet the Boards' definition of actuarial soundness.
- C. (On Track) The plans in this classification pass the contribution test, but do NOT pass the ratio tests, which are defined above. A plan in this classification should *eventually* meet both standards of actuarial soundness.
- D. (Not Actuarially Sound) The plans in this category did NOT pass the contribution test. (They may or may not have passed the ratio tests.) These plans will likely require more contributions in order to pay promised benefits.
- E. (At Risk) These plans are projected to deplete their assets in the next *ten to twenty years*. The initial risk indicator is that these plans should be considered for the At Risk designation.
- F. (Projected Insolvent) These plans are projected to deplete their assets in the *next ten years*. The initial risk indicator is that these plans should be considered for the At Risk designation.

The Board Rule which defines actuarial soundness has an alternative definition for some plans. The plan may prove actuarial soundness through a cash flow or alternate cash flow study defined in the Rule. This status is based on the initial risk indicator and does not include these other studies.

EXHIBIT 3

Summary of Funding Status

POLICE FUNDS

Funding Status	Number of Plans	Total Actives & Retirees	Actuarial Accrued Liability	Assets	Unfunded Actuarial Accrued Liability	Contribution Shortfall
A	2	32	16,879,960	23,551,146	-6,671,186	0
B	0	0	0	0	0	0
C	1	21	6,413,482	5,975,775	437,707	0
D	5	164	59,382,537	25,894,442	33,488,096	4,703,867
E	1	73	27,231,297	13,484,473	13,746,824	2,590,672
F	0	0	0	0	0	0
Total	9	290	109,907,276	68,905,836	41,001,440	7,294,539

PAID/MIXED FIRE FUNDS

Funding Status	Number of Plans	Total Actives & Retirees	Actuarial Accrued Liability	Assets	Unfunded Actuarial Accrued Liability	Contribution Shortfall
A	7	109	9,400,219	10,581,046	-1,180,826	0
B	0	0	0	0	0	0
C	4	114	17,619,941	15,865,975	1,753,966	0
D	14	620	194,646,108	102,138,163	92,507,944	12,624,877
E	6	91	7,903,728	4,163,975	3,739,753	706,343
F	2	68	20,624,025	4,834,127	15,789,898	2,695,750
Total	33	1,002	250,194,022	137,583,286	112,610,735	16,026,971

EXHIBIT 3

Summary of Funding Status

VOLUNTEER FIRE FUNDS

Funding Status	Number of Plans	Total Actives & Retirees	Actuarial Accrued Liability	Assets	Unfunded Actuarial Accrued Liability	Contribution Shortfall
A	33	419	10,989,783	13,149,554	-2,159,771	0
B	4	50	1,217,426	1,205,072	12,354	0
C	8	96	1,895,924	1,625,045	270,879	0
D	19	180	4,464,228	3,720,963	743,265	104,394
E	8	86	2,380,720	1,829,637	551,083	111,576
F	4	45	1,142,920	525,214	617,706	132,956
Total	76	876	22,091,001	22,055,484	35,517	348,926

ALL FUNDS

Funding Status	Number of Plans	Total Actives & Retirees	Actuarial Accrued Liability	Assets	Unfunded Actuarial Accrued Liability	Contribution Shortfall
A	42	560	37,269,962	47,281,746	-10,011,783	0
B	4	50	1,217,426	1,205,072	12,354	0
C	13	231	25,929,348	23,466,795	2,462,552	0
D	38	964	258,492,874	131,753,568	126,739,306	17,433,138
E	15	250	37,515,746	19,478,085	18,037,660	3,408,591
F	6	113	21,766,945	5,359,340	16,407,604	2,828,706
Total	118	2,168	382,192,300	228,544,607	153,647,693	23,670,435

EXHIBIT 3

Arkansas Municipal Police and Fire Pension Funds
Summary of Funded Status
December 31, 2015 Valuations

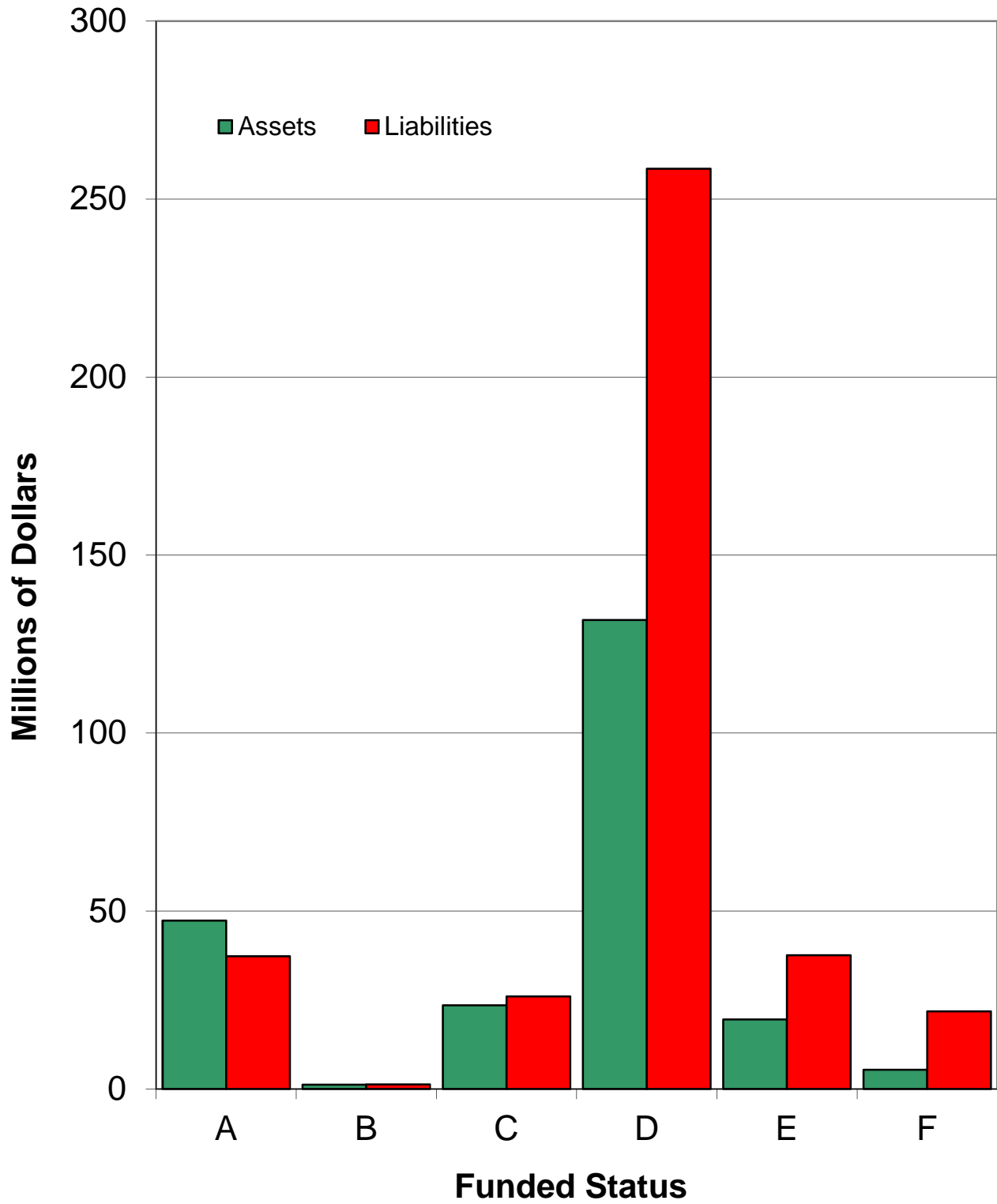


EXHIBIT 4

Arkansas Municipal Police and Fire Pension and Relief Funds December 31, 2015

Percentage of Actuarial Accrued Liabilities
Covered by Reported Allocated Assets
(Funded Percentage)

Number of Plans

<u>Type of Plan</u>	<u>0%-25%</u>	<u>26%-50%</u>	<u>51%-75%</u>	<u>76%-100%</u>	<u>Over 100%</u>
Police	0	3	2	2	2
Fire (Volunteer Only)	0	4	10	29	33
Fire (Mixed)	1	5	9	8	7
Fire (Full Paid)	0	1	0	2	0

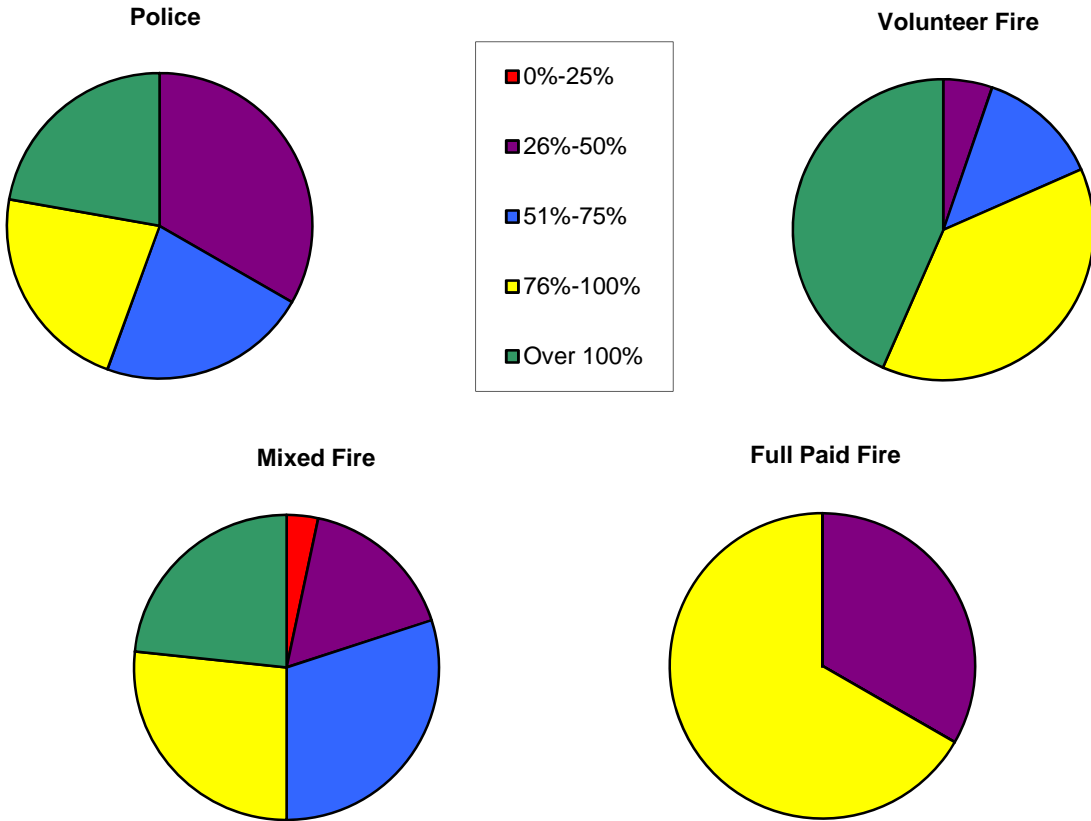


EXHIBIT 4

Arkansas Municipal Police and Fire Pension and Relief Funds

December 31, 2015

2015 Reported Contributions
as Percentages of
Computed Contributions

Number of Plans

<u>Type of Plan</u>	<u>0%-25%</u>	<u>26%-50%</u>	<u>51%-75%</u>	<u>76%-100%</u>	<u>Over 100%</u>
Police	1	3	1	1	3
Fire (Volunteer Only)	23	2	6	0	45
Fire (Mixed)	8	7	4	2	9
Fire (Full Paid)	0	1	0	0	2

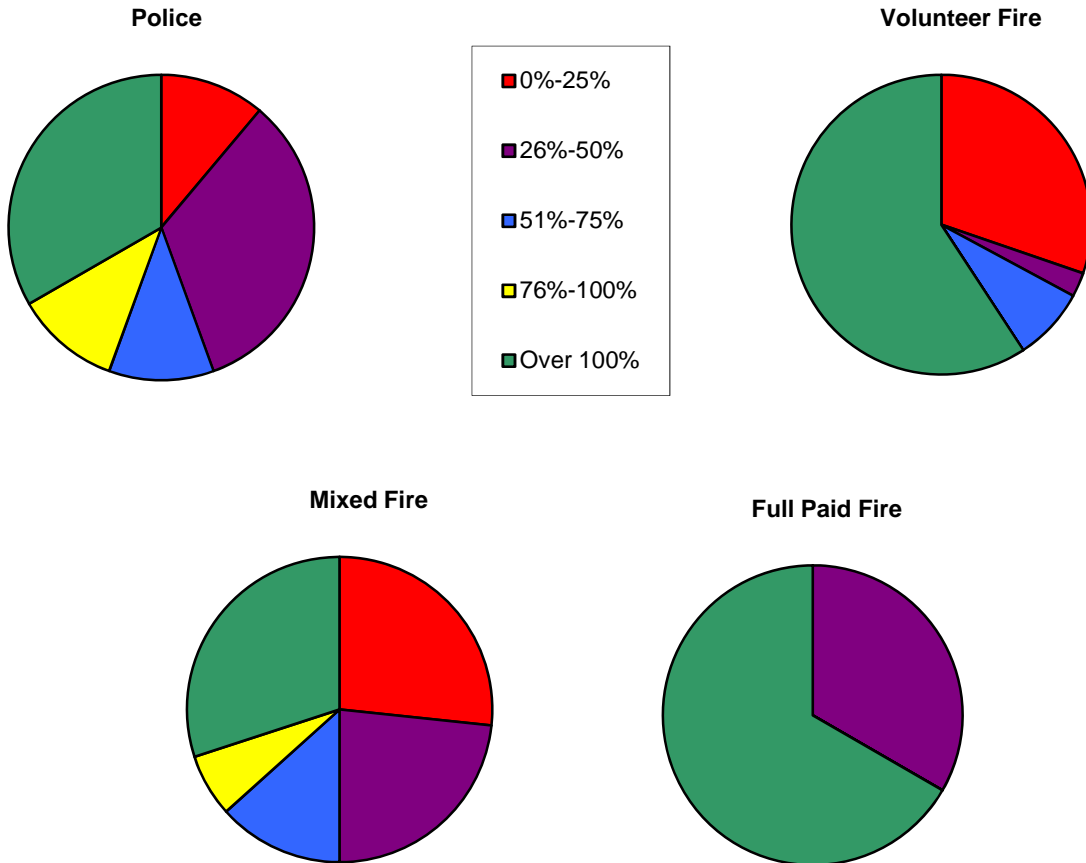


EXHIBIT 4 (continued)

Comparison of Percents of Accrued Liabilities Covered by Assets and
2015 Reported Contributions as Percent of Computed Contributions

Total of All Plans

Number of Plans

Funded Percentage

<u>Contribution Ratio</u>	<u>0%-25%</u>	<u>26%-50%</u>	<u>51%-75%</u>	<u>76%-100%</u>	<u>Over 100%</u>
0%-25%	0	6	12	14	0
26%-50%	1	6	5	1	0
51%-75%	0	1	3	7	0
76%-100%	0	0	1	2	0
Over 100%	0	0	0	17	42

EXHIBIT 5

Arkansas Municipal Police and Fire Funds

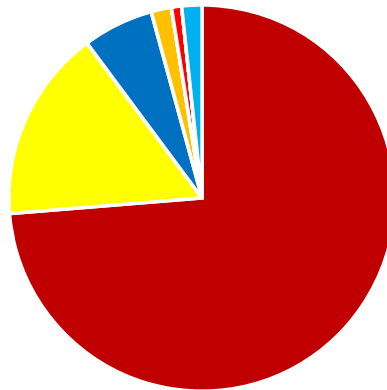
Average Market Rates of Returns 2006-2015

Based on Summary Results of the

December 31, 2015 Actuarial Valuations

	<u>2015 Rate of Return</u>	<u>5-year Average</u>	<u>10-year Average</u>
Less than 0%	87	1	0
Less than 1%, greater than 0%	19	22	6
Less than 2%, greater than 1%	7	13	21
Less than 3%, greater than 2%	2	15	27
Less than 4%, greater than 3%	0	22	26
Less than 5%, greater than 4%	1	21	15
Less than 6%, greater than 5%	0	8	13
Greater than 6%	2	16	10

2015 Market Investment Returns



- Less than 0%
- Less than 1%, greater than 0%
- Less than 2%, greater than 1%
- Less than 3%, greater than 2%
- Less than 4%, greater than 3%
- Less than 5%, greater than 4%
- Less than 6%, greater than 5%
- Greater than 6%

Five Year Average Return



Ten Year Average Return



EXHIBIT 6

Arkansas Municipal Police and Fire Pension and Relief Funds

Selected Financial Information by Plan

This exhibit contains selected financial and actuarial information for each plan that reported for December 31, 2015. The mixed fire plans are shown on a single line this year.

The information shown in this exhibit:

- (1) City or fire protection district.
- (2) Type of plan - i.e., police officers, full-paid firefighters, volunteer/part paid firefighters, or a mixed plan covering both volunteers and full-paid firefighters.
- (3) Assets. We have shown both the Valuation Assets and the Market Value of Assets.
- (4) Unfunded Actuarial Accrued Liability, which is based on the Valuation Assets.
- (5) Number of individuals included. This number includes active members as well as retirees, beneficiaries, and participants on DROP.
- (6) Actuarially Computed Contribution. This is the calculated contribution amount from each valuation report.
- (7) Actual 2015 Contribution. These are the actual amounts contributed by the city from its sources; generally: millage, premium tax, employer match, and percentage of fines, for police plans.
- (8) Funded Status. See Exhibit 3 for a complete description of the six "grades".
- (9) Projected Years until all Assets Depleted. Based on the projection used to determine whether a "crossover point" exists for GASB purposes. This is the number of years until the plan depletes its assets. These categories are related to the Funded Status and are used to identify plans which may need further attention.
- (10) Risk Indicators. These four indicators are included in the cover letters of the valuation reports. They range from 1 (least risk) to 5 (most risk); in order, a, b, c, and d correspond to: funding percentage risk, market-return risk, contribution risk, and future crossover risk, respectively.

Risk Level	Funded Percentage	10-year Market Rate of Return	Contribution Actual/Recommend	Crossover Point
1	<60%	<3%	<25%	<10 yrs.
2	60%-75%	3%-4%	25%-50%	10-20 yrs.
3	75%-90%	4%-5%	50%-75%	>20 yrs.
4	90%-110%	5%-6%	75%-100%	No Crossover
5	>110%	>6%	>100%	And Act. Sound

EXHIBIT 6 (Continued)

Arkansas Municipal Police and Fire Pension and Relief Funds

Based on the December 31, 2015 Actuarial Valuation

Type of Plan	Market Value	Valuation	Unfunded	Number of	Actuarially	Actual	Funded	Projected Years	Risk				
	Assets as of 12/31/2015	Assets as of 12/31/2015	Actuarial Liability	Individuals Covered	Computed Contribution	2015 Contribution			Status	until all Assets Depleted	Indicators <u>a</u> <u>b</u> <u>c</u> <u>d</u>		
Alma	Volunteer Fire	716,923	739,085	212,946	15	48,014	26,137	D	*	3	1	3	2
Amity	Volunteer Fire	194,411	192,580	5,321	11	1,200	208	D	20+	2	4	5	3
Arkadelphia	Mixed Fire	500,626	423,437	808,568	22	182,312	67,297	D	*	5	4	4	2
Ashdown	Volunteer Fire	663,502	689,499	(208,054)	13	0	0	A	*	1	1	1	1
Augusta	Volunteer Fire	166,689	182,852	(7,940)	12	0	29	A	*	2	2	1	3
Batesville	Mixed Fire	1,006,523	1,136,843	2,299,379	17	518,453	103,388	F	Less than 10	5	5	5	5
Beebe	Mixed Fire	393,171	397,440	203,312	7	45,842	4,027	E	10-20	4	5	5	4
Benton	Mixed Fire	1,716,669	1,847,951	4,831,644	30	1,089,417	343,006	D	*	5	5	4	2
Berryville	Volunteer Fire	364,507	339,551	(17,931)	18	0	12	A	*	2	5	1	1
Blytheville	Mixed Fire	2,361,323	2,438,453	3,042,808	28	686,078	118,542	E	10-20	5	4	5	4
Booneville	Volunteer Fire	274,973	274,973	84,931	12	19,150	13,105	D	*	3	5	3	2
Bradford	Volunteer Fire	108,896	83,544	152,927	14	34,481	4,224	F	Less than 10	5	5	5	5
Bradley	Volunteer Fire	105,621	105,621	50,094	7	11,295	1,537	E	10-20	4	5	5	4
Brinkley	Mixed Fire	613,123	658,815	53,100	13	11,973	11,855	D	*	2	5	2	2
Bull Shoals	Volunteer Fire	153,296	124,395	47,653	9	10,745	952	D	20+	4	1	5	3
Cabot	Mixed Fire	2,716,855	2,617,099	(497,164)	9	0	13,844	A	*	1	5	1	1
Carlisle	Volunteer Fire	226,718	227,696	34,139	17	7,698	11,283	C	*	3	5	1	2
Centerton	Mixed Fire	782,413	856,735	399,706	10	90,124	54,845	D	*	4	1	3	2
Charleston	Volunteer Fire	386,282	305,370	(104,548)	15	0	14,994	A	*	1	1	1	1
Clarendon	Volunteer Fire	301,858	319,832	32,708	8	7,375	3,770	D	*	2	1	3	2
Clarksville	Volunteer Fire	1,216,630	1,216,630	(334,238)	19	0	45,911	A	*	1	5	1	1
Corning	Volunteer Fire	209,015	209,015	19,288	16	4,349	150	D	20+	2	4	5	3
Crawfordsville	Volunteer Fire	171,777	185,521	(17,494)	10	0	0	A	*	1	2	1	1
Crossett	Mixed Fire	2,503,460	2,877,222	397,277	25	89,576	54,014	D	*	3	4	3	2
Dardanelle	Volunteer Fire	562,371	612,000	(158,103)	13	0	35,786	A	*	1	5	1	1
De Queen	Volunteer Fire	353,682	315,547	60,665	12	13,679	23,735	C	*	3	4	1	2
Decatur	Volunteer Fire	164,706	166,409	20,636	5	4,653	0	D	20+	3	5	5	3

EXHIBIT 6 (Continued)

Arkansas Municipal Police and Fire Pension and Relief Funds

Based on the December 31, 2015 Actuarial Valuation

	Type of Plan	Market Value	Valuation	Unfunded	Number of	Actuarially	Actual	Funded	Projected Years	Risk			
		Assets as of 12/31/2015	Assets as of 12/31/2015	Actuarial Liability	Individuals Covered	Computed Contribution	2015 Contribution			Status	until all Assets Depleted	Indicators <u>a</u> <u>b</u> <u>c</u> <u>d</u>	
Dermott	Volunteer Fire	356,190	365,125	(51,796)	15	0	8,127	A	*	1	5	1	1
Des Arc	Volunteer Fire	329,233	303,242	(48,864)	15	0	10,258	A	*	1	4	1	1
DeWitt	Mixed Fire	275,725	295,205	84,360	13	19,021	0	E	10-20	3	5	5	4
Dumas	Volunteer Fire	522,810	571,685	100,812	13	22,731	36	E	10-20	3	5	5	4
Earle	Volunteer Fire	311,668	336,914	(23,543)	13	0	48	A	*	2	5	1	1
Elaine	Volunteer Fire	226,667	247,498	255	12	58	4,893	B	*	2	2	1	1
Elkins	Volunteer Fire	354,317	362,448	(47,573)	13	0	0	A	*	1	1	1	1
Emmet	Volunteer Fire	75,470	75,470	6,956	5	1,568	0	D	20+	2	5	5	3
Eureka Springs	Mixed Fire	769,897	780,787	(36,920)	24	0	41,794	A	*	2	1	1	1
Fayetteville	Mixed Fire	3,669,451	3,697,284	13,490,519	51	3,041,780	761,095	F	Less than 10	5	2	4	5
Fayetteville	Paid Police	6,242,731	6,160,915	12,313,502	43	2,776,392	831,117	D	*	5	4	4	2
Flippin	Volunteer Fire	228,517	233,886	(43,809)	13	0	6,410	A	*	1	4	1	1
Fordyce	Volunteer Fire	584,567	616,586	(116,540)	15	0	12,787	A	*	1	3	1	1
Foreman	Volunteer Fire	189,113	192,498	1,578	9	356	196	D	20+	2	2	3	3
Gassville	Volunteer Fire	118,568	123,234	141,724	8	31,955	454	F	Less than 10	5	5	5	5
Gentry	Mixed Fire	745,156	765,551	232,089	11	52,330	17,712	D	*	3	3	4	2
Gillett	Volunteer Fire	238,364	238,364	44,363	15	10,003	1,252	D	20+	3	5	5	3
Glenwood	Volunteer Fire	211,266	225,186	22,053	10	4,972	0	D	20+	2	1	5	3
Grady	Volunteer Fire	124,497	126,657	(2,573)	7	0	4,474	A	*	2	5	1	1
Gravette	Volunteer Fire	136,496	148,670	23,389	8	5,274	17,425	C	*	3	5	1	2
Greenwood	Volunteer Fire	198,786	187,146	30,361	12	6,846	1,424	D	20+	3	4	5	3
Greers Ferry	Volunteer Fire	169,443	184,595	(70,000)	7	0	0	A	*	1	3	1	1
Gurdon	Volunteer Fire	256,744	277,061	(19,829)	9	0	4,643	A	*	2	3	1	1
Hamburg	Volunteer Fire	265,776	268,086	(30,708)	15	0	0	A	*	1	5	1	1
Harrison	Mixed Fire	3,037,116	2,896,274	1,492,465	20	336,514	248,948	D	*	4	3	3	2
Harrison	Paid Police	2,565,722	2,576,139	500,500	11	112,851	101,606	D	*	3	2	2	2
Hazen	Volunteer Fire	249,682	249,682	(29,371)	15	0	10,910	A	*	1	5	1	1

EXHIBIT 6 (Continued)

Arkansas Municipal Police and Fire Pension and Relief Funds

Based on the December 31, 2015 Actuarial Valuation

	Type of Plan	Market Value	Valuation	Unfunded	Number of	Actuarially	Actual	Funded	Projected Years	Risk			
		Assets as of 12/31/2015	Assets as of 12/31/2015	Actuarial Liability	Individuals Covered	Computed Contribution	2015 Contribution			Status	until all Assets Depleted	<u>Indicators</u> a b c d	
Heber Springs	Mixed Fire	640,888	569,224	193,980	15	43,738	4,693	E	10-20	4	4	5	3
Hickory Ridge	Volunteer Fire	335,601	347,080	(45,105)	8	0	2,107	A	*	1	5	1	1
Hope	Mixed Fire	2,013,813	2,074,505	(100,199)	16	0	84,017	A	*	2	5	1	1
Horatio	Volunteer Fire	148,482	148,482	(13,075)	6	0	0	A	*	2	4	1	1
Hughes	Volunteer Fire	190,981	194,080	17,844	11	4,023	43	D	20+	2	2	5	3
Huntington	Volunteer Fire	72,768	72,768	35,608	5	8,029	2,224	D	*	4	5	4	2
Huntsville	Volunteer Fire	200,465	200,465	(19,135)	6	0	9,740	A	*	1	5	1	1
Huttig	Volunteer Fire	203,982	203,982	(21,745)	13	0	7,289	A	*	1	5	1	1
Jacksonville	Mixed Fire	6,896,727	6,435,286	3,722,209	37	839,267	399,410	D	*	4	5	4	2
Jacksonville	Paid Police	5,698,420	5,975,775	437,707	21	98,692	334,472	C	*	2	4	1	2
Judsonia	Volunteer Fire	205,097	222,742	(3,548)	12	0	377	A	*	2	4	1	3
Keiser	Volunteer Fire	63,808	63,808	53,160	9	11,986	4,925	D	*	5	5	4	2
Kensett	Volunteer Fire	88,178	88,178	22,706	10	5,120	5,309	C	*	3	5	1	2
Lepanto	Volunteer Fire	171,883	183,706	15,950	14	3,596	5,622	C	*	2	5	1	2
Lewisville	Volunteer Fire	86,716	86,716	2,678	5	604	0	D	20+	2	5	5	3
Lincoln	Mixed Fire	217,011	210,402	78,859	7	17,781	2,058	E	10-20	4	4	5	4
Little Rock	Paid Fire	59,016,282	61,608,082	65,743,574	297	14,823,559	5,312,855	D	*	5	3	4	2
Lonoke	Volunteer Fire	516,750	575,903	(91,220)	15	0	18,538	A	*	1	4	1	1
Malvern	Mixed Fire	1,907,011	1,792,323	146,625	17	33,060	135,910	C	*	2	4	1	2
Mammoth Spring	Volunteer Fire	94,235	94,235	41,561	6	9,371	1,077	E	10-20	4	5	5	4
Manila	Volunteer Fire	325,080	333,529	53,710	15	12,110	12,614	C	*	3	5	1	2
Marianna	Mixed Fire	778,831	821,971	221,967	17	50,048	10,970	D	20+	3	5	5	3
Marion	Volunteer Fire	269,788	269,080	178,112	11	40,160	0	F	Less than 10	4	4	5	4
Marmaduke	Volunteer Fire	50,840	50,840	55,888	8	12,601	6,605	D	*	5	5	3	2
Mc Crory	Volunteer Fire	239,474	239,474	(58,135)	9	0	5,020	A	*	1	5	1	1
Mena	Mixed Fire	738,857	764,285	(55,565)	10	0	2,847	A	*	2	4	1	1
Monticello	Mixed Fire	1,080,588	1,044,549	(86,716)	15	0	36,667	A	*	2	5	1	1

EXHIBIT 6 (Continued)

Arkansas Municipal Police and Fire Pension and Relief Funds

Based on the December 31, 2015 Actuarial Valuation

Type of Plan	Market Value	Valuation	Unfunded	Number of	Actuarially	Actual	Funded	Projected Years	Risk				
	Assets as of 12/31/2015	Assets as of 12/31/2015	Actuarial Liability	Individuals Covered	Computed Contribution	2015 Contribution			Status	until all Assets Depleted	Indicators a b c d		
Morrilton	Volunteer Fire	1,427,822	1,488,477	(60,358)	23	0	40,780	A	*	2	3	1	1
Mount Ida	Volunteer Fire	412,585	488,535	3,114	11	702	4,561	B	*	2	5	1	1
Mountainburg	Volunteer Fire	155,980	155,980	(2,654)	10	0	2,211	A	*	2	5	1	1
Mulberry	Volunteer Fire	206,452	206,452	31,185	7	7,031	0	D	20+	3	3	5	3
Nashville	Volunteer Fire	449,618	474,267	54,758	17	12,347	0	E	10-20	3	2	5	4
Newark	Volunteer Fire	111,719	111,719	4,280	8	965	4,711	C	*	2	4	1	2
Newport	Mixed Fire	1,328,559	1,379,528	186,494	19	42,050	62,668	C	*	3	4	1	2
Ola	Volunteer Fire	258,602	281,274	(69,471)	14	0	18,895	A	*	1	4	1	1
Oppelo	Volunteer Fire	101,347	101,347	18,108	8	4,083	2,204	D	*	3	5	3	2
Osceola	Mixed Fire	2,732,432	2,867,475	(343,232)	18	0	220,909	A	*	1	5	1	1
Ozark	Volunteer Fire	865,486	904,655	(88,775)	16	0	51,220	A	*	1	5	1	1
Pangburn	Volunteer Fire	228,366	212,447	(1,117)	12	0	21,066	A	*	2	5	1	1
Paris	Volunteer Fire	215,869	215,999	56,039	12	12,635	13,125	C	*	3	5	1	2
Piggott	Volunteer Fire	374,052	374,052	(36,489)	19	0	15,048	A	*	1	5	1	1
Pine Bluff	Paid Police	15,196,328	13,484,473	13,746,824	73	3,099,571	508,898	E	10-20	5	2	5	4
Prairie Grove	Volunteer Fire	313,295	325,778	(56,281)	8	0	0	A	*	1	3	1	1
Pulaski F P Dist 5	Volunteer Fire	47,075	49,356	144,943	12	32,681	1,644	F	Less than 10	5	2	5	5
Rector	Volunteer Fire	136,951	140,281	71,197	15	16,053	1,962	E	10-20	4	5	5	4
Rogers	Mixed Fire	8,419,566	9,106,789	3,807,504	40	858,498	758,199	D	*	4	5	2	2
Rogers	Paid Police	19,299,059	19,088,995	(6,610,273)	22	0	741,850	A	*	1	2	1	1
Russellville	Mixed Fire	2,487,400	2,235,126	2,955,951	28	666,494	266,757	D	*	5	4	4	2
Russellville	Paid Police	4,340,682	4,462,151	(60,913)	10	0	240,986	A	*	2	2	1	1
Salem	Volunteer Fire	130,202	130,202	64,556	7	14,556	0	E	10-20	4	5	5	4
Siloam Springs	Mixed Fire	3,356,365	3,314,887	789,014	22	177,903	107,204	D	*	3	3	3	2
Springdale	Mixed Fire	8,551,684	8,290,038	7,052,876	44	1,590,250	580,317	D	*	5	3	4	2
Springdale	Paid Police	8,242,417	8,365,972	7,384,545	34	1,665,033	679,765	D	*	5	4	4	2
Stamps	Mixed Fire	249,149	253,251	136,434	20	30,763	7,559	E	10-20	4	5	5	3

EXHIBIT 6 (Continued)

Arkansas Municipal Police and Fire Pension and Relief Funds

Based on the December 31, 2015 Actuarial Valuation

Type of Plan	Market Value	Valuation	Unfunded	Number of	Actuarially	Actual	Funded	Projected Years	Risk				
	Assets as of 12/31/2015	Assets as of 12/31/2015	Actuarial Liability	Individuals Covered	Computed Contribution	2015 Contribution			until all Assets Depleted	Indicators a b c d			
Star City	Volunteer Fire	315,835	271,500	3,311	15	746	20,242	B	*	2	5	1	1
Texarkana	Paid Fire	6,185,703	6,405,612	674,747	32	152,139	370,105	C	*	2	3	1	2
Texarkana	Paid Police	4,728,270	4,998,547	10,566,651	46	2,382,520	774,794	D	*	5	4	4	2
Waldron	Volunteer Fire	194,009	197,539	5,675	12	1,279	13,202	B	*	2	3	1	1
Warren	Mixed Fire	405,882	432,346	(61,030)	16	0	0	A	*	1	1	1	1
Weiner	Volunteer Fire	199,677	193,642	99,372	10	22,406	4,237	E	10-20	4	3	5	4
West Memphis	Paid Fire	6,599,128	6,288,511	746,100	45	168,227	338,922	C	*	3	2	1	2
West Memphis	Paid Police	5,460,386	3,792,869	2,722,898	30	613,946	459,593	D	*	5	4	3	2
White Hall	Volunteer Fire	117,524	119,704	68,733	11	15,498	3,831	E	10-20	4	5	5	4
Yellville	Volunteer Fire	584,114	613,059	(259,746)	11	0	14,972	A	*	1	3	1	1

Totals: 228,072,139 228,544,607 153,647,693 2,161 36,901,186 15,796,086

Key:

Least Risk	1
	2
	3
	4
Most Risk	5

Note: Risk Indicators are the metrics included in the cover letter of the Annual Actuarial Valuation for each Local Plan.
a) Funding Percentage Risk c) Recommended Contribution Risk
b) 10-Year Market Return Risk d) Future Crossover Point Risk