

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

Summary of
Actuarial Valuation Data and Results
As of December 31, 2018

Osborn, Carreiro & Associates, Inc.

ACTUARIES • CONSULTANTS • ANALYSTS

124 West Capitol Avenue, Suite 1690
Little Rock, AR 72201 (501)376-8043

Questions? Please contact:
Jody Carreiro: JodyC@oca-actuaries.com

Osborn, Carreiro & Associates, Inc.

ACTUARIES • CONSULTANTS • ANALYSTS

One Union National Plaza, Suite 1690
124 West Capitol Avenue
Little Rock, Arkansas 72201
(501)376-8043 fax (501)376-7847

August 27, 2019

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 71 Fire and Police Pension Funds as of December 31, 2018. This report contains summary information from those valuations, as well as comparable information from the December 31, 2015, 2016 and 2017 valuations.

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

	<u>12/31/2015</u>	<u>12/31/2016</u>	<u>12/31/2017</u>	<u>12/31/2018</u>
Plans Valued	118	110	82	71
Number of Active Members	38	25	19	16
Number on DROP	6	3	2	1
Number of Recipients	2,124	1,989	1,562	1,127
Assets	228,544,607	215,023,728	183,130,253	119,963,499
Unfunded Actuarial Accrued Liability	153,647,693	145,250,252	119,317,001	53,804,989
Market Value of Assets	228,072,139	215,659,539	188,985,897	116,123,169
Unfunded AL on Market Value	154,120,161	144,614,441	113,461,358	57,645,319
Percent of Liability Funded:				
Police	63%	65%	75%	77%
Full Paid Fire	54%	53%	52%	58%
Volunteer & Part-Paid Fire	95%	92%	93%	95%
Reported Employer Contribution as a Percent of Actuarially Determined Contributions				
Police	43%	47%	64%	65%
Full Paid Fire	41%	43%	45%	54%
Volunteer & Part-Paid Fire	94%	79%	100%	103%

FORMAT OF REPORT

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

- EXHIBIT 1 – Summarizes various information as of December 31, 2018, broken out by Police, Full Paid Fire, and Volunteer Fire.
- EXHIBIT 2 – Compares the December 31, 2018 valuation results with those of December 31, 2017, 2016 and 2015.
- 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 and risk indicators for the plans valued December 31, 2018.

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, 2017:

	Number of Plans That <u>Improved</u>	Number of Plans That <u>Declined</u>
Police Plans	2	5
Paid/Mixed Fire Plans	11	10
Volunteer/Part Paid Fire	24	19

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 the aggregate, the plans experienced investment returns less than zero in 2018. The market weighted average investment return was -4.5%, though there was significant variation amongst the plans. The smaller plans invested in cash vehicles actually outperformed diversified portfolios in 2018. Only 10 plans earned greater than zero in 2018.

FUNDED STATUS

Exhibit 3 (pages 6 to 9) develops six categories of "funded status" and shows how many plans fall into each group. The bottom three status definitions align with the initial risk indicator of the GASB crossover point.

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, 2017:

	Number of Plans That <u>Improved</u>	Number of Plans That <u>Declined</u>
Police Plans	0	0
Paid/Mixed Fire Plans	2	1
Volunteer/Part Paid Fire	4	9

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 \$7.9 million in contributions. In other words, the employer contributions to these plans are \$7.9 million less than the actuarially computed contributions. This difference is about \$9 million less than last year, primarily due to consolidations.

INVESTMENT RETURNS

The PRB decided to return to a single valuation discount rate beginning with the 2013 valuations. That rate is 5%. All but 10 of the plans experienced market returns less than zero in 2018. However, as usual, there was significant variance between plans: the returns ranged from a loss of 17% to a gain of 2.6% based on market value of assets.

Exhibit 5 shows the 2018 (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. One can see in detail the large number of plans in Status D and below, as well as the amount of unfunded liability associated with those plans. This is an area we have discussed with the Board in detail. This deserves continued attention as about 65% of the total liability is associated with plans with a status of 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. There are eight plans with Status E. 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.

We believe there would be two new Projected Insolvent plans under ACA §24-11-208: Blytheville and Mammoth Spring Fire. Fayetteville, Batesville, Marion, and Salem Fire remain on the Projected Insolvent List.

VALUATION REPORT CHANGES

There were no major changes in methodology or presentation in the valuation reports this year. We did add some market indicators to the end of Exhibit 3 as requested. We continue to present the required GASB disclosures for all plans as appendices to the valuation report. We accommodated several (21) requests for expedited valuations for locations which file GASB-compliant audits. All valuation reports were completed and submitted to the PRB by the end of June.

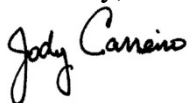
DATA RECEIVED FROM PLANS

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.

We returned a few plan reports because of missing or incorrect data. The PRB staff was extremely helpful in solving data issues and correcting demographic information.

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

Sincerely,



Jody Carreiro, ASA, MAAA, FCA, EA
Actuary

EXHIBIT 1

Arkansas Municipal Police and Fire Pension and Relief Funds

Summary of Valuation Data and Results December 31, 2018

	<u>Police</u>	<u>Fire*</u>	<u>Volunteer Fire*</u>	<u>Total</u>
Plans Valued	7	21	64	71
Active Members	0	3	13	16
Active Payroll	\$ 0	\$ 190,257	\$ 0	\$ 190,257
DROP Members	0	1	0	1
DROP Annual Benefits	\$ 0	\$ 31,045	\$ 0	\$ 31,045
Retired Members and Beneficiaries	182	308	637	1,127
Annual Benefits	\$ 5,728,815	\$ 6,953,508	\$ 1,564,251	\$ 14,246,574
Retirant, Beneficiary & DROP Accrued Liability	\$ 70,766,407	\$ 84,288,879	\$ 16,423,844	\$ 171,479,130
Active Member Accrued Liability	\$ 0	\$ 1,568,773	\$ 720,585	\$ 2,289,358
Total Actuarial Accrued Liability	\$ 70,766,407	\$ 85,857,652	\$ 17,144,429	\$ 173,768,488
Assets Applied	54,170,782	49,482,587	16,310,131	119,963,499
Unfunded Actuarial Accrued Liability	\$ 16,595,626	\$ 36,375,066	\$ 834,298	\$ 53,804,989
% Funded	77%	58%	95%	69%
Based on the Market Value of Assets				
Total Actuarial Accrued Liability	\$ 70,766,407	\$ 85,857,652	\$ 17,144,429	\$ 173,768,488
Assets Applied	51,586,486	48,614,815	15,921,868	116,123,169
Unfunded Actuarial Accrued Liability	\$ 19,179,921	\$ 37,242,838	\$ 1,222,561	\$ 57,645,319
% Funded	73%	57%	93%	67%
Employer Contributions				
Computed	\$ 5,910,989	\$ 8,274,481	\$ 449,789	\$ 14,635,260
Reported	\$ 3,865,670	\$ 4,432,084	\$ 463,111	\$ 8,760,865
% Covered	65%	54%	103%	60%

* 21 fire plans covering both paid and volunteer members are included in the number of plans valued.
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				2018
	<u>12/31/2015</u>	<u>12/31/2016</u>	<u>12/31/2017</u>	<u>12/31/2018</u>	<u>% Change</u>
Plans Valued	9	9	7	7	0%
Active Members	0	0	0	0	0%
Active Payroll	\$ 0	\$ 0	\$ 0	0	0%
DROP Members	1	1	0	0	
Retired Members and Beneficiaries	289	283	182	182	0%
Retirant, Beneficiary & DROP Accrued Liability	\$ 109,907,276	\$ 106,818,142	\$ 71,930,025	\$ 70,766,407	-2%
Active Member Accrued Liability	\$ 0	\$ 0	\$ 0	0	0%
Total Actuarial Accrued Liability	\$ 109,907,276	\$ 106,818,142	\$ 71,930,025	\$ 70,766,407	-2%
Assets Applied	\$ 68,905,836	\$ 69,410,426	\$ 54,099,493	\$ 54,170,782	0%
% Funded	63%	65%	75%	77%	
Unfunded Actuarial Accrued Liability	\$ 41,001,440	\$ 37,407,716	\$ 17,830,532	\$ 16,595,626	-7%
Employer Contributions Computed	\$ 10,749,005	\$ 10,049,820	\$ 6,028,817	\$ 5,910,989	-2%
Reported	\$ 4,673,081	\$ 4,731,650	\$ 3,838,316	\$ 3,865,670	1%
% Covered	43%	47%	64%	65%	

EXHIBIT 2

Arkansas Municipal Police and Fire Pension and Relief Funds

Comparison of Valuation Results

FULL PAID FIRE FUNDS

	<u>12/31/2015</u>	<u>12/31/2016</u>	<u>12/31/2017</u>	<u>12/31/2018</u>	<u>2018 % Change</u>
Plans Valued	33	30	26	21	-19%
Active Members	7	6	4	3	-25%
Active Payroll	\$ 318,636	\$ 315,141	\$ 231,016	\$ 190,257	-18%
DROP Members	5	2	2	1	-50%
Retired Members and Beneficiaries	729	684	628	308	-51%
Retirant, Beneficiary & DROP Accrued Liability	\$ 241,154,428	\$ 224,227,729	\$ 207,656,625	\$ 84,288,879	-59%
Active Member Accrued Liability	\$ 2,934,718	\$ 2,506,616	\$ 2,118,001	\$ 1,568,773	-26%
Total Actuarial Accrued Liability	\$ 244,089,146	\$ 226,734,345	\$ 209,774,625	\$ 85,857,652	-59%
Assets Applied	\$ 132,728,941	\$ 121,092,604	\$ 109,657,355	\$ 49,482,587	-55%
% Funded	54%	53%	52%	58%	
Unfunded Actuarial Accrued Liability	\$ 111,360,205	\$ 105,641,742	\$ 100,117,270	\$ 36,375,066	-64%
Employer Contributions Computed	\$ 25,338,562	\$ 23,935,385	\$ 22,660,826	\$ 8,274,481	-63%
Reported	\$ 10,360,498	\$ 10,182,439	\$ 10,158,747	\$ 4,432,084	-56%
% Covered	41%	43%	45%	54%	

EXHIBIT 2

Arkansas Municipal Police and Fire Pension and Relief Funds

Comparison of Valuation Results

VOLUNTEER FIRE FUNDS

	<u>12/31/2015</u>	<u>12/31/2016</u>	<u>12/31/2017</u>	<u>12/31/2018</u>	<u>2018 % Change</u>
Plans Valued	106	99	74	64	-14%
Active Members	31	19	15	13	-13%
Active Payroll	\$ 0	\$ 0	\$ 0	0	
DROP Members Retired Members and Beneficiaries	0 1106	0 1022	0 752	0 637	N/A -15%
Retirant, Beneficiary & DROP Accrued Liability	\$ 26,736,796	\$ 25,663,537	\$ 19,810,359	\$ 16,423,844	-17%
Active Member Accrued Liability	\$ 1,459,081	\$ 1,057,956	\$ 932,245	\$ 720,585	-23%
Total Actuarial Accrued Liability	\$ 28,195,877	\$ 26,721,492	\$ 20,742,605	\$ 17,144,429	-17%
Assets Applied	\$ 26,909,830	\$ 24,520,698	\$ 19,373,405	\$ 16,310,131	-16%
% Funded	95%	92%	93%	95%	
Unfunded Actuarial Accrued Liability	\$ 1,286,047	\$ 2,200,794	\$ 1,369,200	\$ 834,298	-39%
Employer Contributions Computed	\$ 813,619	\$ 887,416	\$ 568,692	\$ 449,789	-21%
Reported	\$ 762,506	\$ 699,135	\$ 570,436	\$ 463,111	-19%
% Covered	94%	79%	100%	103%	

EXHIBIT 2

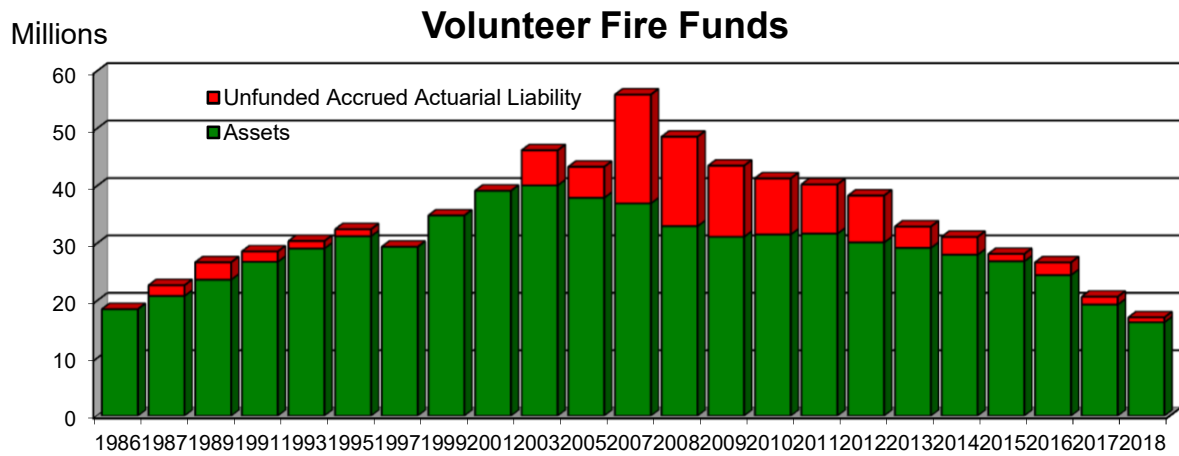
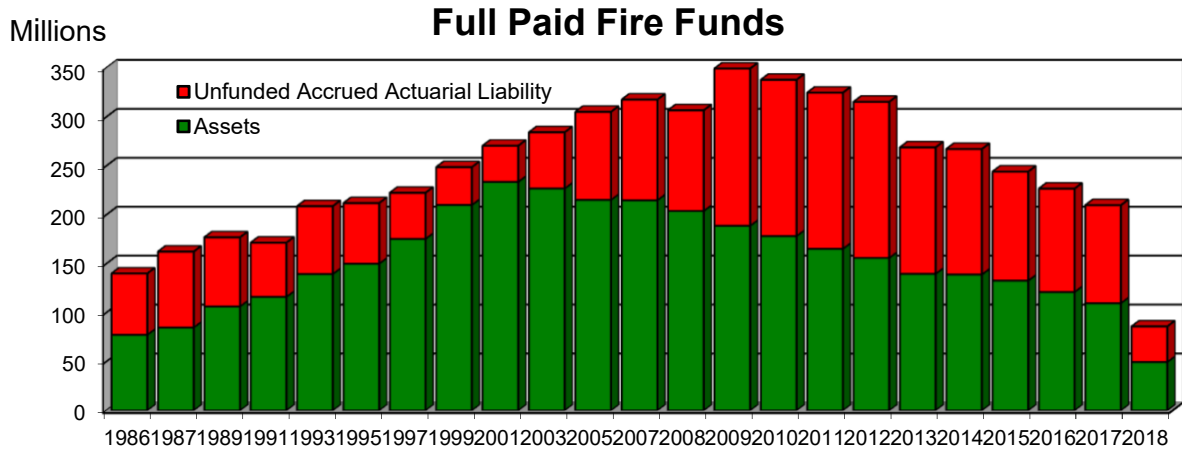
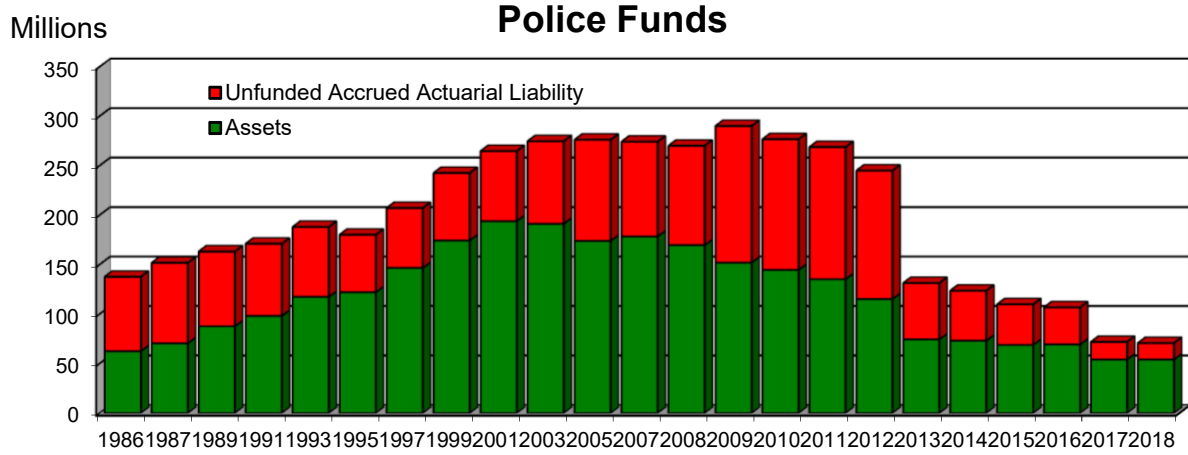


EXHIBIT 3

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 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 suggests 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 suggests that these plans should be considered for the Projected Insolvent 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. These statuses are based on the initial risk indicator and do not reflect any of these cash flow studies.

EXHIBIT 3

Arkansas Municipal Police and Fire Pension Funds Summary of Funded Status December 31, 2018 Valuations

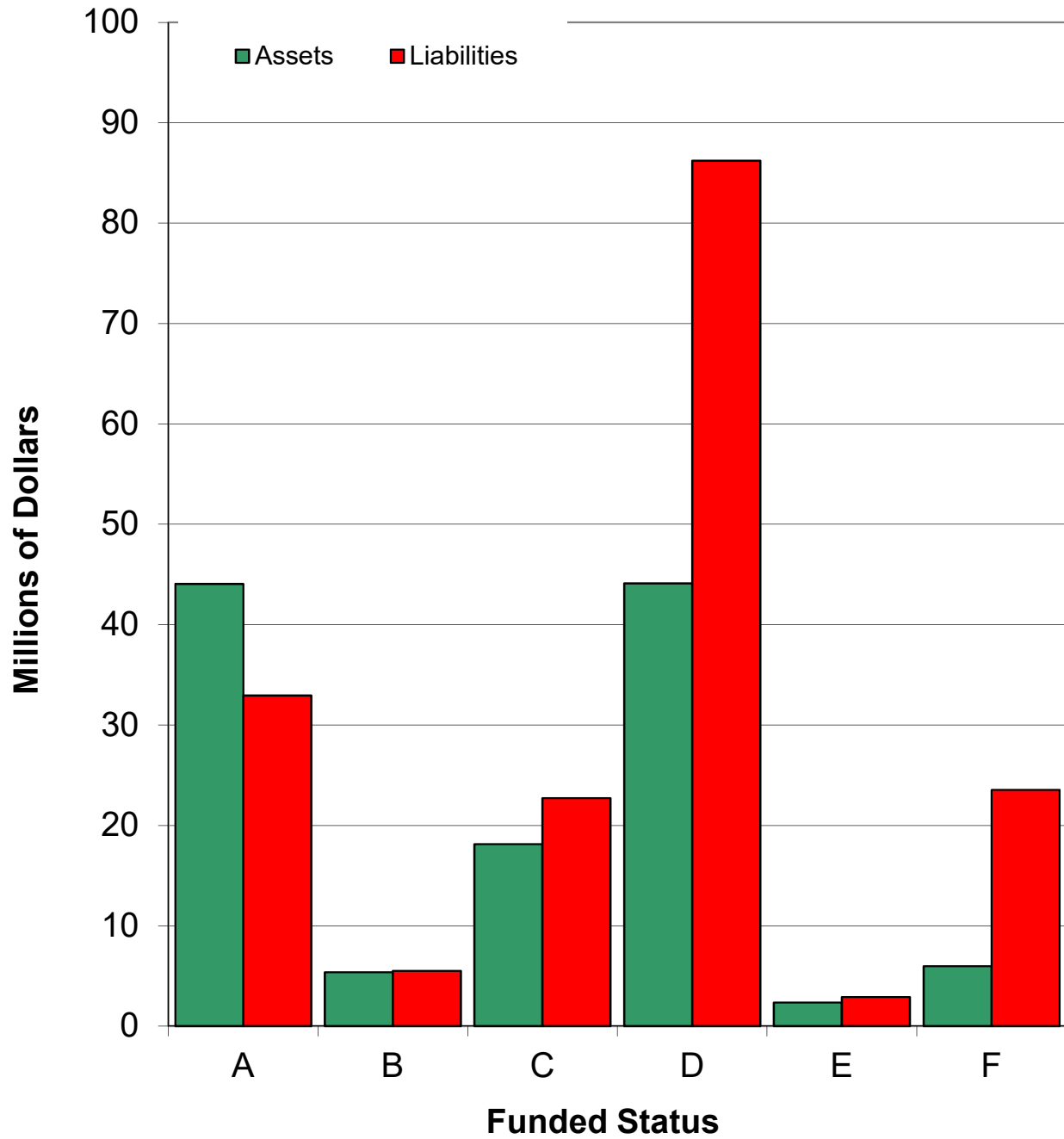


EXHIBIT 3

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	3	49	23,811,113	33,431,159	-9,620,046	0
B	0	0	0	0	0	0
C	1	10	3,054,864	2,583,467	471,397	0
D	3	114	43,900,430	18,156,155	25,744,275	3,435,669
E	0	0	0	0	0	0
F	0	0	0	0	0	0
Total	7	173	70,766,407	54,170,782	16,595,626	3,435,669

PAID/MIXED FIRE FUNDS

Funding Status	Number of Plans	Total Actives & Retirees	Actuarial Accrued Liability	Assets	Unfunded Actuarial Accrued Liability	Contribution Shortfall
A	3	30	3,040,730	3,443,088	-402,358	0
B	2	31	4,921,278	4,779,989	141,289	0
C	4	91	18,343,728	14,335,761	4,007,967	0
D	7	186	39,397,067	23,596,477	15,800,591	1,414,045
E	2	18	973,713	619,671	354,042	73,452
F	3	87	22,845,335	5,607,485	17,237,850	2,803,656
Total	21	443	89,521,851	52,382,471	37,139,380	4,291,153

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	19	208	6,092,959	7,174,020	-1,081,061	0
B	1	14	589,693	586,623	3,070	0
C	5	62	1,294,327	1,196,448	97,879	0
D	9	86	2,905,541	2,359,273	546,268	58,173
E	6	66	1,918,056	1,733,791	184,265	40,846
F	3	23	679,653	360,091	319,562	70,397
Total	43	459	13,480,230	13,410,246	69,984	169,417

ALL FUNDS

Funding Status	Number of Plans	Total Actives & Retirees	Actuarial Accrued Liability	Assets	Unfunded Actuarial Accrued Liability	Contribution Shortfall
A	25	287	32,944,802	44,048,268	-11,103,465	0
B	3	45	5,510,971	5,366,612	144,359	0
C	10	163	22,692,920	18,115,677	4,577,243	0
D	19	386	86,203,039	44,111,905	42,091,134	4,907,887
E	8	84	2,891,769	2,353,462	538,307	114,298
F	6	110	23,524,988	5,967,576	17,557,413	2,874,053
Total	71	1,075	173,768,488	119,963,499	53,804,989	7,896,239

EXHIBIT 4

Arkansas Municipal Police and Fire Pension and Relief Funds 12/31/2018

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	2	1	1	3
Fire (Volunteer Only)	0	1	4	19	19
Fire (Mixed)	2	3	5	8	3
Fire (Full Paid)	0	0	0	0	0

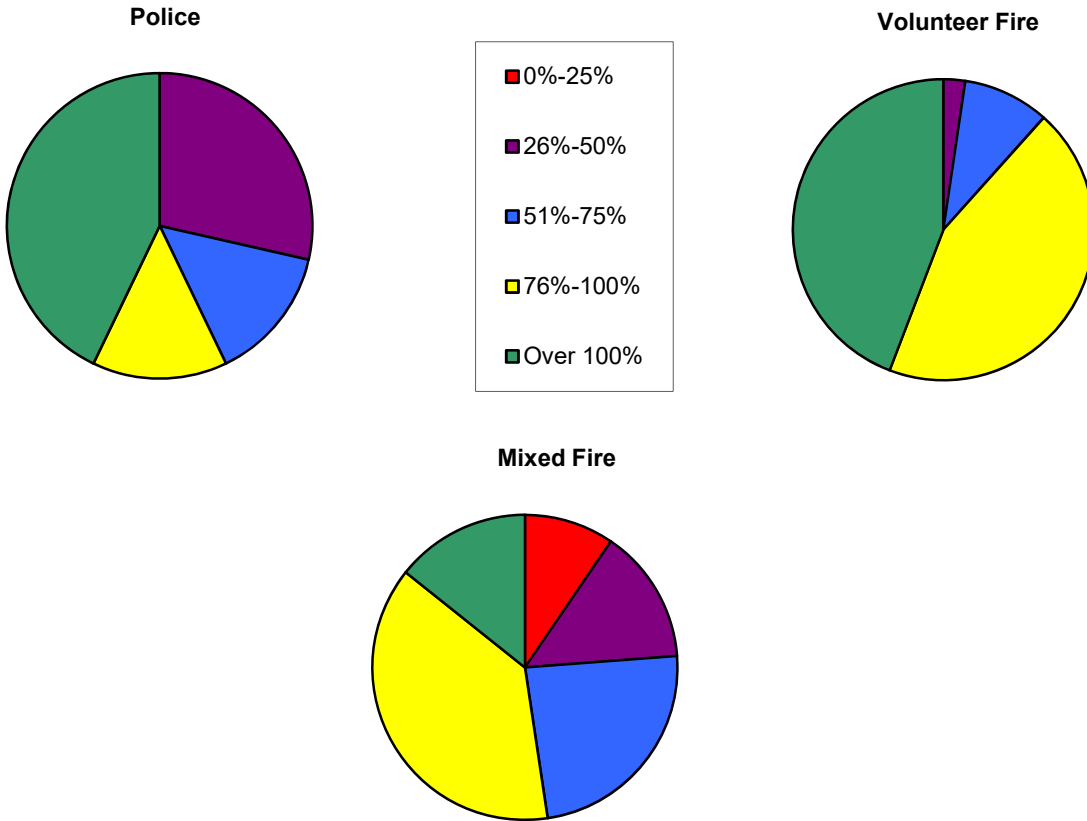


EXHIBIT 4

Arkansas Municipal Police and Fire Pension and Relief Funds 12/31/2018

2018 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	0	3	0	0	4
Fire (Volunteer Only)	13	0	3	2	25
Fire (Mixed)	5	1	6	0	9
Fire (Full Paid)	0	0	0	0	0

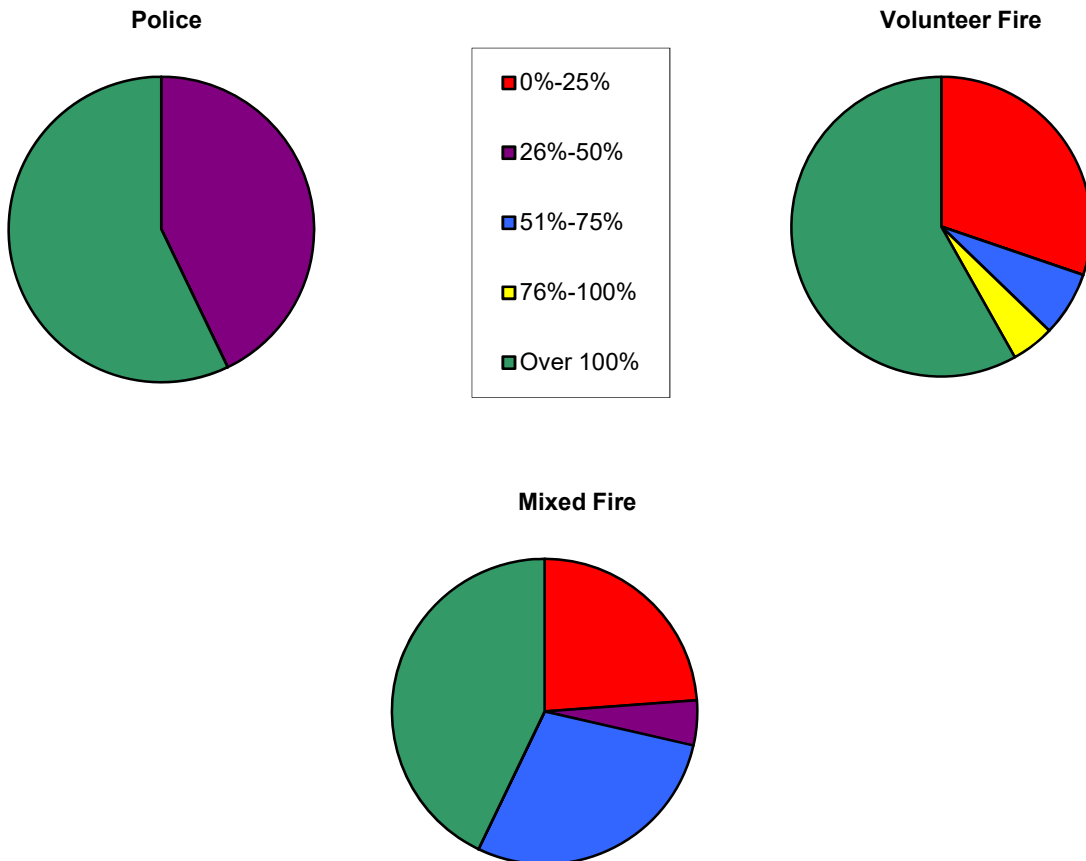


EXHIBIT 4 (continued)

Comparison of Percentages of Accrued Liabilities Covered by Assets and
2018 Reported Contributions as Percent of Computed Contributions

Total of All Plans

Number of Plans

<u>Contribution Ratio</u>	<u>Funded Percentage</u>				
	<u>0%-25%</u>	<u>26%-50%</u>	<u>51%-75%</u>	<u>76%-100%</u>	<u>Over 100%</u>
0%-25%	1	2	4	11	0
26%-50%	1	2	1	0	0
51%-75%	0	2	5	2	0
76%-100%	0	0	0	2	0
Over 100%	0	0	0	13	25

EXHIBIT 5

Arkansas Municipal Police and Fire Funds

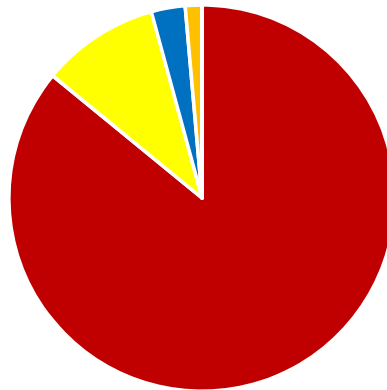
Average Market Rates of Returns 2009-2018

Based on Summary Results of the

December 31, 2018 Actuarial Valuations

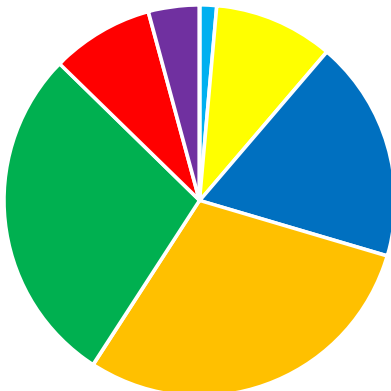
	<u>2018 Rate of Return</u>	<u>5-year Average</u>	<u>10-year Average</u>
Less than 0%	61	1	0
Less than 1%, greater than 0%	7	7	3
Less than 2%, greater than 1%	2	13	7
Less than 3%, greater than 2%	1	21	2
Less than 4%, greater than 3%	0	20	7
Less than 5%, greater than 4%	0	6	9
Less than 6%, greater than 5%	0	3	11
Greater than 6%	0	0	32

2018 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

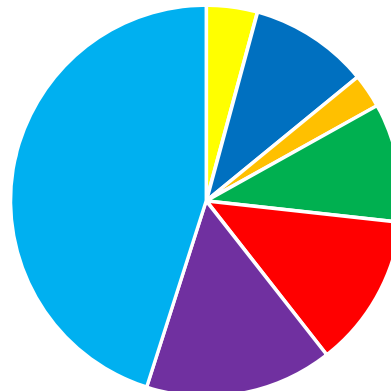


EXHIBIT 6

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, 2018. The mixed fire plans are shown as one plan on a single line.

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 2018 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
5	<60%	<3%	<25%	<10 yrs.
4	60%-75%	3%-4%	25%-50%	10-20 yrs.
3	75%-90%	4%-5%	50%-75%	>20 yrs.
2	90%-110%	5%-6%	75%-100%	No Crossover
1	>110%	>6%	>100%	And Act. Sound

EXHIBIT 6 (Continued)

Arkansas Municipal Police and Fire Pension and Relief Funds

Based on the December 31, 2018 Actuarial Valuation

	Type of Plan	Market Value Assets as of 12/31/2018	Valuation Assets as of 12/31/2018	Unfunded Actuarial Liability	Number of Individuals Covered	Actuarially Computed Contribution	Actual 2018 Contribution	Funded Status	Projected Years until all Assets Depleted	Risk Indicators			
										a	b	c	d
Alma	Volunteer Fire	672,239	679,868	199,624	13	45,010	25,948	D	*	3	1	3	2
Amity	Volunteer Fire	177,270	177,864	(17,087)	10	0	20	A	*	1	4	1	1
Arkadelphia	Mixed Fire	502,009	442,054	589,785	19	132,982	92,563	D	*	5	2	3	2
Ashdown	Volunteer Fire	650,141	635,688	(135,826)	12	0	0	A	*	1	1	1	1
Batesville	Mixed Fire	374,998	756,754	2,381,734	16	537,022	114,176	F	Less than 10	5	5	5	5
Beebe	Mixed Fire	385,974	390,976	259,002	6	58,399	6,376	E	10-20	4	5	5	4
Benton	Mixed Fire	2,221,195	2,417,759	3,805,985	29	858,156	637,446	D	*	5	4	3	2
Blytheville	Mixed Fire	1,912,857	1,977,429	2,793,165	25	629,790	130,730	F	Less than 10	5	1	5	5
Booneville	Volunteer Fire	205,356	205,356	118,550	12	26,730	14,243	D	*	4	4	3	2
Brinkley	Mixed Fire	568,051	688,667	(39,530)	9	0	12,848	A	*	2	2	1	1
Cabot	Mixed Fire	2,673,468	2,394,465	(291,161)	7	0	11	A	*	1	3	1	1
Carlisle	Volunteer Fire	189,616	195,768	12,111	13	2,731	11,481	C	*	2	5	1	2
Centerton	Mixed Fire	986,336	1,066,885	328,787	10	74,133	81,507	C	*	3	1	1	2
Charleston	Volunteer Fire	454,592	356,311	(182,415)	14	0	14,384	A	*	1	1	1	1
Clarendon	Volunteer Fire	271,762	280,417	21,498	7	4,847	3,861	D	*	2	1	2	2
Crawfordsville	Volunteer Fire	141,773	146,896	7,253	10	1,635	73	E	10-20	2	2	5	4
Dardanelle	Volunteer Fire	587,000	604,859	(43,206)	13	0	36,976	A	*	2	1	1	1
Decatur	Volunteer Fire	149,169	148,693	31,062	5	7,004	0	D	20+	3	1	5	3
Dermott	Volunteer Fire	326,674	329,353	30,470	14	6,870	8,199	C	*	2	1	1	2
DeWitt	Mixed Fire	209,707	228,695	95,040	11	21,429	0	E	10-20	4	2	5	4
Dumas	Volunteer Fire	469,065	547,246	31,917	12	7,196	36	E	10-20	2	2	5	4
Earle	Volunteer Fire	267,063	300,232	8,010	11	1,806	0	E	10-20	2	5	5	4
Elaine	Volunteer Fire	190,658	198,022	(8,253)	9	0	5,120	A	*	2	2	1	1
Elkins	Volunteer Fire	282,054	327,491	(39,956)	11	0	0	A	*	1	1	1	3
Eureka Springs	Mixed Fire	725,124	731,045	149,492	23	33,707	34,886	C	*	3	1	1	2
Fayetteville	Mixed Fire	2,676,066	2,873,302	12,062,952	46	2,719,899	838,149	F	Less than 10	5	1	4	5
Fayetteville	Paid Police	5,689,562	5,347,236	11,097,062	40	2,502,114	944,631	D	*	5	2	4	2

EXHIBIT 6 (Continued)

Arkansas Municipal Police and Fire Pension and Relief Funds

Based on the December 31, 2018 Actuarial Valuation

Type of Plan	Market Value	Valuation	Unfunded	Number of	Actuarially	Actual	Funded	Projected Years	Risk	Indicators			
	Assets as of 12/31/2018	Assets as of 12/31/2018	Actuarial Liability	Individuals Covered	Computed Contribution	2018 Contribution				Status	until all Assets Depleted	a	b
Flippin	Volunteer Fire	214,628	213,492	(46,429)	11	0	5,899	A	*	1	4	1	1
Fordyce	Volunteer Fire	555,871	586,623	3,070	14	692	13,970	B	*	2	1	1	1
Foreman	Volunteer Fire	182,134	178,966	4,540	9	1,024	128	D	*	2	1	5	2
Gassville	Volunteer Fire	120,645	135,979	114,486	8	25,814	18,573	D	*	5	1	3	2
Glenwood	Volunteer Fire	186,800	191,212	41,319	9	9,316	281	E	10-20	3	1	5	4
Gravette	Volunteer Fire	119,536	126,953	(4,451)	5	0	0	A	*	2	3	1	3
Greers Ferry	Volunteer Fire	155,431	166,212	(40,802)	7	0	0	A	*	1	3	1	1
Gurdon	Volunteer Fire	253,826	261,348	(34,307)	7	0	4,646	A	*	1	2	1	1
Hamburg	Volunteer Fire	239,727	241,498	(2,736)	14	0	0	A	*	2	1	1	1
Harrison	Mixed Fire	3,350,563	3,357,999	740,458	18	166,955	245,057	C	*	3	1	1	2
Harrison	Paid Police	2,569,509	2,583,467	471,397	10	106,288	106,467	C	*	3	1	1	2
Hazen	Volunteer Fire	226,917	226,917	(34,935)	14	0	10,800	A	*	1	5	1	1
Hickory Ridge	Volunteer Fire	281,933	294,450	(16,146)	8	0	2,542	A	*	2	5	1	1
Hope	Mixed Fire	1,985,324	1,917,070	50,998	15	11,499	84,631	B	*	2	5	1	1
Hughes	Volunteer Fire	164,743	164,206	34,129	11	7,695	311	E	10-20	3	1	5	4
Huttig	Volunteer Fire	194,998	194,998	(51,057)	10	0	8,532	A	*	1	5	1	1
Jacksonville	Mixed Fire	6,012,769	5,676,553	3,342,579	37	753,669	388,103	D	*	4	3	3	2
Jacksonville	Paid Police	5,731,676	6,087,641	(229,323)	19	0	334,484	A	*	2	2	1	1
Judsonia	Volunteer Fire	179,955	185,353	12,449	12	2,807	346	D	20+	2	3	5	3
Lepanto	Volunteer Fire	145,478	148,801	13,972	12	3,150	5,584	C	*	2	5	1	2
Lonoke	Volunteer Fire	477,626	567,979	(23,053)	12	0	18,798	A	*	2	4	1	1
Mammoth Spring	Volunteer Fire	63,810	63,810	56,455	6	12,729	1,626	F	Less than 10	5	5	5	5
Manila	Volunteer Fire	320,913	312,633	23,027	13	5,192	14,782	C	*	2	1	1	2
Marianna	Mixed Fire	818,431	822,991	187,126	16	42,192	7,354	D	20+	3	4	5	3
Marion	Volunteer Fire	190,896	208,882	170,954	10	38,546	0	F	Less than 10	5	4	5	5
Morrilton	Volunteer Fire	1,456,821	1,474,534	(114,886)	20	0	43,713	A	*	2	1	1	1
Mount Ida	Volunteer Fire	451,840	412,124	33,832	10	7,628	30	D	*	2	2	5	2

EXHIBIT 6 (Continued)

Arkansas Municipal Police and Fire Pension and Relief Funds

Based on the December 31, 2018 Actuarial Valuation

Type of Plan	Market Value	Valuation	Unfunded	Number of	Actuarially	Actual	Funded	Projected Years	Risk	Indicators			
	Assets as of 12/31/2018	Assets as of 12/31/2018	Actuarial Liability	Individuals Covered	Computed Contribution	2018 Contribution				until all Assets Depleted	a	b	c
Mountainburg	Volunteer Fire	132,517	132,517	10,227	10	2,306	1,868	D	*	2	5	2	2
Nashville	Volunteer Fire	378,602	383,999	61,637	13	13,898	0	E	10-20	3	1	5	4
Osceola	Mixed Fire	2,721,064	2,862,919	90,290	16	20,358	66,260	B	*	2	1	1	2
Paris	Volunteer Fire	195,969	209,894	18,299	10	4,126	15,916	C	*	2	3	1	2
Prairie Grove	Volunteer Fire	300,932	310,627	(57,034)	8	0	0	A	*	1	3	1	1
Rogers	Mixed Fire	8,555,702	9,179,833	2,789,229	39	628,903	791,520	C	*	3	3	1	2
Rogers	Paid Police	20,614,451	21,941,767	(8,597,934)	20	0	797,392	A	*	1	1	1	1
Russellville	Mixed Fire	2,565,716	2,664,081	1,991,627	26	449,063	309,995	D	*	5	1	3	2
Russellville	Paid Police	5,021,808	5,401,751	(792,789)	10	0	258,296	A	*	1	1	1	1
Salem	Volunteer Fire	87,399	87,399	92,153	7	20,778	30	F	Less than 10	5	5	5	5
Siloam Springs	Mixed Fire	3,273,295	3,088,159	901,200	17	203,198	119,801	D	*	3	1	3	2
Springdale	Mixed Fire	8,540,484	8,484,880	4,982,289	41	1,123,384	593,337	D	*	4	1	3	2
Springdale	Paid Police	7,793,275	8,324,725	6,379,646	34	1,438,453	689,867	D	*	5	1	4	2
Texarkana	Paid Police	4,166,205	4,484,195	8,267,567	40	1,864,133	734,533	D	*	5	2	4	2
Waldron	Volunteer Fire	198,365	198,954	(11,829)	12	0	9,110	A	*	2	3	1	1
Warren	Mixed Fire	361,175	359,956	(71,667)	14	0	15,297	A	*	1	1	1	1
Yellville	Volunteer Fire	603,629	595,822	(216,652)	11	0	27,322	A	*	1	1	1	1

Totals: **116,123,169** **119,963,499** **53,804,989** **1,072** **14,635,260** **8,760,865** **Key:** **Least Risk** **1**

Note: Risk Indicators are the metrics included in the cover letter of the Annual Actuarial Valuation for each Local Plan.

- a) Funding Percentage Risk
- b) 10-Year Market Return Risk
- c) Recommended Contribution Risk
- d) Future Crossover Point Risk

2
3
4
Most Risk 5