

# Arkansas Local Police and Fire Retirement System

Compiled Annual Actuarial Valuation Report  
as of December 31, 2017



# Outline of Contents

## Compiled Actuarial Valuation Report

Pages	Items
1	Cover Letter
	<b><i>Executive Summary</i></b>
A-1	Comments
A-2	Recommendations and Conclusion
A-3	Other Observations
	<b><i>Valuation Results</i></b>
B-1	Computed Employer Contribution Rate - Paid Service Members
B-3	Computed Employer Contribution Rate - Volunteer Service Members
B-4	Reported Accrued Assets Available for Benefits
B-5	Development of Actuarial Value of Retirement System Assets
B-6	Comparison of Annual Market Rate to Recognized Rate
B-7	Summary of Assets, Accrued Liabilities and Average Contribution Rate
B-11	Terminated Vested, Active Inactive, Retired and DROP Members Actuarial Accrued Liabilities
B-13	Schedule of Funding Progress
B-15	Schedule of Employer Contributions
B-16	Comparative Statements
B-18	Gain (Loss) Development
B-19	Risk Measures
B-20	Results for Local Plans under LOPFI Administration
B-28	Results for LOPFI Plans with Active Members in Other Departments and with No Active Members
	<b><i>Benefit Provisions and Valuation Data</i></b>
C-1	Benefit Program 1 Paid Service Members Summary of Benefits
C-7	Benefit Program 2 Paid Service Members Summary of Benefits
C-8	Volunteer Service Members Summary of Benefits
C-10	Covered Groups and Covered Persons
C-33	Participating Group by Type
	<b><i>Financial Principles</i></b>
D-1	Financial Principles and Operational Techniques of LOPFI
D-3	Financing Diagram
D-4	Actuarial Valuation Process
	<b><i>Summary of Actuarial Assumptions and Methods</i></b>
E-1	Summary of Assumptions Used for Actuarial Valuations



July 6, 2018

Board of Trustees  
Arkansas Local Police and Fire  
Retirement System  
Little Rock, Arkansas

Dear Board Members:

Submitted in this report are the compiled results of the annual actuarial valuations for the Arkansas Local Police and Fire Retirement System (LOPFI). The date of the valuation was December 31, 2017.

This report was prepared at the request of the Board and is intended for use by the Retirement System and those designated or approved by the Board (including employers participating in LOPFI). This report may be provided to parties other than the System only in its entirety and only with the permission of the Board. GRS is not responsible for unauthorized use of this report.

This report should not be relied on for any purpose other than the purposes described herein. Determinations of financial results, associated with the benefits described in this report, for purposes other than those identified above may be significantly different.

The purpose of the valuation is to measure the funding progress in relation to the actuarial cost method and to determine the employer contribution rate for the Fiscal Year beginning January 1, 2019. These measurements were made in accordance with the basic financial objective of the Arkansas Local Police and Fire Retirement System (LOPFI): to establish and receive contributions which, expressed as a percent of active member payroll, will remain approximately level from generation-to-generation and when combined with present assets and future investment return will be sufficient to meet the financial obligations of LOPFI to present and future benefit recipients. Calculations required for compliance with the Governmental Accounting Standards Board (GASB) Statements No. 67 and No. 68 have been issued in a separate report.

Results of the 2017 actuarial valuations indicate that aggregate actuarial accrued liabilities are 71% covered by assets. This result includes the 227 local police and fire pension and relief funds which are closed to new hires and for which LOPFI also serves as administrative agent. Continued receipt of computed employer and member contributions will improve this financial condition and allow LOPFI to continue to operate in sound condition in accordance with the actuarial principles of level cost financing.

The valuations were based upon data furnished to us concerning active and retired members and System assets as of December 31, 2017. The cooperation of the Executive Director and the LOPFI staff in furnishing the materials required for these valuations is acknowledged with appreciation. We checked for internal and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of the data provided by LOPFI staff.

The actuarial methods and assumptions used in making the valuations are shown in Section E of this report. The December 31, 2017 valuation was based upon demographic assumptions that were recommended in connection with a study of experience covering the period from January 1, 2012 through December 31, 2016 and the economic assumptions adopted by the Board in December 2017. These assumptions were established by the Board after consulting with the actuary as outlined in A.C.A. 24-10-205(a)(1).

**In our professional judgment, the discount rate of 7.50% used in this report deviates materially from the guidance set forth in Actuarial Standard of Practice No. 27 (ASOP No. 27).** The September 7, 2017 experience study presentation covering the period from January 1, 2012 through December 31, 2016 included an analysis of the long-term rate of investment return and inflation assumptions and suggested that an investment return assumption in the range of 6.25% to 7.0% would be reasonable. Please see our report dated September 29, 2017 for additional information.

Further discussion occurred during the December 7, 2017 Board meeting where a 7.25% discount rate was considered and also determined to be reasonable. If a discount rate which was determined to be reasonable were used in this valuation instead of 7.5%, the unfunded liability would be higher and either the contribution or amortization period would be higher as well. For example, the amortization period based on a 7.0% discount rate would be 34 years for paid and 27 years for volunteer.

To the best of our knowledge, this report is complete and accurate and was made in accordance with standards of practice promulgated by the Actuarial Standards Board of the American Academy of Actuaries and in conformance with Title 24 of the Arkansas Code. In our opinion, the demographic assumptions used for the valuation produce results which, individually and in the aggregate, are reasonable. Note that other assumptions and methods could also be reasonable and could result in materially different results. In addition, because it is not possible or practical to consider every possible contingency, we may use summary information, estimates or simplifications of calculations to facilitate the modeling of future events. We may also exclude factors or data that are deemed to be immaterial. Each actuarial valuation takes into account all prior differences between actual and assumed experience in each risk area and adjusts the contribution rates as needed.



Please be aware that future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as: plan experience differing from that anticipated by the economic and demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of the actuary's assignment, the actuary did not perform an analysis of the potential range of such future measurements.

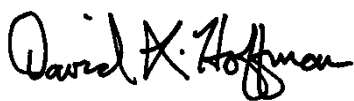
The contribution rate in this report is determined using the actuarial assumptions and methods disclosed in Section E of this report. This report includes risk metrics on page B-19, but does not include a more robust assessment of the risks of future experience not meeting the actuarial assumptions. Additional assessment of risks was outside the scope of this assignment. We encourage a review and assessment of investment and other significant risks that may have a material effect on the plan's financial condition.

This valuation assumed the continuing ability of the plan sponsor to make contributions necessary to fund this plan. A determination of the ability of the plan sponsor to do so is outside our area of expertise and was not performed.

The individuals who prepared this report have substantial experience valuing public employee retirement systems and are independent of the plan sponsor. Heidi G. Barry is a Member of the American Academy of Actuaries (MAAA) and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

If you have any questions concerning this report or LOPFI in general, please contact the LOPFI office.

Respectfully submitted,



David L. Hoffman



Heidi G. Barry, ASA, FCA, MAAA

DLH/HGB:bd

## **SECTION A**

---

### **EXECUTIVE SUMMARY**

# Executive Summary

## Comments

**Comment 1:** The December 31, 2017 actuarial valuations establish employer contribution rates for the fiscal year beginning in calendar year 2019. Contribution rates for 285 paid service valuation groups were computed. In addition, Local Pension and Relief Fund groups under LOPFI administration were included to develop combined employer contribution rates for affected employers. The average contribution rate is 22.44% and is uncapped and based on a 17.0-year amortization period. This rate reflects the Board policy of increasing all individual location employer rates by 1% of pay until all or most employer rates can be merged into a single uniform paid service employer rate. The Board policy also reflects a maximum employer contribution rate of 23.50% for calendar year 2019. For Benefit Program 2 paid service employers participating in LOPFI, the uniform rate is the Benefit Program 1 rate plus a surcharge of 2.50%.

**Comment 2:** Due to changes enacted in the 2007 Session of the Arkansas General Assembly, all Benefit Program 3 volunteer service employers participating in LOPFI are charged a uniform rate for the calendar year. For calendar year 2019, that rate is \$59.00 per member per month (\$5.90 per member per month after allocation of Premium Tax money) based on a 16.0-year amortization period. This rate was computed as \$55.62 (\$5.60 per member per month after allocation of Premium Tax money) in the prior valuation based on an 18.5-year amortization period. For Benefit Program 4 volunteer service employers participating in LOPFI, the uniform rate is the Benefit Program 3 rate plus a surcharge of \$20.00.

**Comment 3:** Overall experience for the year ending December 31, 2017 was unfavorable. Experience losses totaled \$7.3 million or about 30 basis points relative to the actuarial accrued liabilities (see page B-18). The market value rate of return for the year ended December 31, 2017 was 13.9% while the recognized rate of return was 8.2%.

**Comment 4:** The ratio of actuarial value of assets to market value of assets is currently 99.6%, as the market value of assets exceeded the actuarial value of assets by \$8.6 million. If near term experience matches expectations, in particular that market value returns of 7.50% are achieved each year for the next four years, the phase-in of these yet to be recognized losses will decrease the paid service employer contribution rate by 0.16% of active member payroll.

**Comment 5:** Actuarial accrued liabilities, including both LOPFI and Local Pension and Relief Funds under LOPFI administration, totaled \$2.892 billion while actuarial valuation assets totaled \$2.066 billion. Hence, actuarial accrued liabilities are 71% covered by actuarial valuation assets as of December 31, 2017. Excluding the Local Funds, actuarial accrued liabilities are 76% covered by valuation assets.

**Comment 6:** There were no changes in benefit provisions or methods in the December 31, 2017 actuarial valuation. There were changes in assumptions in the December 31, 2017 actuarial valuation associated with the results of the Experience Study covering the period January 1, 2012 through December 31, 2016. The Board adopted the proposed demographic changes at the December 2017 Board meeting. The Board also adopted an investment return assumption of 7.50% at the December 2017 Board meeting.

## Executive Summary

### Recommendations and Conclusion

**Recommendation 1:** In our professional judgment, the discount rate of 7.50% used in this report deviates materially from the guidance set forth in Actuarial Standard of Practice No. 27 (ASOP No. 27). The September 7, 2017 experience study presentation covering the period from January 1, 2012 through December 31, 2016 included an analysis of the long-term rate of investment return and inflation assumptions and suggested that an investment return assumption in the range of 6.25% to 7.0% would be reasonable. Please see our report dated September 29, 2017 for additional information. Further discussion occurred during the December 7, 2017 Board meeting where a 7.25% discount rate was considered and also determined to be reasonable. We recommend the Board review and consider lowering the investment return assumption prior to the December 31, 2018 valuation.

**Recommendation 2:** We recommend that the Section 24-10-405(h)(1) limits be removed (or at least increased). This limit hinders the complete implementation of the single paid service employer rate and may, over the long run, impair the ability to maintain a sound retirement plan.

**Conclusion:** The Retirement System's financial objective is to meet long-term benefit obligations through contributions that remain approximately level from year-to-year as a percent of active member payroll. Continued receipt of these contributions is the best guarantee that the Retirement System will be able to pay all promised benefits when due.



## Executive Summary – Other Observations

### General Implications of Contribution Allocation Procedure or Funding Policy on Future Expected Plan Contributions and Funded Status

Given the plan's contribution allocation procedure, if all actuarial assumptions are met (including the assumption of the plan earning 7.50% on the actuarial value of assets), it is expected that:

- 1) The employer normal cost is sufficient to cover the cost of benefits accruing each year;
- 2) The unfunded actuarial accrued liabilities will be fully amortized after 17.0 years for paid service and 16.0 years for volunteer service; and
- 3) The funded status of the plan will increase gradually towards a 100% funded ratio.

### Limitations of Funded Status Measurements

Unless otherwise indicated, a funded status measurement presented in this report is based upon the actuarial accrued liability and the actuarial value of assets. Unless otherwise indicated, with regard to any funded status measurements presented in this report:

- 1) The measurement is inappropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations, in other words, of transferring the obligations to an unrelated third party in an arm's length market value type transaction.
- 2) The measurement is dependent upon the actuarial cost method which, in combination with the plan's amortization policy, affects the timing and amounts of future contributions. A funded status measurement in this report of 100% is not synonymous with no required future contributions. If the funded status were 100%, the plan would still require future normal cost contributions (i.e., contributions to cover the cost of the active membership accruing an additional year of service credit).
- 3) The measurement would produce a different result if the market value of assets were used instead of the actuarial value of assets, unless the market value of assets is used in the measurement.

### Limitations of Project Scope

Actuarial standards do not require the actuary to evaluate the ability of the plan sponsor or other contributing entity to make required contributions to the plan when due. Such an evaluation was not within the scope of this project and is not within the actuary's domain of expertise. Consequently, the actuary performed no such evaluation.

### Risks to Future Employer Contribution Requirements

There are ongoing risks to future employer contribution requirements to which the Retirement System is exposed, such as:

- Actual and Assumed Investment Rate of Return
- Actual and Assumed Wage Inflation
- Actual and Assumed Mortality Rates
- Amortization Policy

## **SECTION B**

---

### **VALUATION RESULTS**

**LOPFI**  
**Average Computed Employer Contribution Rate**  
**for Paid Service Members**

**Computed December 31, 2017**  
**for Plan Year Beginning January 1, 2019**

Contributions	% of Active Payroll #
Normal Cost of Benefits:	
Age and Service	13.01%
Casualty	2.43%
Refunds	0.87%
Total	16.31%
Unfunded Accrued Liabilities *	12.80%
Total Contribution Requirement	29.11%
Member Portion @	6.67%
Employer Portion before Application of 24-10-405(h)(1) 1% Limit	22.44%
Employer Portion after Application of 24-10-405(h)(1) 1% Limit	22.44%

# Includes DROP participant payroll.

\* Unfunded actuarial accrued liabilities are amortized over a 17.0-year period.

@ Weighted average, Social Security covered members contribute 2.50% of pay while members not covered by Social Security contribute 8.50% of pay.

**LOPFI**  
**Computed Employer Contributions**  
**for Paid Service Members by Valuation Groups**  
**December 31, 2017@**

Group	Number of Active Members	Number of Valuation Groups with Indicated Computed Employer Contributions Expressed as Percents of Active Member Payroll														Totals	
		Under 11.00%	11.00% -11.99%	12.00% -12.99%	13.00% -13.99%	14.00% -14.99%	15.00% -15.99%	16.00% -16.99%	17.00% -17.99%	18.00% -18.99%	19.00% -19.99%	20.00% -20.99%	21.00% -21.99%	22.00% -22.99%	23.00% & Above		
		Paid Police:															
W/SS	2,196	1	-	-	1	1	1	2	2	9	4	8	11	16	126	182	
W/O SS	1,635	-	-	-	-	-	2	1	2	1	1	2	3	-	2	14	
Paid Fire:																	
W/SS	126	-	-	-	-	-	-	-	-	-	-	-	1	1	25	27	
W/O SS	2,694	-	-	-	-	-	-	2	3	1	-	5	3	7	41	62	
December 31, 2017 *	6,651	1	-	-	1	1	3	5	7	11	5	15	18	24	194	285	

Group	Number of Active Members	Number of Valuation Groups with Indicated Computed Employer Contributions Expressed as Percents of Active Member Payroll									Totals
		Under 9.00%	9.00% -9.99%	10.00% -10.99%	11.00% -11.99%	12.00% -12.99%	13.00% -13.99%	14.00% -14.99%	15.00% -15.99%	16.00% & Above	
		December 31, 2016	6,551	-	1	-	-	-	2	3	
December 31, 2015 *	6,430	1	-	-	1	2	3	5	7	266	285
December 31, 2014	6,323	1	-	1	2	3	5	6	11	247	276
December 31, 2013	6,245	1	-	2	3	5	6	11	6	238	272
December 31, 2012 *#	6,139	1	2	3	6	6	11	7	16	220	272
December 31, 2011	6,016	3	3	6	6	12	6	17	19	203	275
December 31, 2010	5,949	7	6	6	13	6	17	18	27	174	274
December 31, 2009	5,907	8	8	8	5	11	20	17	33	159	269
December 31, 2008 *#	5,640	13	7	4	12	17	17	27	26	135	258

\* After changes in actuarial valuation assumptions.

# After legislated benefit changes.

@ Rules established by Board policy to implement uniform paid service rule applied on and after December 31, 2011. All paid service employer rates increased by the maximum allowed under law.

**LOPFI**  
**Computed Employer Contribution Rate**  
**for Volunteer Service Members**

**Computed December 31, 2017**  
**for Plan Year Beginning January 1, 2019**

Contributions	\$ Per Member Per Month
Normal Cost of Benefits:	
Age and Service	\$ 22.73
Casualty	1.17
Refunds	-
Total	<u>23.90</u>
Unfunded Accrued Liabilities *	<u>35.10</u>
Total Contribution Requirement	59.00
Member Portion	-
Employer Portion	\$ 59.00

\* *Unfunded actuarial accrued liabilities were amortized over a 16.0-year period.*

# LOPFI

## Reported Accrued Assets Available for Benefits

### December 31, 2017

Group Type	No. #	Employer Accumulation Account	Members' Deposit Account	Retirement Reserve Account &	Totals @
Paid Police W/SS	182	\$ 121,219,818	\$ 16,254,570	\$ -	\$ 137,474,388
Paid Police W/O SS	14	228,531,338	83,612,289	-	312,143,627
Paid Fire W/SS	27	7,609,311	1,902,664	-	9,511,975
Paid Fire W/O SS	62	405,445,087	127,459,279	-	532,904,366
Subtotal	285	762,805,554	229,228,802	-	992,034,356
Volunteer Police and Fire	579	41,939,756	-	-	41,939,756
Retirants and Beneficiaries	-	-	-	825,416,781	825,416,781
Total	864	\$ 804,745,310	\$ 229,228,802	\$ 825,416,781	\$ 1,859,390,893

**The Employer Accumulation Account** represents employer contributions accumulated for the payment of annuities.

**The Members' Deposit Account** represents employee contributions for (1) monthly annuities upon future retirements and (2) refunds upon termination if a monthly annuity is not payable.

**The Retirement Reserve Account** represents employer and employee contributions accumulated for monthly annuities being paid to present retired lives.

# Number of employers with active participants as of December 31, 2017. Totals include accounts for employers with no active participants as of December 31, 2017.

& Includes DROP Reserve Account.

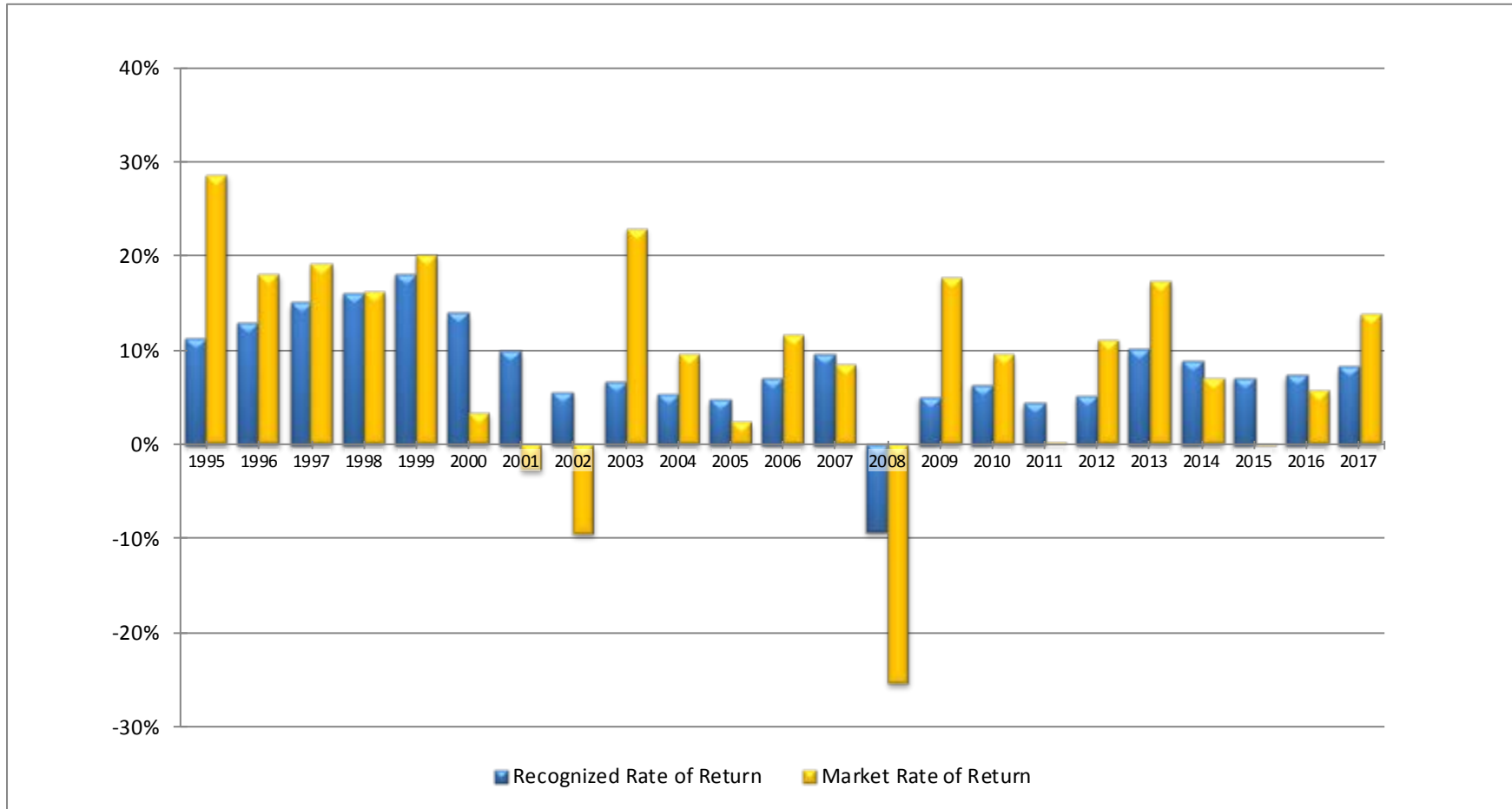
@ Does not include assets of \$215,227,546 invested by LOPFI on behalf of Pension and Relief Funds under LOPFI administration.

# LOPFI

## Development of Actuarial Value of Retirement System Assets (Including Assets of Pension and Relief Fund Plans Under LOPFI Administration)

Year Ended December 31:	2013	2014	2015	2016	2017
A. Actuarial Value Beginning of Year	\$1,169,357,127	\$1,391,830,575	\$1,554,175,988	\$1,702,593,072	\$1,857,485,451
B. Market Value End of Year	1,467,975,980	1,610,091,699	1,646,678,312	1,770,838,998	2,074,618,439
C. Market Value Beginning of Year	1,158,753,904	1,467,975,980	1,610,091,699	1,646,678,312	1,770,838,998
D. Non-Investment Net Cash Flow	99,797,352	37,152,170	37,416,976	28,455,864	53,667,520
E. Investment Income					
E1. Market Total: B - C - D	209,424,724	104,963,549	(830,363)	95,704,822	250,111,921
E1(a). Assumed Rate of Return	8.00%	8.00%	8.00%	7.75%	7.75%
E2. Amount for Immediate Recognition	97,540,464	112,832,533	125,830,748	133,053,628	146,034,739
E3. Amount for Phased-In Recognition: E1-E2	111,884,260	(7,868,984)	(126,661,111)	(37,348,806)	104,077,182
F. Phased-In Recognition of Investment Income					
F1. Current Year: 0.20 x E3	22,376,852	(1,573,797)	(25,332,222)	(7,469,761)	20,815,436
F2. First Prior Year	5,381,814	22,376,852	(1,573,797)	(25,332,222)	(7,469,761)
F3. Second Prior Year	(15,683,289)	5,381,814	22,376,852	(1,573,797)	(25,332,222)
F4. Third Prior Year	1,859,130	(15,683,289)	5,381,814	22,376,852	(1,573,797)
F5. Fourth Prior Year	<u>11,201,125</u>	<u>1,859,130</u>	<u>(15,683,287)</u>	<u>5,381,815</u>	<u>22,376,852</u>
F6. Total Recognized Investment Gain	25,135,632	12,360,710	(14,830,640)	(6,617,113)	8,816,508
G. Actuarial Value End of Year: A + D + E2 + F6	1,391,830,575	1,554,175,988	1,702,593,072	1,857,485,451	2,066,004,218
120% Corridor	1,761,571,176	1,932,110,039	1,976,013,974	2,125,006,798	2,489,542,127
80% Corridor	1,174,380,784	1,288,073,359	1,317,342,650	1,416,671,198	1,659,694,751
Actuarial Value End of Year	1,391,830,575	1,554,175,988	1,702,593,072	1,857,485,451	2,066,004,218
H. Difference Between Market & Actuarial Value	76,145,405	55,915,711	(55,914,760)	(86,646,453)	8,614,221
I. Recognized Rate of Return	10.06%	8.88%	7.06%	7.36%	8.22%
J. Market Rate of Return	17.33%	7.06%	(0.05)%	5.76%	13.91%
K. Ratio of Actuarial Value to Market Value	94.81%	96.53%	103.40%	104.89%	99.58%

## LOPFI Comparison of Annual Market Rate to Recognized Rate





## LOPFI

### Summary of Valuation Assets, Actuarial Accrued Liabilities and Average Contribution Rate Excluding Pension and Relief Funds Under LOPFI Administration

#### Paid Participants

Valuation Date ^	Valuation Groups	Active Members	Actuarial Accrued Liabilities	Actuarial Valuation Assets	Assets/ Liabilities*	Average Contribution Rate <sup>1</sup>	Average Contribution Rate <sup>2</sup>	Amortization Period
12/31/2005	236	5,115	\$ 526,635,441	\$ 483,789,282	92 %	15.04 %		30
12/31/2006	247	5,328	603,842,363	555,752,156	92	15.11		30
12/31/2007	261	5,603	699,800,039	644,631,782	92	15.16	15.44 %	30
12/31/2008 #+	258	5,640	825,417,767	662,380,764	80	15.30	15.69	30
12/31/2009	269	5,907	946,423,135	622,560,540	66	17.25	18.79	30
12/31/2010	274	5,949	1,012,194,055	664,246,931	66	17.03	19.21	30
12/31/2011	275	6,016	1,077,498,958	698,331,958	65	18.01	19.63	30
12/31/2012 #+	272	6,139	1,144,065,505	741,339,106	65	18.97	18.97	22.3
12/31/2013	272	6,245	1,234,260,098	830,390,612	67	19.39	19.39	19.5
12/31/2014	276	6,323	1,309,948,715	911,335,468	70	20.12	20.12	16.3
12/31/2015 #	285	6,430	1,411,113,518	937,319,676	66	21.04	21.04	18.8
12/31/2016	283	6,551	1,469,152,456	974,820,813	66	21.90	21.90	16.8
12/31/2017	285	6,651	1,532,548,147	1,025,140,633	67	22.44	22.44	15.5
12/31/2017 #	285	6,651	1,557,008,108	1,013,951,503	65	22.44	22.44	17.0

\* If this ratio approximates 100%, it indicates that financial activity is operating within an expected range of reasonableness.

# After changes in actuarial valuation assumptions.

+ After legislated benefit changes and Board policy changes.

^ Rules established by Board policy to implement uniform paid service rule applied on and after December 31, 2011. All paid service employer rates increased by the maximum allowed under law.

1 With Section 24-10-405(h)(1) cap on rate increases as a result of plan experience.

2 Without Section 24-10-405(h)(1) cap on rate increases as a result of plan experience.

## LOPFI

### Summary of Valuation Assets, Actuarial Accrued Liabilities and Average Contribution Rate Excluding Pension and Relief Funds Under LOPFI Administration (Continued)

#### Volunteer Participants

Valuation Date	Valuation Groups	Active Members	Actuarial Accrued Liabilities	Actuarial Valuation Assets	Assets/ Liabilities*	Average Contribution Rate &	Amortization Period
12/31/2005	325	4,650	\$ 26,240,543	\$ 16,517,560	63 %	\$ 32.30	30
12/31/2006	341	4,905	30,139,607	18,430,385	61	33.91	30
12/31/2007	461	6,620	42,720,023	22,236,583	52	39.15	30
12/31/2008 #	457	6,603	47,019,246	17,508,921	37	46.14	30
12/31/2009	468	6,551	48,890,402	17,034,083	35	49.15	29
12/31/2010	485	6,734	52,068,716	19,655,706	38	49.62	28
12/31/2011	512	7,034	56,421,727	21,564,055	38	51.56	27
12/31/2012 #	511	7,029	60,215,143	23,703,257	39	53.75	26
12/31/2013	534	7,140	63,106,093	28,084,402	45	52.68	25
12/31/2014	554	7,347	65,739,819	32,649,827	50	52.68	20.7
12/31/2015 #	566	7,304	68,670,319	33,878,371	49	54.13	21.2
12/31/2016	573	7,391	72,092,819	38,164,014	53	55.62	18.5
12/31/2017	579	7,341	74,935,671	42,348,729	57	57.67	16.0
12/31/2017 #	579	7,341	75,746,636	41,497,711	55	59.00	16.0

\* If this ratio approximates 100%, it indicates that financial activity is operating within an expected range of reasonableness.

# After changes in actuarial valuation assumptions.

& Beginning with the December 31, 2006 valuation, volunteer employers are not separately experience rated for employer contribution rate purposes.

## LOPFI

### Summary of Valuation Assets, Actuarial Accrued Liabilities and Average Contribution Rate Excluding Pension and Relief Funds Under LOPFI Administration (Continued)

#### Retirants and Beneficiaries

Valuation Date	Valuation Groups	Active Members	Actuarial Accrued Liabilities	Actuarial Valuation Assets	Assets/ Liabilities*
12/31/2005	-	-	\$ 65,530,656	\$ 65,115,240	99 %
12/31/2006	-	-	79,179,485	80,827,514	102
12/31/2007	-	-	95,286,950	100,568,257	106
12/31/2008 #	-	-	122,445,893	122,445,893	100
12/31/2009	-	-	152,859,019	152,859,019	100
12/31/2010	-	-	189,166,801	189,166,801	100
12/31/2011	-	-	245,094,370	245,094,370	100
12/31/2012 #	-	-	308,554,826	308,554,826	100
12/31/2013	-	-	379,284,767	379,284,767	100
12/31/2014	-	-	449,064,235	449,064,235	100
12/31/2015 #	-	-	554,983,611	554,983,611	100
12/31/2016	-	-	664,379,492	664,379,492	100
12/31/2017	-	-	784,503,636	784,503,636	100
12/31/2017 #	-	-	796,543,784	796,543,784	100

\* If this ratio approximates 100%, it indicates that financial activity is operating within an expected range of reasonableness.

# After changes in actuarial valuation assumptions.

## LOPFI

### Summary of Valuation Assets, Actuarial Accrued Liabilities and Average Contribution Rate Excluding Pension and Relief Funds Under LOPFI Administration (Concluded)

#### Total Plan

Valuation Date	Valuation Groups	Active Members	Actuarial Accrued Liabilities	Actuarial Valuation Assets	Assets/ Liabilities*
12/31/2005	561	9,765	\$ 618,406,640	\$ 565,422,082	91 %
12/31/2006	588	10,233	713,161,455	655,010,055	92
12/31/2007	722	12,223	837,807,012	767,436,622	92
12/31/2008 #+	715	12,243	994,882,906	802,335,578	81
12/31/2009	737	12,458	1,148,172,556	792,453,642	69
12/31/2010	759	12,683	1,253,429,572	873,069,438	70
12/31/2011	787	13,050	1,379,015,055	964,990,383	70
12/31/2012 #+	783	13,168	1,512,835,474	1,073,597,189	71
12/31/2013	806	13,385	1,676,650,958	1,237,759,781	74
12/31/2014	830	13,670	1,824,752,769	1,393,049,530	76
12/31/2015 #	851	13,734	2,034,767,448	1,526,181,658	75
12/31/2016	856	13,942	2,205,624,767	1,677,364,319	76
12/31/2017	864	13,992	2,391,987,454	1,851,992,998	77
12/31/2017 #	864	13,992	2,429,298,528	1,851,992,998	76

\* If this ratio approximates 100%, it indicates that financial activity is operating within an expected range of reasonableness.

# After changes in actuarial valuation assumptions.

+ After legislated benefit changes.

## Other Results Associated with the Determination of Employer Contribution Rates Excluding Pension and Relief Funds Under LOPFI Administration

### Terminated Vested Results\*

The following table contains information regarding terminated vested member data used in the December 31, 2017 valuation. It includes projected benefits and the actuarial accrued liabilities associated with these benefits. The projected benefit reflects our best estimate of the ultimate benefit. The ultimate benefit will be based on the final average pay at termination increased for the total change (one half the change for paid service benefits) in the Consumer Price Index (CPI) for the period from 3 months immediately preceding the date of termination to the CPI for the period 3 months immediately preceding the benefit commencement date.

The December 31, 2017 valuation included 7,514 terminated vested members from 801 political subdivisions.

<u>Service Type</u>	<u>Number</u>	<u>Projected Benefits</u>	<u>Actuarial Accrued Liabilities</u>	<u>Average Age</u>
Paid	3,736	\$ 12,283,841	\$ 81,844,791	42.0
Volunteer	3,778	3,499,884	23,152,579	48.3
Total	7,514	\$ 15,783,725	\$ 104,997,370	45.2

\* The terminated vested data contains non-terminated vested members who are entitled to, but have not yet received, a refund from the System.

### Active Inactive Results

Active Inactive refers to members who have terminated service with an employer, but are currently active with a different employer in LOPFI. The following table contains information regarding the active inactive member data used in the December 31, 2017 valuation. It includes the actuarial accrued liabilities associated with the service accrued from the terminated employer.

The December 31, 2017 valuation included 3,980 active inactive members from 709 political subdivisions.

<u>Service Type</u>	<u>Number</u>	<u>Actuarial Accrued Liabilities</u>	<u>Average Age</u>
Paid	1,716	\$ 82,855,338	40.4
Volunteer	2,264	4,602,850	40.1
Total	3,980	\$ 87,458,188	40.2

# Other Results Associated with the Determination of Employer Contribution Rates Excluding Pension and Relief Funds Under LOPFI Administration (Concluded)

## Retired Results

The following table contains information regarding retired member data used in the December 31, 2017 valuation. When a member retires, a reserve transfer is made to the Retirement Reserve Account to fully fund the liabilities associated with the benefit recipient.

The December 31, 2017 valuation included 5,172 retired members from 766 political subdivisions.

<u>Service Type</u>	<u>Number</u>	<u>Annual Benefits</u>	<u>Actuarial Accrued Liabilities</u>	<u>Average Age at Valuation Date</u>	<u>Average Age at Retirement</u>
Paid	2,539	\$ 55,168,825	\$ 760,264,654	57.3	52.3
Volunteer	2,633	3,004,088	36,279,130	62.5	58.4
Total	5,172	\$ 58,172,913	\$ 796,543,784	59.9	55.4

## Deferred Retirement Option Plan (DROP) Results

The following table contains information regarding DROP member data used in the December 31, 2017 valuation. It includes current DROP account deposits, expected benefits at retirement and the actuarial accrued liabilities associated with these benefits.

The December 31, 2017 valuation included 350 DROP members from 79 political subdivisions.

<u>Service Type</u>	<u>Number</u>	<u>Annual DROP Benefits</u>	<u>Expected Annual Benefits at Retirement</u>	<u>Actuarial Accrued Liabilities</u>	<u>Average Age at Valuation Date</u>	<u>Average Age at DROP</u>
Paid	350	\$ 10,897,632	\$ 14,551,968	\$ 217,196,754	56.4	53.9

## LOPFI and Local Plans Schedule of Funding Progress

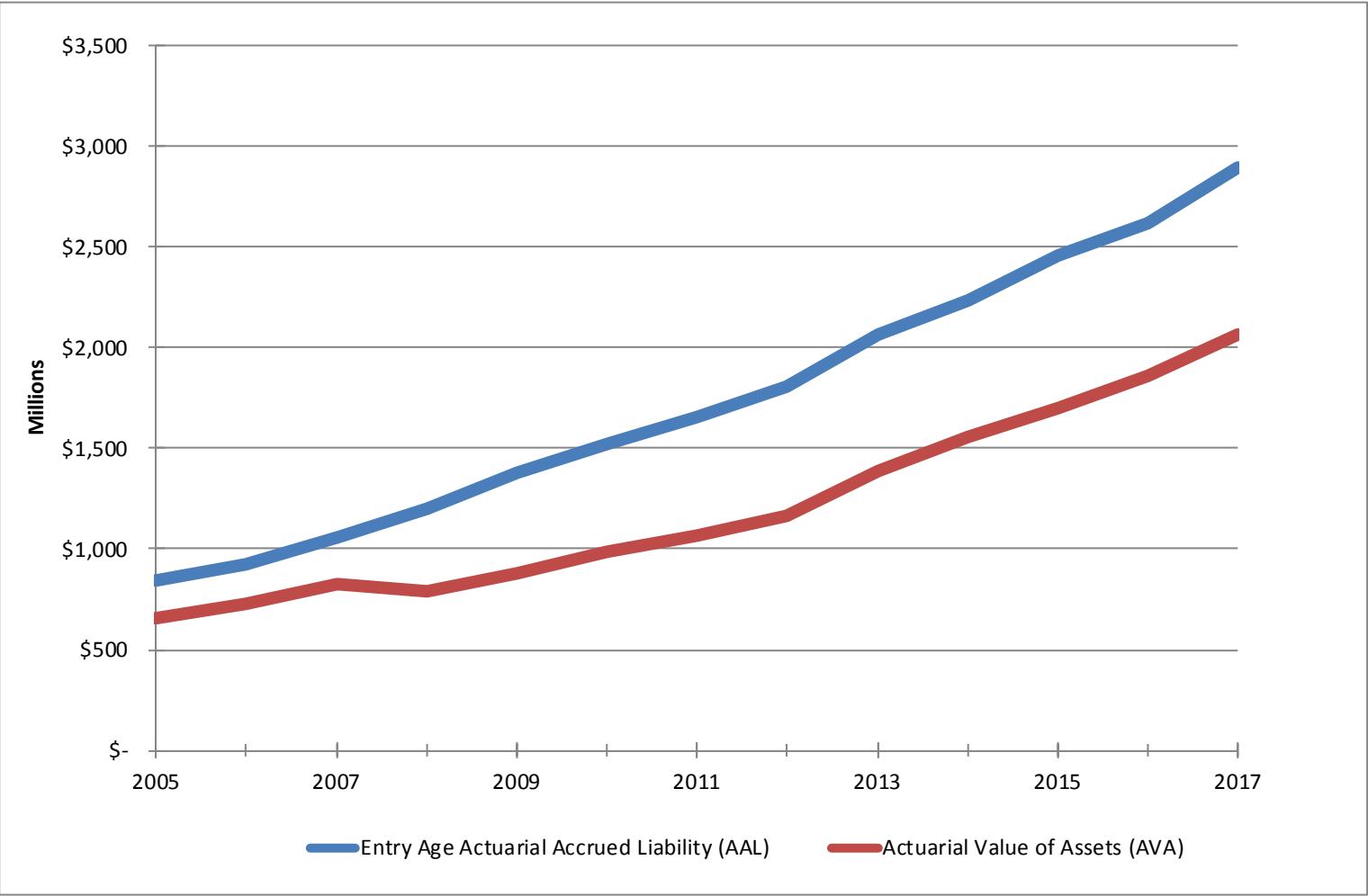
Actuarial Valuation Date	Actuarial Value of Assets (a)	Entry Age Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (c) = (b) - (a)	Funded Ratio (d) = (a)/(b)	Annual Valuation Payroll (e)	UAAL as a Percentage of Valuation Payroll (f) = (c)/(e)
12/31/2005	\$ 653,546,976	\$ 842,926,984	\$ 189,380,008	78%	\$ 207,890,440	91%
12/31/2006	724,746,827	927,816,659	203,069,832	78%	222,107,556	91%
12/31/2007	827,546,002	1,054,599,720	227,053,718	78%	235,337,218	96%
12/31/2008 #+	788,633,082	1,200,515,663	411,882,581	66%	245,775,341	168%
12/31/2009	878,958,364	1,379,093,412	500,135,048	64%	265,123,993	189%
12/31/2010	982,154,992	1,519,527,855	537,372,863	65%	268,424,127	200%
12/31/2011	1,070,685,918	1,654,156,087	583,470,169	65%	275,850,081	212%
12/31/2012 #+	1,169,357,127	1,805,815,641	636,458,514	65%	284,595,308	224%
12/31/2013	1,391,830,575	2,069,345,139	677,514,564	67%	298,805,693	227%
12/31/2014	1,554,175,988	2,235,441,597	681,265,609	70%	307,760,404	221%
12/31/2015 #	1,702,593,072	2,455,768,287	753,175,215	69%	317,133,046	237%
12/31/2016	1,857,485,451	2,623,115,852	765,630,401	71%	326,307,029	235%
12/31/2017 #	2,066,004,218	2,892,057,540	826,053,322	71%	338,837,262	244%

# After changes in actuarial valuation assumptions.

+ After legislated benefit changes and Board policy changes.

# LOPFI and Local Plans

## Actuarial Accrued Liability vs. Actuarial Value of Assets





## LOPFI and Local Plans Schedule of Employer Contributions

<u>Fiscal Year Ending</u>	<u>Annual Required Contribution</u>	<u>Percent Contributed</u>
12/31/2008	\$ 49,518,628	100%
12/31/2009	53,051,887	100%
12/31/2010	58,654,842	100%
12/31/2011	61,818,119	100%
12/31/2012	66,648,849	100%
12/31/2013	73,092,900	100%
12/31/2014	82,447,373	100%
12/31/2015	85,473,297	100%
12/31/2016	89,923,898	100%
12/31/2017	96,071,994	100%

# Short Condition Test Comparative Statement

## LOPFI Plans

### LOPFI Paid Service

Valuation Date December 31	Actuarial Accrued Liabilities for			Actuarial Value of Assets	Portion of Present Values Covered by Assets		
	Member Contributions (1)	Current Retirees and Beneficiaries (2)	Active and Inactive Members, Employer Financed Portion (3)		(1)	(2)	(3)
2008 #+	\$ 107,486,154	\$ 116,390,986	\$ 717,931,676	\$ 778,148,309	100 %	100 %	77 %
2009	126,212,081	142,789,842	820,211,054	765,350,382	100	100	61
2010	142,979,396	176,648,898	869,214,659	840,895,829	100	100	60
2011	159,770,407	229,845,487	917,728,551	928,182,921	100	100	59
2012 #+	176,658,387	290,143,869	967,407,118	1,031,482,975	100	100	58
2013	189,555,199	357,817,076	1,044,704,899	1,188,207,688	100	100	61
2014	202,036,742	424,620,753	1,107,911,973	1,335,956,221	100	100	64
2015 #	211,502,055	526,188,884	1,199,611,463	1,463,508,560	100	100	61
2016	220,115,288	632,757,349	1,249,037,168	1,607,578,162	100	100	60
2017 #	229,228,802	760,264,654	1,327,779,306	1,774,216,157	100	100	59

### LOPFI Volunteer Service

Valuation Date December 31	Actuarial Accrued Liabilities for			Actuarial Value of Assets	Portion of Present Values Covered by Assets		
	Member Contributions (1)	Current Retirees and Beneficiaries (2)	Active and Inactive Members, Employer Financed Portion (3)		(1)	(2)	(3)
2008 #	\$ -	\$ 6,054,907	\$ 47,019,246	\$ 24,187,269	- %	100	39 %
2009	-	10,069,177	48,890,402	27,103,260	-	100	35
2010	-	12,517,903	52,068,716	32,173,609	-	100	38
2011	-	15,248,883	56,421,727	36,807,462	-	100	38
2012 #	-	18,410,957	60,215,143	42,114,214	-	100	39
2013	-	21,467,691	63,106,093	49,552,093	-	100	45
2014	-	24,443,482	65,739,819	57,093,309	-	100	50
2015 #	-	28,794,727	68,670,319	62,673,098	-	100	49
2016	-	31,622,143	72,092,819	69,786,157	-	100	53
2017 #	-	36,279,130	75,746,636	77,776,841	-	100	55

# After changes in actuarial valuation assumptions.

+ After legislated benefit changes and Board policy changes.

# Short Condition Test Comparative Statement

## Local Plans

### Local Paid Service

Valuation Date December 31	Actuarial Accrued Liabilities for				Portion of Present Values Covered by Assets		
	Member Contributions	Current Retirees and Beneficiaries	Active and Inactive Members, Employer Financed Portion	Actuarial Value of Assets	(1)	(2)	(3)
	(1)	(2)	(3)				
2008 #	\$ 4,586,196	\$ 189,690,459	\$ 725,693	\$ (14,784,011)	- %	- %	- %
2009	3,163,233	185,486,259	29,522,904	80,902,787	100	42	-
2010	2,849,033	215,795,003	34,266,295	102,556,180	100	46	-
2011	2,450,310	226,494,886	32,836,591	99,201,212	100	43	-
2012 #	2,123,678	248,990,760	28,111,237	88,851,483	100	35	-
2013	1,647,055	347,697,141	29,055,445	146,413,041	100	42	-
2014	1,734,546	357,077,348	36,767,436	152,308,676	100	42	-
2015 #	1,455,029	371,571,160	32,666,704	167,837,218	100	45	-
2016	1,595,793	372,340,632	27,740,698	171,109,243	100	46	-
2017 #	1,274,344	415,623,362	25,783,235	199,957,371	100	48	-

### Local Volunteer Service

Valuation Date December 31	Actuarial Accrued Liabilities for				Portion of Present Values Covered by Assets		
	Member Contributions	Current Retirees and Beneficiaries	Active and Inactive Members, Employer Financed Portion	Actuarial Value of Assets	(1)	(2)	(3)
	(1)	(2)	(3)				
2008 #	\$ 2,279	\$ 10,495,474	\$ 132,593	\$ 1,081,515	100	10 %	- %
2009	3,065	12,395,214	350,181	5,601,935	100	45	-
2010	12,433	12,964,889	210,630	6,529,374	100	50	-
2011	16,968	13,046,463	295,814	6,494,323	100	50	-
2012 #	17,401	13,196,487	540,604	6,908,455	100	52	-
2013	17,759	13,940,442	336,339	7,657,753	100	55	-
2014	17,778	14,706,680	385,040	8,817,782	100	60	-
2015 #	4,398	14,991,823	308,725	8,574,196	100	57	-
2016	6,919	15,514,259	292,784	9,011,889	100	58	-
2017 #	6,284	19,761,146	310,641	14,053,849	100	71	-

# After changes in actuarial valuation assumptions.

## Derivation of Actuarial Gain (Loss) Year Ended December 31, 2017 (LOPFI and Local Plans Combined)

The actuarial gains or losses realized in the operation of the Retirement System provide an experience test. Actual experience will never (except by coincidence) coincide exactly with assumed experience. It is expected that gains and losses will cancel each other over a period of years, but sizable year-to-year fluctuations are common. Detail on the derivation of the actuarial gain (loss) is shown below, along with a year-by-year comparative schedule.

(1) UAAL at start of year	\$	765,630,401
(2) Employer normal cost from last valuation		34,542,403
(3) Actual employer contributions		91,549,250
(4) Interest accrual: $(1) \times 0.0775 + [(2)-(3)] \times (0.0775/2)$		57,127,341
(5) Expected UAAL before changes: $(1) + (2) - (3) + (4)$		765,750,895
(6) Change from benefit changes*		11,345,230
(7) Change from revised actuarial assumptions		41,661,930
(8) Expected UAAL after changes		818,758,055
(9) Actual UAAL at end of year		826,053,322
(10) Gain (Loss) $(8) - (9)$		(7,295,267)
(11) Gain (Loss) as percent of actuarial accrued liabilities at start of year	\$2,623,115,852	(0.3)%

\* Includes unfunded liability associated with Local Pension Funds added during the year.

Valuation Date December 31	Actuarial Gain (Loss) as a Percentage of Beginning Accrued Liabilities
2008	(12.8) %
2009	(2.9)
2010	(0.7)
2011	(1.9)
2012	(1.1)
2013	0.7
2014	(0.1)
2015	(0.3)
2016	(0.5)
2017	(0.3)

## LOPFI and Local Plans Risk Measures (\$ millions)

Valuation Date Dec. 31	(1) Accrued Liabilities (AAL)	(2) Market Value of Assets	(3) Unfunded AAL (1)-(2)	(4) Valuation Payroll	(5) Funded Ratio (2)/(1)	(6) Liability/ Payroll (1)/(4)	(7) Assets/ Payroll (2)/(4)	(8) Unfunded/ Payroll (3)/(4)	(9) Net External Cash Flow (NECF)	(10) NECF/ Assets (9)/(2)	(11) Portfolio Rate of Return	(12) 10-Year Trailing Average
2008#+	\$ 1,200.5	\$ 657.2	\$ 543.3	\$ 245.8	55%	488%	267%	221%	\$ 39.2	6.0%	-25.2%	
2009	1,379.1	827.8	551.3	265.1	60%	520%	312%	208%	49.5	6.0%	17.8%	
2010	1,519.5	955.8	563.7	268.4	63%	566%	356%	210%	46.5	4.9%	9.6%	3.6%
2011	1,654.2	1,001.7	652.5	275.9	61%	600%	363%	237%	44.0	4.4%	0.2%	3.9%
2012#+	1,805.8	1,158.8	647.1	284.6	64%	635%	407%	227%	42.8	3.7%	11.2%	6.1%
2013	2,069.3	1,468.0	601.4	298.8	71%	693%	491%	201%	99.8	6.8%	17.3%	5.6%
2014	2,235.4	1,610.1	625.4	307.8	72%	726%	523%	203%	37.2	2.3%	7.1%	5.3%
2015#	2,455.8	1,646.7	809.1	317.1	67%	774%	519%	255%	37.4	2.3%	-0.1%	5.1%
2016	2,623.1	1,770.8	852.3	326.3	68%	804%	543%	261%	28.5	1.6%	5.8%	4.5%
2017#	2,892.0	2,075.0	817.0	339.0	72%	853%	612%	241%	54.0	2.6%	13.9%	5.0%

# LOPFI had experience studies and/or assumption changes in these years leading to a change or "true up" in actuarial assumptions. A pattern of periodic studies is a sign of a well-run system and suggests the extent to which the liability measures the actuary provides are likely to be realistic.

+ LOPFI had benefit changes in these years. Benefit increases cause liabilities to rise; benefit decreases cause liabilities to fall. In either case, benefit changes affect the year-by-year comparability of the measures on this page.

(5) The funded ratio is the most widely known measure of a plan's financial strength, but the trend in the funded ratio is much more important than the absolute ratio. The funded ratio should trend to 100%. As it approaches 100%, it is important to re-evaluate the level of investment risk in the portfolio and potentially to re-evaluate the assumed rate of return.

(6) and (7) The ratios of liabilities and assets to payroll gives an indication of both maturity and volatility. Many systems have values between 500% and 700%. Values significantly above that range may indicate difficulty in supporting the benefit level as a level % of payroll.

(8) The ratio of unfunded liability to payroll gives an indication of the plan sponsor's ability to actually pay off the unfunded liability. A value above approximately 300% or 400% may indicate difficulty in discharging the unfunded liability within a reasonable time frame.

(9) and (10) The ratio of Net External Cash Flow to assets is an important measure of sustainability. Negative ratios are common and expected for a maturing system. In the longer term, this ratio should be on the order of approximately -4%. A ratio that is significantly more negative than that for an extended period could be a leading indicator of potential exhaustion of assets.

(11) and (12) Investment return is probably the largest single risk that most systems face. The year-by-year return and the 10-year geometric average give an indicator of the realism of the System's assumed return. The averages are of course distorted by the extraordinary events of 2008.

## Results for Local Plans Under LOPFI Administration Paid Service Plans as of December 31, 2017

Political Subdivision	Actuarial Accrued Liability	Actuarial Valuation Assets	Unfunded Actuarial Accrued Liability	2019 Total Monthly Employer Rate*
Bald Knob Partial-Paid Fire	\$ 66,245	\$ 82,115	\$ (15,870)	\$ -
Barling Fire	316,546	274,825	41,721	449
Bella Vista Fire	5,036,187	2,738,382	2,297,805	14,707
Benton Police	2,764,539	2,025,649	738,890	8,647
Bentonville Fire	5,683,651	7,832,379	(2,148,728)	-
Blytheville Police	3,114,097	2,543,561	570,536	6,418
Brinkley Police	452,980	517,191	(64,211)	-
Cabot Police	1,014,934	3,197,058	(2,182,124)	-
Camden Fire	4,061,791	2,072,201	1,989,590	16,286
Camden Police	4,392,616	2,883,148	1,509,468	12,323
Clinton Fire	183,066	167,507	15,559	194
Conway Fire	9,220,836	5,203,920	4,016,916	46,728
Conway Police	9,642,404	5,525,465	4,116,939	48,301
Crossett Police	1,147,260	1,350,060	(202,800)	-
El Dorado Fire	6,252,268	1,156,219	5,096,049	45,435
El Dorado Police	4,064,483	(2,544,295)	6,608,778	50,732
Forrest City Fire	2,804,793	2,568,177	236,616	2,521
Forrest City Police	1,954,777	(115,102)	2,069,879	15,319
Fort Smith Fire	32,229,053	13,330,749	18,898,304	120,081
Fort Smith Police	27,317,447	7,291,616	20,025,831	128,531
Heber Springs Fire	267,004	284,888	(17,884)	-
Heber Springs Police	1,817,769	1,457,966	359,803	3,850
Helena - West Helena Fire	3,102,283	875,459	2,226,824	21,613
Helena - West Helena Police	2,409,120	1,131,300	1,277,820	16,878
Hot Springs Fire	18,073,236	(458,528)	18,531,764	118,364
Hot Springs Police	22,812,592	14,951,377	7,861,215	70,790
Hot Springs Village Fire	599,794	40,984	558,810	3,569
Hoxie Fire	116,864	90,279	26,585	441
Jonesboro Fire	13,781,250	(1,287,237)	15,068,487	96,239
Jonesboro Police	11,775,948	10,188,960	1,586,988	15,638
Lincoln Fire	113,677	109,632	4,045	31
Little Rock Police	93,284,919	38,234,522	55,050,397	349,606
Lonoke Police	-	(20,661)	20,661	746
Lowell Fire	1,107,792	772,031	335,761	6,063
Lowell Police	65,135	(101,283)	166,418	1,550

\* The Total Monthly Employer Rate is the fixed monthly dollar amount charged to the Employer to cover Local Plan unfunded actuarial accrued liabilities.

**Results for Local Plans Under LOPFI Administration**  
**Paid Service Plans as of December 31, 2017**  
**(Concluded)**

<b>Political Subdivision</b>	<b>Actuarial Accrued Liability</b>	<b>Actuarial Valuation Assets</b>	<b>Unfunded Actuarial Accrued Liability</b>	<b>2019 Total Monthly Employer Rate*</b>
Magnolia Fire	\$ 2,639,980	\$ 2,281,348	\$ 358,632	\$ 4,161
Magnolia Police	1,743,072	1,262,835	480,237	3,043
Malvern Police	1,145,210	1,580,015	(434,805)	-
Marianna Police	729,326	569,541	159,785	2,984
McGehee Fire	378,342	408,721	(30,379)	-
McGehee Police	209,736	497,980	(288,244)	-
Mena Fire	643,126	663,041	(19,915)	-
Mountain Home Fire	4,106,416	1,850,514	2,255,902	14,453
Newport Fire	1,145,862	1,306,453	(160,591)	-
Newport Police	1,691,549	674,718	1,016,831	5,949
North Little Rock Fire	26,803,127	7,684,633	19,118,494	121,446
North Little Rock Police	23,978,005	940,037	23,037,968	151,125
Osceola Police	2,575,101	3,073,531	(498,430)	-
Paragould Fire	1,611,241	902,425	708,816	4,581
Paragould Police	2,578,854	581,476	1,997,378	12,746
Pine Bluff Fire	17,608,100	8,286,884	9,321,216	55,785
Pine Bluff Police	23,566,394	15,549,164	8,017,230	43,809
Pocahontas Fire	933,458	640,939	292,519	4,099
Searcy Fire	4,330,226	(85,261)	4,415,487	28,118
Searcy Police	4,034,010	1,494,949	2,539,061	16,218
Stuttgart Fire	4,149,707	1,712,738	2,436,969	27,170
Stuttgart Police	1,803,183	1,831,076	(27,893)	-
Texarkana Fire	6,034,131	5,928,884	105,247	1,053
Trumann Fire	438,257	275,742	162,515	1,146
Van Buren Fire	2,028,754	710,944	1,317,810	15,533
Walnut Ridge Fire	1,237,325	518,183	719,142	4,587
West Memphis Fire	7,543,858	7,443,763	100,095	-
West Memphis Police	5,433,576	6,490,548	(1,056,972)	-
Wynne Fire	480,568	302,806	177,762	1,135

\* The Total Monthly Employer Rate is the fixed monthly dollar amount charged to the Employer to cover Local Plan unfunded actuarial accrued liabilities.

## Results for Local Plans Under LOPFI Administration Volunteer Service Plans as of December 31, 2017

Political Subdivision	Actuarial Accrued Liability	Actuarial Valuation Assets	Unfunded Actuarial Accrued Liability	2019 Total Monthly Employer Rate*
Alzheimer Volunteer Fire	\$ 66,232	\$ 16,782	\$ 49,450	\$ 720
Altus Volunteer Fire	66,893	37,002	29,891	260
Arkansas City Volunteer Fire	32,458	(28,152)	60,610	407
Atkins Volunteer Fire	190,585	211,184	(20,599)	-
Augusta Volunteer Fire	126,969	156,220	(29,251)	-
Bald Knob Volunteer Fire	125,870	55,920	69,950	1,020
Barling Volunteer Fire	73,037	140,020	(66,983)	-
Bay Volunteer Fire	72,339	99,760	(27,421)	-
Bearden Volunteer Fire	84,837	101,290	(16,453)	-
Bella Vista Volunteer Fire	60,937	19,231	41,706	279
Belleville Volunteer Fire	85,662	160,180	(74,518)	-
Bentonville Volunteer Fire	90,094	88,774	1,320	14
Biscoe Volunteer Fire	94,120	(7,121)	101,241	678
Bradford Volunteer Fire	173,673	101,224	72,449	399
Bradley Volunteer Fire	124,061	87,535	36,526	270
Bull Shoals Volunteer Fire	113,041	133,834	(20,793)	-
Caddo Valley Volunteer Fire	134,011	111,990	22,021	286
Caldwell Volunteer Fire	58,735	110,674	(51,939)	-
Calico Rock Volunteer Fire	73,696	104,285	(30,589)	-
Calion Volunteer Fire	85,163	115,066	(29,903)	-
Camden Volunteer Fire	140,226	82,820	57,406	485
Caraway Volunteer Fire	164,329	(131,219)	295,548	1,972
Carthage Volunteer Fire	96,205	63,365	32,840	404
Cash Volunteer Fire	9,946	7,074	2,872	40
Cave City Volunteer Fire	138,754	11,526	127,228	837
Chidester Volunteer Fire	51,725	38,956	12,769	154
Clarksville Volunteer Fire	790,162	1,200,483	(410,321)	-
Clinton Volunteer Fire	392,575	311,546	81,029	1,056
Coal Hill Volunteer Fire	67,288	1,562	65,726	432
Cooterneck Volunteer Fire	145,177	(32,134)	177,311	1,188
Cotter Volunteer Fire	36,940	32,086	4,854	78
Cotton Plant Volunteer Fire	91,189	54,222	36,967	486
Danville Volunteer Fire	106,025	44,368	61,657	420
Des Arc Volunteer Fire	269,431	400,347	(130,916)	-
Devalls Bluff Volunteer Fire	161,386	19,118	142,268	945
Diaz Volunteer Fire	132,552	77,841	54,711	913

\* The Total Monthly Employer Rate is the fixed monthly dollar amount charged to the Employer to cover Local Plan unfunded actuarial accrued liabilities.



## Results for Local Plans Under LOPFI Administration Volunteer Service Plans as of December 31, 2017 (Continued)

Political Subdivision	Actuarial Accrued Liability	Actuarial Valuation Assets	Unfunded Actuarial Accrued Liability	2019 Total Monthly Employer Rate*
Dover Volunteer Fire	\$ 98,204	\$ 46,377	\$ 51,827	\$ 752
Emmet Volunteer Fire	82,579	69,368	13,211	108
England Volunteer Fire	277,025	238,795	38,230	323
Eudora Volunteer Fire	139,111	176,123	(37,012)	-
Farmington Volunteer Fire	163,243	152,950	10,293	110
Fisher Volunteer Fire	43,435	3,768	39,667	270
Forrest City Volunteer Fire	-	(3,691)	3,691	36
Garland Volunteer Fire	52,443	54,513	(2,070)	-
Gillett Volunteer Fire	207,531	240,110	(32,579)	-
Gosnell Volunteer Fire	41,045	5,898	35,147	234
Gould Volunteer Fire	54,177	52,745	1,432	26
Grady Volunteer Fire	114,073	132,928	(18,855)	-
Green Forest Volunteer Fire	116,532	96,789	19,743	180
Greenwood Volunteer Fire	210,795	190,298	20,497	99
Grover Township Volunteer Fire	110,204	75,097	35,107	560
Grubbs Volunteer Fire	38,219	24,655	13,564	168
Hampton Volunteer Fire	242,670	89,430	153,240	1,035
Hardin Volunteer Fire	82,178	61,224	20,954	297
Hardy Volunteer Fire	177,641	163,935	13,706	98
Harrisburg Volunteer Fire	65,890	241,888	(175,998)	-
Hartford Volunteer Fire	30,384	55,890	(25,506)	-
Heber Springs Volunteer Fire	319,870	361,117	(41,247)	-
Helena - West Helena Volunteer Fire	146,462	28,359	118,103	786
Hermitage Volunteer Fire	65,965	(15,288)	81,253	540
Holiday Island Volunteer Fire	24,629	12,454	12,175	210
Holly Grove Volunteer Fire	41,208	47,124	(5,916)	-
Horatio Volunteer Fire	134,191	140,058	(5,867)	-
Hot Springs Village Volunteer Fire	61,036	(21,085)	82,121	552
Hoxie Volunteer Fire	38,566	1,346	37,220	624
Humphrey Volunteer Fire	33,446	42,939	(9,493)	-
Huntington Volunteer Fire	79,110	65,372	13,738	88
Huntsville Volunteer Fire	176,158	214,951	(38,793)	-
Imboden Volunteer Fire	253,105	48,066	205,039	1,380
Jasper Volunteer Fire	123,134	14,474	108,660	730
Joiner Volunteer Fire	53,783	34,285	19,498	200
Junction City Volunteer Fire	162,931	167,480	(4,549)	-

\* The Total Monthly Employer Rate is the fixed monthly dollar amount charged to the Employer to cover Local Plan unfunded actuarial accrued liabilities.

## Results for Local Plans Under LOPFI Administration Volunteer Service Plans as of December 31, 2017 (Continued)

Political Subdivision	Actuarial Accrued Liability	Actuarial Valuation Assets	Unfunded Actuarial Accrued Liability	2019 Total Monthly Employer Rate*
Keiser Volunteer Fire	\$ 82,838	\$ 51,993	\$ 30,845	\$ 225
Kensett Volunteer Fire	99,679	77,210	22,469	168
Lake City Volunteer Fire	137,998	90,349	47,649	324
Lake Village Volunteer Fire	146,185	148,026	(1,841)	-
Lavaca Volunteer Fire	94,769	57,227	37,542	546
Leachville Volunteer Fire	92,993	117,665	(24,672)	-
Lewisville Volunteer Fire	84,950	73,423	11,527	60
Lincoln Volunteer Fire	111,456	102,544	8,912	80
Lockesburg Volunteer Fire	113,195	99,611	13,584	180
Lowell Volunteer Fire	28,887	57,531	(28,644)	-
Luxora Volunteer Fire	34,667	182,433	(147,766)	-
Magazine Volunteer Fire	129,519	(16,736)	146,255	980
Magnolia Volunteer Fire	127,358	94,883	32,475	387
Mansfield Volunteer Fire	78,751	70,333	8,418	70
Marked Tree Volunteer Fire	176,667	337,375	(160,708)	-
Marmaduke Volunteer Fire	89,322	44,164	45,158	252
Marshall Volunteer Fire	304,729	4,757	299,972	2,020
Marvell Volunteer Fire	140,234	100,469	39,765	504
McGehee Volunteer Fire	71,011	65,661	5,350	54
McNeil Volunteer Fire	70,560	88,867	(18,307)	-
McRae Volunteer Fire	42,515	11,905	30,610	368
Melbourne Volunteer Fire	109,801	(66,096)	175,897	1,176
Mena Volunteer Fire	58,930	141,152	(82,222)	-
Mineral Springs Volunteer Fire	46,005	69,111	(23,106)	-
Monette Volunteer Fire	143,467	(8,036)	151,503	1,007
Montrose Volunteer Fire	36,610	17,875	18,735	276
Moro Volunteer Fire	63,377	39,900	23,477	344
Mountain Home Volunteer Fire	82,608	(95,288)	177,896	1,190
Mountain View Volunteer Fire	639,202	248,694	390,508	2,632
Mulberry Volunteer Fire	175,381	230,932	(55,551)	-
Murfreesboro Volunteer Fire	154,743	(114,510)	269,253	1,800
Newark Volunteer Fire	112,460	104,363	8,097	57
Newport Volunteer Fire	88,850	107,457	(18,607)	-
Norman Volunteer Fire	81,820	47,749	34,071	306
Norphlet Volunteer Fire	45,160	65,101	(19,941)	-
North Crossett Volunteer Fire	69,982	(42,240)	112,222	748

\* The Total Monthly Employer Rate is the fixed monthly dollar amount charged to the Employer to cover Local Plan unfunded actuarial accrued liabilities.

## Results for Local Plans Under LOPFI Administration Volunteer Service Plans as of December 31, 2017 (Continued)

Political Subdivision	Actuarial Accrued Liability	Actuarial Valuation Assets	Unfunded Actuarial Accrued Liability	2019 Total Monthly Employer Rate*
Ola Volunteer Fire	\$ 259,837	\$ 269,578	\$ (9,741)	\$ -
Oppelo Volunteer Fire	124,211	87,308	36,903	270
Pangburn Volunteer Fire	227,387	234,394	(7,007)	-
Paragould Volunteer Fire	16,153	(27,852)	44,005	288
Parkin Volunteer Fire	87,990	20,267	67,723	456
Perryville Volunteer Fire	93,654	83,276	10,378	150
Piggott Volunteer Fire	316,464	363,744	(47,280)	-
Plainview Volunteer Fire	124,858	90,177	34,681	460
Plumerville Volunteer Fire	335,367	70,968	264,399	1,744
Pocahontas Volunteer Fire	94,305	19,217	75,088	1,102
Portland Volunteer Fire	124,333	162,840	(38,507)	-
Prescott Volunteer Fire	158,750	173,485	(14,735)	-
Pulaski County Fire Protection District 5	136,656	4,508	132,148	780
Rector Volunteer Fire	147,603	109,039	38,564	252
Rison Volunteer Fire	367,536	149,799	217,737	1,456
Russell Volunteer Fire	55,043	25,908	29,135	378
Searcy Volunteer Fire	81,812	(144,205)	226,017	1,508
Shannon Hills FD Volunteer Fire	79,590	5,237	74,353	500
Sheridan Volunteer Fire	136,091	140,384	(4,293)	-
Smackover Volunteer Fire	393,519	360,359	33,160	300
Sparkman Volunteer Fire	196,541	169,376	27,165	264
St. Francis Volunteer Fire	45,191	(3,738)	48,929	328
Stamps City Volunteer Fire	216,915	183,167	33,748	152
Star City Volunteer Fire	520,134	332,243	187,891	1,580
Stephens Volunteer Fire	147,649	201,100	(53,451)	-
Strong Volunteer Fire	75,973	84,084	(8,111)	-
Stuttgart Volunteer Fire	73,955	(1,205)	75,160	819
Sulphur Springs Volunteer Fire	60,645	51,465	9,180	168
Swifton Volunteer Fire	117,335	60,933	56,402	728
Taylor Volunteer Fire	180,464	54,481	125,983	800
Thornton Volunteer Fire	196,219	(34,669)	230,888	1,547
Tillar Volunteer Fire	57,967	50,155	7,812	91
Tracy Area Volunteer Fire	32,424	19,439	12,985	216
Trumann Volunteer Fire	55,859	48,942	6,917	48
Tuckerman Volunteer Fire	74,192	(6,407)	80,599	544
Turrell Volunteer Fire	17,638	10,789	6,849	90

\* The Total Monthly Employer Rate is the fixed monthly dollar amount charged to the Employer to cover Local Plan unfunded actuarial accrued liabilities.

## Results for Local Plans Under LOPFI Administration Volunteer Service Plans as of December 31, 2017 (Concluded)

Political Subdivision	Actuarial Accrued Liability	Actuarial Valuation Assets	Unfunded Actuarial Accrued Liability	2019 Total Monthly Employer Rate*
Tyronza Volunteer Fire	\$ 168,812	\$ (14,918)	\$ 183,730	\$ 1,232
Vilonia Volunteer Fire	143,980	116,233	27,747	368
Viola Volunteer Fire	118,199	(35,226)	153,425	1,020
Wabbeska Volunteer Fire	68,889	6,800	62,089	420
Waldo Volunteer Fire	48,716	19,331	29,385	490
Walnut Ridge Volunteer Fire	364,676	60,107	304,569	2,058
Washington Volunteer Fire	35,031	18,323	16,708	112
West Point Volunteer Fire	59,314	49,383	9,931	117
Wheatley Volunteer Fire	87,353	85,775	1,578	20
White Hall Volunteer Fire	148,030	110,215	37,815	300
Wilmot Volunteer Fire	61,414	78,748	(17,334)	-
Wilson Volunteer Fire	104,427	91,300	13,127	171
Wynne Volunteer Fire	157,315	90,409	66,906	455

**Results for Local Plans Under LOPFI Administration**  
**Local Plan Level Dollar Contributions**  
**for Employers with No Active Members**  
**as of December 31, 2017**

Political Subdivision	Actuarial Accrued Liability	Actuarial Valuation Assets	Unfunded Actuarial Accrued Liability	UAAL Amortization Annual Level Dollar Contribution	
				Years	\$ Contributions
Bryant Volunteer Fire	\$ 114,648	\$ 76,626	\$ 38,022	23	\$ 3,216
Cammack Village Volunteer Fire	11,268	75,513	(64,245)	8	-
Conway Volunteer Fire	12,563	(6,214)	18,777	8	2,700
Jonesboro Volunteer Fire	4,333	(85,120)	89,453	19	8,328
Perla Volunteer Fire	12,670	(16,277)	28,947	5	5,532
Stamps Paid Fire	33,091	25,214	7,877	25	600

# LOPFI Level Dollar Contributions

## December 31, 2017

### For Employers with Active Members in Other Departments

Department		Actuarial Accrued Liabilities	Actuarial Value Assets	Unfunded Actuarial Accrued Liabilities (UAAL)	UAAL Amortization Annual Level Dollar Contribution	
Name	Number				Years	\$ Contributions
Altus Police	20522	\$ 57,686	\$ 12,856	\$ 44,830	13	\$ 5,724
Alzheimer Police	24822	249,912	168,593	81,319	12	10,896
Bethel Heights Fire	168633	103,643	157,493	(53,850)	13	-
Caddo Valley Fire	268233	104,324	74,837	29,487	7	5,772
Calion Police	276322	16,055	19,226	(3,171)	7	-
Central City Police	319022	38,669	54,941	(16,272)	13	-
Chidester Police	338723	18,797	25,279	(6,482)	7	-
Dyess Police	526622	3,263	15,192	(11,929)	9	-
Flippin Fire	630032	35,777	96,573	(60,796)	10	-
Foreman Police	635122	197,570	250,589	(53,019)	13	-
Gassville Fire	693932	95,303	125,651	(30,348)	15	-
Gentry Fire	704832	2,980	3,732	(752)	7	-
Greenbrier Fire	744732	6,941	27,271	(20,330)	15	-
Hector Police	865622	77,731	138,126	(60,395)	13	-
Higginson Police	884222	5,497	9,676	(4,179)	11	-
Town of Highfill Fire	885032	56,439	69,353	(12,914)	9	-
Holly Grove Police	892322	183,439	189,691	(6,252)	15	-
Joiner Police	1040522	56,282	75,817	(19,535)	10	-
Lake Hamilton Fire	1103732	106,805	(11,889)	118,694	15	13,944
Montrose Police	1418422	25,173	14,996	10,177	11	1,440
Mount Ida Police	1448622	9,222	104,371	(95,149)	7	-
Newark Police	1497422	30,420	72,310	(41,890)	7	-
Parkin Police	1626822	-	1	(1)	15	-
Plainview Police	1657822	22,152	17,600	4,552	15	540
Tontitown Fire	1908932	316,802	(26,109)	342,911	13	43,740
Tontitown Area Fire	1909732	9,133	54,862	(45,729)	12	-
Yellville Police	2139322	131,524	148,573	(17,049)	7	-

### For Employers with No Active Members

Department		Actuarial Accrued Liabilities	Actuarial Value Assets	Unfunded Actuarial Accrued Liabilities (UAAL)	UAAL Amortization Annual Level Dollar Contribution	
Name	Number				Years	\$ Contributions
Cushman Police	431622	\$ 18,198	\$ 29,751	\$ (11,553)	7	\$ -
Friendship Police	665322	42,574	33,725	8,849	7	1,728
Mountain Pine Police	1447822	471,170	197,925	273,245	14	33,360
Perla Police	1628422	64,174	56,408	7,766	7	1,524
Pleasant Plains Police	1643822	75,065	157,260	(82,195)	13	-

- (1) These results assume contributions begin January 1, 2019 and are applicable in periods where no active members are reported.
- (2) Departments currently with their reported assets exceeding their actuarial accrued liabilities could still be liable for contributions at a later date, depending upon future economic and demographic experience.
- (3) In addition, reports were provided for Bryant Volunteer Fire, Cammack Village Volunteer Fire, Conway Volunteer Fire, Jonesboro Volunteer Fire, Perla Volunteer Fire and Stamps Paid Fire. These are all combined plans with no active members.
- (4) These departments were identified for inclusion in this calculation, by LOPFI Staff.
- (5) New calculations are needed, as of December 31, 2018, for any of these departments that again are without active members.

## SECTION C

---

### **BENEFIT PROVISIONS AND VALUATION DATA**

**Arkansas Local Police and Fire Retirement System**  
**Brief Summary as of December 31, 2017 of LOPFI Coverage for**  
***BENEFIT PROGRAM 1 PAID SERVICE***  
**Benefits and Conditions Evaluated and/or Considered**  
**(Section References are to Arkansas Code of 1987, Including**  
**Amendments from 2017 General Assembly Session)**

**Voluntary Retirement.** Section 24-10-604. A member may retire with an age & service annuity after both (i) completing 5 years (10 years for members hired on or after July 1, 2013) of credited service, and (ii) attaining his or her normal retirement age. The normal retirement age is age 60 for a member with less than 20 years credited service, age 55 for a member with at least 20 years credited service or any age for a member with 28 or more years of credited service.

**Compulsory Retirement.** Section 24-10-605. Established by each employer.

**Paid Service.** Section 24-10-102(13). Covered employment which is half-time employment or more, and for which a minimum dollar amount is paid. For each calendar month in 1981, the minimum is \$500 for the month. For each later calendar year, the \$500 is indexed for inflation (Consumer Price Index). Accordingly, the monthly minimum during 2017 was \$1,382.

**Volunteer Service.** Section 24-10-102(14). Covered employment which cannot be classified as Paid Service.

**Final Average Pay.** Section 24-10-102(16)(A). The average of a member's monthly pay during the period of 36 consecutive months of credited Paid Service producing the highest monthly average, which period is contained within the 120 consecutive months of credited Paid Service immediately preceding retirement. Not applicable to Volunteer Service.

**Age & Service Annuity.** Section 24-10-602. The annuity, payable monthly for life, equals a specified amount multiplied by the member's number of years of credited service. The amount depends upon the conditions related to covered employment:

- A. **Paid Service Not Covered by Social Security.** For each year of such service, 2.94% of the member's final average pay.
- B. **Paid Service Also Covered by Social Security.** For each year of such service, 1.94% of the member's final average pay. In addition, there is a temporary annuity equal to 1.0% of the member's final average pay for each year of service, payable to normal Social Security retirement age.
- C. At time of retirement, the total of A plus B cannot exceed 100% of final average pay.

**Early Annuity.** Section 24-10-606. A member may retire with an early annuity after both (i) completing 20 years of credited service, and (ii) attaining age 50 or (iii) after completing 25 years of credited paid service. The early annuity amount, payable monthly for life, is computed in the same manner as an age & service annuity, based upon his or her service and pay record to time of early retirement, but reduced to reflect the fact that his or her age when payments begin is younger than his or her normal retirement age. The amount of the reduction is 1/2 of 1% (.005) for each month his or her age at early retirement is younger than his or her normal retirement age (age 55 for members with 25 years of credited paid service).



**Vested Termination Annuity.** Section 24-10-611. If a member leaves LOPFI-covered employment (i) before attaining his or her early retirement age, and (ii) after completing 5 years (10 years for members hired on or after July 1, 2013) of credited service, he or she becomes eligible for a vested termination annuity; provided he or she lives to his or her normal retirement age and does not withdraw his or her accumulated contributions. The vested annuity amount, payable monthly for life from his or her normal retirement age, is computed in the same manner as an age & service annuity, based upon his or her service and pay record to time of leaving LOPFI coverage. However, final average pay is increased by one-half of any increase in the inflation index for the period from termination of employment to beginning of annuity payments.

**Non-Duty Disability Annuity.** Section 24-10-607(a)(1)(A). A member with 5 or more years (10 or more years for members hired on or after July 1, 2013) of credited service who becomes totally and permanently disabled from other than duty-connected causes receives a non-duty disability annuity computed in the same manner as an age & service annuity, based upon his or her service and pay record to time of disability.

**Duty Disability Annuity.** Section 24-10-607(c)(1)(A). A member who becomes totally and permanently disabled from duty-connected causes receives a duty disability annuity computed in the same manner as an age & service annuity, based upon his or her service and pay record to time of disability. The minimum annuity payable is 65% of the member's final average pay.

**Non-Duty Death-in-Service. Paid Member.** Section 24-10-608(a)(1). Upon the death, from other than duty-connected causes, of a Paid Service member who had completed 5 years (10 years for members hired on or after July 1, 2013) of paid service, his or her eligible surviving dependents receive the following benefits:

- (a) The surviving spouse receives an annuity equal to the Option B50 annuity (joint and 50% survivor benefit) computed based upon the deceased member's service (and pay) record to time of death. Minimum of 20% of member's final average pay, or \$125 monthly if greater.
- (b) While a spouse benefit is payable, each dependent child under age 18 (age 23 if full time student) receives 10% of member's final average pay, or \$25 monthly if greater. The totals for 4 or more children cannot exceed 30% of final average pay, or \$125 monthly if greater.
- (c) While no spouse benefit is payable, each dependent child under age 18 (age 23 if full time student) receives 20% of member's final average pay, or \$25 monthly if greater. The total for 3 or more children cannot exceed 50% of final average pay, or \$125 monthly if greater.
- (d) If there is neither spouse nor child at time of member's death, each dependent parent receives 20% of final average pay.

**Duty Death-in-Service.** Section 24-10-608(b)(1). Upon the death of a Paid Service member from duty-connected causes, regardless of length of service, his or her eligible surviving dependents receive the same benefits as for Non-Duty Death, except that if credited service at time of death is less than 25 years, credited service is increased to 25 years.

**Benefit Changes After Retirement.** Section 24-10-612. There is an annual redetermination of monthly benefit amount, beginning the July first following 12 months of retirement. The redetermined amount is 3.0% of the monthly benefit from the preceding July.

**Member Contributions.** Sections 24-10-404 and 24-10-613. Each member contributes 8.5% of his or her covered pay if his or her covered employment is resulting in Paid Service credit and is not covered by Social Security. For other covered employment conditions, each member contributes 2.5% of his or her covered pay. Individual member deposit accounts do not receive interest credit. If a member leaves LOPFI-covered employment before an annuity is payable on his or her behalf, the member may choose to have his or her

accumulated contributions refunded to him. If he or she dies, his or her accumulated contributions are refunded to his or her designated beneficiary.

**Employer Contributions.** Section 24-10-405. Each employer contributes the remainder amounts necessary to finance its employees' participation in LOPFI. Contributions to LOPFI are determined based upon level-rate principles, so that contribution rates do not have to increase over decades of time.

**DROP (Deferred Retirement Option Plan).** Sections 24-10-701 through 24-10-708. Paid service members who have attained age 55 with at least 20 years of service or members with at least 28 years of service may participate. A participant with 28 years of service will receive 75% of his or her accrued benefit at time of DROP election while in the DROP, payable into the participant's DROP account (which will be credited with 6% interest annually). A participant with less than 28 years of service will receive 72% of his or her accrued benefit at time of DROP election while in the DROP, payable into the participant's DROP account (which will be credited with 6% interest annually). The duration of participation in the DROP shall not exceed 7 years. When a member has reached year 6 of participation in the DROP, the amount of the accrued benefit at the time of DROP election shall be redetermined. The redetermined amount shall be the amount of the benefit as of the immediately preceding July 1 increased by 3%. The redetermined amount shall be payable only when the member elects to cease employment and receive a service retirement and shall not be added to the plan account. Employer and employee contributions continue and are used to finance System benefits (i.e., they are not deposited to the participant's DROP account). For additional details please refer to Arkansas Code, Title 24, Chapter 10, Subchapter 7.

**LOPFI**  
**Illustrations of Normal Benefit Amounts**  
**for Sample Combinations of Service & Pay**

***Illustration 1***  
***FOR PAID SERVICE WHICH IS NOT COVERED BY***  
***SOCIAL SECURITY***

**(The Applicable Benefit Program is Years of Paid Service times  
2.94% of FAP <sup>(1)</sup>)**

Final Average Pay (FAP) <sup>(1)</sup>	LOPFI BENEFIT <sup>(2)</sup>	
	\$	% of FAP
<u>32 Years of Service <sup>(3)</sup></u>		
\$ 2,400	\$ 2,258	94 %
3,000	2,822	94
3,600	3,387	94
4,200	3,951	94
4,800	4,516	94
<u>28 Years of Service <sup>(3)</sup></u>		
\$ 2,400	\$ 1,976	82 %
3,000	2,470	82
3,600	2,964	82
4,200	3,457	82
4,800	3,951	82
<u>20 Years of Service <sup>(3)</sup></u>		
\$ 2,400	\$ 1,411	59 %
3,000	1,764	59
3,600	2,117	59
4,200	2,470	59
4,800	2,822	59

(1) "Final Average Pay" means the monthly average of an employee's pays during the period of 36 consecutive months when they were highest, contained within the last 120 months of paid service.

(2) Amounts shown are rounded to the nearest dollar; actual amounts will be calculated to the nearest cent.

(3) With 28 or more years of service the employee is eligible for normal retirement. With 20 or more years of service the employee is eligible for normal retirement at age 55. With fewer than 20 years, the eligibility age is 60.

# LOPFI

## Illustrations of Normal Benefit Amounts for Sample Combinations of Service & Pay

### Illustration 2 <sup>(5)</sup>

#### FOR PAID SERVICE WHICH IS COVERED BY SOCIAL SECURITY

**(The Applicable Benefit Program is Years of Paid Service times:  
1.94% of FAP <sup>(1)</sup> for life, plus 1.0% of FAP <sup>(1)</sup> Temporary to Full Social  
Security Retirement Age)**

Final Average Pay (FAP) <sup>(1)</sup>	LOPFI Benefit <sup>(3)</sup>		Estimated Social Security <sup>(2)</sup>	Estimated Monthly Total		Percent of FAP	
	To SSRA	At SSRA		To SSRA	At SSRA	To SSRA	At SSRA
<b>32 Years of Service <sup>(4)</sup></b>							
\$2,400	\$ 2,258	\$ 1,490	\$ 962	\$ 2,258	\$ 2,452	94 %	102 %
3,000	2,822	1,862	1,070	2,822	2,932	94	98
3,600	3,387	2,235	1,179	3,387	3,414	94	95
4,200	3,951	2,607	1,285	3,951	3,892	94	93
4,800	4,516	2,980	1,394	4,516	4,374	94	91
<b>28 Years of Service <sup>(4)</sup></b>							
\$2,400	\$ 1,976	\$ 1,304	\$ 962	\$ 1,976	\$ 2,266	82 %	94 %
3,000	2,470	1,630	1,070	2,470	2,700	82	90
3,600	2,964	1,956	1,179	2,964	3,135	82	87
4,200	3,457	2,281	1,285	3,457	3,566	82	85
4,800	3,951	2,607	1,394	3,951	4,001	82	83
<b>20 Years of Service <sup>(4)</sup></b>							
\$2,400	\$ 1,411	\$ 931	\$ 962	\$ 1,411	\$ 1,893	59 %	79 %
3,000	1,764	1,164	1,070	1,764	2,234	59	74
3,600	2,117	1,397	1,179	2,117	2,576	59	72
4,200	2,470	1,630	1,285	2,470	2,915	59	69
4,800	2,822	1,862	1,394	2,822	3,256	59	68

(1) "Final Average Pay" means the monthly average of an employee's pays during the period of 36 consecutive months when they were highest, contained within the last 120 months of paid service.

(2) "Estimated Social Security" means, for an employee covered by Social Security, an employee's estimated OASDI retirement benefit is based upon an estimated "average indexed monthly earnings" for an employee retiring at normal Social Security Retirement Age (SSRA). It does not include any amounts which might be payable to an eligible spouse or children. Final average pay is assumed to be equal to Average Indexed Monthly Earnings. The results assume no Social Security covered earnings after retirement. Note that a member may draw a reduced Social Security benefit as early as age 62. This is an estimate. Individuals can receive an estimate from the Social Security Administration based on their actual earnings history.

(3) Amounts shown are rounded to the nearest dollar; actual amounts will be calculated to the nearest cent.

(4) With 28 or more years of service the employee is eligible for normal retirement. With 20 or more years of service the employee is eligible for normal retirement at age 55. With fewer than 20 years, the eligibility age is 60.

(5) This illustration shows 2018 Social Security estimates for a participant who retired in 2009 at age 56.

# LOPFI

## Illustrations of Normal Benefit Amounts for Sample Combinations of Service & Pay

### Illustration 3 <sup>(5)</sup>

#### FOR PAID SERVICE WHICH IS COVERED BY SOCIAL SECURITY

**(The Applicable Benefit Program is Years of Paid Service times:  
1.94% of FAP <sup>(1)</sup> for life, plus 1.0% of FAP <sup>(1)</sup> Temporary to Full Social  
Security Retirement Age)**

Final Average Pay (FAP) <sup>(1)</sup>	LOPFI Benefit <sup>(3)</sup>		Estimated Social Security <sup>(2)</sup>	Estimated Monthly		Percent of FAP	
	To SSRA	At SSRA		Total	Percent of FAP	To SSRA	At SSRA
	To SSRA	At SSRA		To SSRA	At SSRA	To SSRA	At SSRA
<b>32 Years of Service <sup>(4)</sup></b>							
\$2,400	\$ 2,258	\$ 2,063	\$ 1,675	\$ 2,258	\$ 3,738	94 %	119 %
3,000	2,822	2,577	1,912	2,822	4,489	94	114
3,600	3,387	3,094	2,145	3,387	5,239	94	111
4,200	3,951	3,609	2,382	3,951	5,991	94	109
4,800	4,516	4,125	2,616	4,516	6,741	94	107
<b>28 Years of Service <sup>(4)</sup></b>							
\$2,400	\$ 1,976	\$ 1,805	\$ 1,675	\$ 1,976	\$ 3,480	82 %	111 %
3,000	2,470	2,256	1,912	2,470	4,168	82	106
3,600	2,964	2,708	2,145	2,964	4,853	82	103
4,200	3,457	3,157	2,382	3,457	5,539	82	101
4,800	3,951	3,609	2,616	3,951	6,225	82	99
<b>20 Years of Service <sup>(4)</sup></b>							
\$2,400	\$ 1,411	\$ 1,289	\$ 1,675	\$ 1,411	\$ 2,964	59 %	94 %
3,000	1,764	1,611	1,912	1,764	3,523	59	90
3,600	2,117	1,934	2,145	2,117	4,079	59	86
4,200	2,470	2,256	2,382	2,470	4,638	59	84
4,800	2,822	2,577	2,616	2,822	5,193	59	82

(1) "Final Average Pay" means the monthly average of an employee's pays during the period of 36 consecutive months when they were highest, contained within the last 120 months of paid service.

(2) "Estimated Social Security" means, for an employee covered by Social Security, an employee's estimated OASDI retirement benefit is based upon an estimated "average indexed monthly earnings" for an employee retiring at normal Social Security Retirement Age (SSRA). It does not include any amounts which might be payable to an eligible spouse or children. Final average pay is assumed to be equal to Average Indexed Monthly Earnings. The results assume no Social Security covered earnings after retirement. Note that a member may draw a reduced Social Security benefit as early as age 62. This is an estimate. Individuals can receive an estimate from the Social Security Administration based on their actual earnings history.

(3) Amounts shown are rounded to the nearest dollar; actual amounts will be calculated to the nearest cent.

(4) With 28 or more years of service the employee is eligible for normal retirement. With 20 or more years of service the employee is eligible for normal retirement at age 55. With fewer than 20 years, the eligibility age is 60.

(5) This illustration shows 2029 Social Security estimates for a participant who retires in 2018 at age 56. All future benefits are in future dollars.

**Arkansas Local Police and Fire Retirement System**  
**Brief Summary as of December 31, 2017 of LOPFI Coverage for**  
***BENEFIT PROGRAM 2 PAID SERVICE***  
**Benefits and Conditions Evaluated and/or Considered**  
**(Section References are to Arkansas Code of 1987, Including**  
**Amendments from 2017 General Assembly Session)**

The provisions for Benefit Program 2 employers are the same as those for Benefit Program 1 employers with the following exception:

**Age & Service Annuity.** Section 24-10-602. The annuity, payable monthly for life, equals a specified amount multiplied by the member's number of years of credited service. The amount depends upon the conditions related to covered employment:

**A. *Paid Service Not Covered by Social Security.***

- **Paid Service Before Adoption of Benefit Program 2.** For each year of such service, 2.94% of the member's final average pay.
- **Paid Service After Adoption of Benefit Program 2.** For each year of such service, 3.28% of the member's final average pay.
- At time of retirement, the total cannot exceed 100% of final average pay.

**B. *Paid Service Also Covered by Social Security.***

- **Paid Service Before Adoption of Benefit Program 2.** For each year of such service, 1.94% of the member's final average pay, plus a temporary annuity equal to 1.0% of the member's final average pay for each year of service, payable to normal Social Security retirement age.
- **Paid Service After Adoption of Benefit Program 2.** For each year of such service, 2.94% of the member's final average pay.
- At time of retirement, the total cannot exceed 100% of final average pay.

# Arkansas Local Police and Fire Retirement System Brief Summary as of December 31, 2017 of LOPFI Coverage for **VOLUNTEER SERVICE**

## Benefits and Conditions Evaluated and/or Considered (Section References are to Arkansas Code of 1987, Including Amendments from 2017 General Assembly Session)

**Voluntary Retirement.** Section 24-10-604. A member may retire with an age & service annuity after both (i) completing 5 years (10 years for members hired on or after July 1, 2013) of credited service, and (ii) attaining his or her normal retirement age. The normal retirement age is age 60 for a member with less than 20 years credited service, age 55 for a member with at least 20 years credited service or any age for a member with 28 or more years of credited service.

**Compulsory Retirement.** Section 24-10-605. Established by each employer.

**Paid Service.** Section 24-10-102(13). Covered employment which is half-time employment or more, and for which a minimum dollar amount is paid. For each calendar month in 1981, the minimum is \$500 for the month. For each later calendar year, the \$500 is indexed for inflation (Consumer Price Index). Accordingly, the monthly minimum during 2017 was \$1,382.

**Volunteer Service.** Section 24-10-102(14). Covered employment which cannot be classified as Paid Service.

**Age & Service Annuity.** Section 24-10-102(16)(A). The annuity, payable monthly for life, equals a specified amount multiplied by the member's number of years of credited service. The amount depends upon the conditions related to covered employment:

**Volunteer Service.** For each year of Benefit Program 3 Volunteer Service, \$5.00 monthly, to a maximum of \$200 monthly for all volunteer service. Beginning in 2003, each July 1 these amounts are indexed for inflation by any percentage increase in the inflation index for the period from December 2003 to the December immediately preceding July 1, for members retiring in the next 12 months. Accordingly, the basic benefit factor reflected in the December 31, 2017 valuations was \$6.68 monthly.

For each year of Benefit Program 4 Volunteer Service, \$10.00 monthly, to a maximum benefit of \$400 monthly for all volunteer service. Beginning in 2013, each July 1 these amounts are indexed for inflation by any percentage increase in the inflation index for the period from December 2011 to the December immediately preceding July 1, for members retiring in the next 12 months. Accordingly, the basic benefit factor reflected in the December 31, 2017 valuations was \$10.83 monthly.

**Early Annuity.** Section 24-10-606. A member may retire with an early annuity after both (i) completing 20 years of credited service, and (ii) attaining age 50. The early annuity amount, payable monthly for life, is computed in the same manner as an age & service annuity, based upon his or her service record to time of early retirement, but reduced to reflect the fact that his or her age when payments begin is younger than his or her normal retirement age. The amount of the reduction is 1/2 of 1% (.005) for each month his or her age at early retirement is younger than his or her normal retirement age.



**Vested Termination Annuity.** Section 24-10-611. If a member leaves LOPFI-covered employment (i) before attaining his or her early retirement age, and (ii) after completing 5 years (10 years for members hired on or after July 1, 2013) of credited service, he or she becomes eligible for a vested termination annuity; provided he or she lives to his or her normal retirement age (and does not withdraw any accumulated contributions). The vested annuity amount, payable monthly for life from his or her normal retirement age, is computed in the same manner as an age & service annuity, based upon his or her service record to time of leaving LOPFI coverage.

**Non-Duty Disability Annuity.** Section 24-10-607(a)(1)(A). A member with 5 or more years (10 of more years for members hired on or after July 1, 2013) of credited service who becomes totally and permanently disabled from other than duty-connected causes receives a non-duty disability annuity computed in the same manner as an age & service annuity, based upon his or her service record to time of disability.

**Duty Disability Annuity.** Section 24-10-607(c)(1)(A). A member who becomes totally and permanently disabled from duty-connected causes receives a duty disability annuity computed in the same manner as an age & service annuity, based upon his or her service and pay record to time of disability. If the member had less than 25 years of service at time of disability, credited service is increased to 25 years.

**Non-Duty Death-in-Service. Volunteer Member.** Section 24-10-609. Upon the death, from other than duty-connected causes, of a Volunteer member who had completed 5 years (10 years for members hired on or after July 1, 2013) of volunteer service, or who was eligible for normal retirement, his or her eligible surviving dependents receive the following benefits:

- (a) The surviving spouse receives an annuity equal to the Option B50 annuity (joint and 50% survivor benefit) computed based upon the deceased member's service record to time of death.
- (b) Each dependent child under age 18 (age 23 if full time student) receives \$15 monthly. The totals for 3 or more children cannot exceed \$40 monthly.

**Duty Death-in-Service.** Section 24-10-608(b)(1). Upon the death of a Paid Service member from duty-connected causes, regardless of length of service, his or her eligible surviving dependents receive the same benefits as for Non-Duty Death, except that if credited service at the time of death is less than 25 years, credited service is increased to 25 years.

**Benefit Changes After Retirement.** Section 24-10-612. There is an annual redetermination of monthly benefit amount, beginning the July first following 12 months of retirement. The redetermined amount is 3.0% of the monthly benefit from the preceding July.

**Member Contributions.** For Volunteer Service credit, members do not contribute.

**Employer Contributions.** Section 24-10-405. Each employer contributes the amounts necessary to finance all employees participation in LOPFI. Contributions to LOPFI are determined based upon level-rate principles, so that contribution rates do not have to increase over decades of time.



## LOPFI Covered Groups and Covered Persons (Excluding Local Plan Members)

Paid Police Covered by Social Security	Valuation Groups	Active Members*				Inflation Increase % (CPI)
		Number	Annual Payroll	Average Pay	% Increase	
12/31/1998	134	1,346	\$ 33,301,863	\$ 24,741	3.4 %	1.6 %
12/31/1999	141	1,480	38,187,948	25,803	4.3	2.7
12/31/2000	150	1,493	39,080,134	26,176	1.4	3.4
12/31/2001	152	1,497	42,193,903	28,186	7.7	1.6
12/31/2002	158	1,556	46,480,114	29,872	6.0	2.4
12/31/2003	154	1,583	49,757,738	31,433	5.2	1.9
12/31/2004	154	1,583	51,235,812	32,366	3.0	3.3
12/31/2005	154	1,614	53,061,186	32,876	1.6	3.4
12/31/2006	161	1,680	57,466,068	34,206	4.0	2.5
12/31/2007	167	1,795	62,586,228	34,867	1.7	4.1
12/31/2008	164	1,846	66,703,415	36,134	3.6	0.1
12/31/2009	173	1,913	72,174,542	37,728	4.4	2.7
12/31/2010	176	1,914	73,414,879	38,357	1.6	1.5
12/31/2011	177	1,939	74,641,764	38,495	0.3	3.0
12/31/2012	176	1,956	76,050,618	38,881	1.0	1.7
12/31/2013	173	1,994	80,319,179	40,280	3.6	1.5
12/31/2014	177	2,029	83,740,919	41,272	2.5	0.8
12/31/2015	183	2,122	89,826,406	42,331	2.9	0.7
12/31/2016	179	2,152	91,581,947	42,557	0.5	2.1
12/31/2017	182	2,196	94,895,150	43,213	1.5	2.1

\* Includes DROP participants, if any.

## LOPFI Covered Groups and Covered Persons (Excluding Local Plan Members) (Continued)

Paid Police Not Covered by Social Security	Valuation Groups	Active Members*				Inflation Increase % (CPI)
		Number	Annual Payroll	Average Pay	% Increase	
12/31/1998	14	1,220	\$ 39,052,564	\$ 32,010	4.1 %	1.6 %
12/31/1999	14	1,257	42,319,350	33,667	5.2	2.7
12/31/2000	15	1,300	45,395,466	34,920	3.7	3.4
12/31/2001	15	1,310	47,997,431	36,639	4.9	1.6
12/31/2002	14	1,309	51,013,420	38,971	6.4	2.4
12/31/2003	14	1,344	54,363,935	40,449	3.8	1.9
12/31/2004	15	1,369	57,397,946	41,927	3.7	3.3
12/31/2005	15	1,410	60,652,180	43,016	2.6	3.4
12/31/2006	14	1,455	64,982,903	44,662	3.8	2.5
12/31/2007	14	1,479	68,484,220	46,304	3.7	4.1
12/31/2008	14	1,507	72,880,723	48,361	4.4	0.1
12/31/2009	14	1,544	77,374,468	50,113	3.6	2.7
12/31/2010	14	1,562	76,993,476	49,292	(1.6)	1.5
12/31/2011	14	1,558	79,332,711	50,920	3.3	3.0
12/31/2012	14	1,604	83,272,934	51,916	2.0	1.7
12/31/2013	14	1,635	87,087,216	53,264	2.6	1.5
12/31/2014	14	1,632	89,441,845	54,805	2.9	0.8
12/31/2015	14	1,599	87,090,401	54,466	(0.6)	0.7
12/31/2016	14	1,597	88,602,540	55,481	1.9	2.1
12/31/2017	14	1,635	93,831,833	57,390	3.4	2.1

\* Includes DROP participants, if any.

**LOPFI Covered Groups and Covered Persons  
(Excluding Local Plan Members)  
(Continued)**

Paid Fire Covered by Social Security	Valuation Groups	Active Members*					Inflation Increase % (CPI)
		Number	Annual Payroll	Average Pay	% Increase		
12/31/1998	2	15	\$ 427,149	\$ 28,477	10.2 %	1.6 %	
12/31/1999	2	15	443,877	29,592	3.9	2.7	
12/31/2000	3	20	550,930	27,547	(6.9)	3.4	
12/31/2001	4	34	1,091,894	32,115	16.6	1.6	
12/31/2002	5	34	1,236,009	36,353	13.2	2.4	
12/31/2003	6	34	1,297,597	38,165	5.0	1.9	
12/31/2004	7	58	1,881,084	32,432	(15.0)	3.3	
12/31/2005	10	62	2,137,350	34,473	6.3	3.4	
12/31/2006	13	71	2,459,152	34,636	0.5	2.5	
12/31/2007	19	84	3,224,208	38,383	10.8	4.1	
12/31/2008	20	85	3,310,078	38,942	1.5	0.1	
12/31/2009	21	90	3,794,410	42,160	8.3	2.7	
12/31/2010	23	99	4,092,787	41,341	(1.9)	1.5	
12/31/2011	23	104	4,155,015	39,952	(3.4)	3.0	
12/31/2012	22	101	4,221,364	41,796	4.6	1.7	
12/31/2013	25	102	4,331,413	42,465	1.6	1.5	
12/31/2014	25	114	4,689,955	41,140	(3.1)	0.8	
12/31/2015	27	124	5,239,454	42,254	2.7	0.7	
12/31/2016	28	126	5,375,073	42,659	1.0	2.1	
12/31/2017	27	126	5,486,384	43,543	2.1	2.1	

\* Includes DROP participants, if any.

## LOPFI Covered Groups and Covered Persons (Excluding Local Plan Members) (Continued)

Paid Fire Not Covered by Social Security	Valuation Groups	Active Members*				Inflation Increase % (CPI)
		Number	Annual Payroll	Average Pay	% Increase	
12/31/1998	58	1,417	\$ 41,048,974	\$ 28,969	4.4 %	1.6 %
12/31/1999	58	1,549	47,249,417	30,503	5.3	2.7
12/31/2000	60	1,680	52,268,378	31,112	2.0	3.4
12/31/2001	59	1,732	57,430,283	33,158	6.6	1.6
12/31/2002	59	1,821	64,691,073	35,525	7.1	2.4
12/31/2003	59	1,888	70,635,697	37,413	5.3	1.9
12/31/2004	60	1,956	76,826,671	39,277	5.0	3.3
12/31/2005	57	2,029	81,650,944	40,242	2.5	3.4
12/31/2006	59	2,122	88,041,571	41,490	3.1	2.5
12/31/2007	61	2,245	95,882,874	42,710	2.9	4.1
12/31/2008	60	2,202	98,780,987	44,860	5.0	0.1
12/31/2009	61	2,360	108,383,023	45,925	2.4	2.7
12/31/2010	61	2,374	110,404,238	46,506	1.3	1.5
12/31/2011	61	2,415	114,640,275	47,470	2.1	3.0
12/31/2012	60	2,478	118,625,189	47,871	0.8	1.7
12/31/2013	60	2,514	124,879,563	49,674	3.8	1.5
12/31/2014	60	2,548	129,532,480	50,837	2.3	0.8
12/31/2015	61	2,585	134,740,985	52,124	2.5	0.7
12/31/2016	62	2,676	140,445,733	52,483	0.7	2.1
12/31/2017	62	2,694	144,407,370	53,603	2.1	2.1

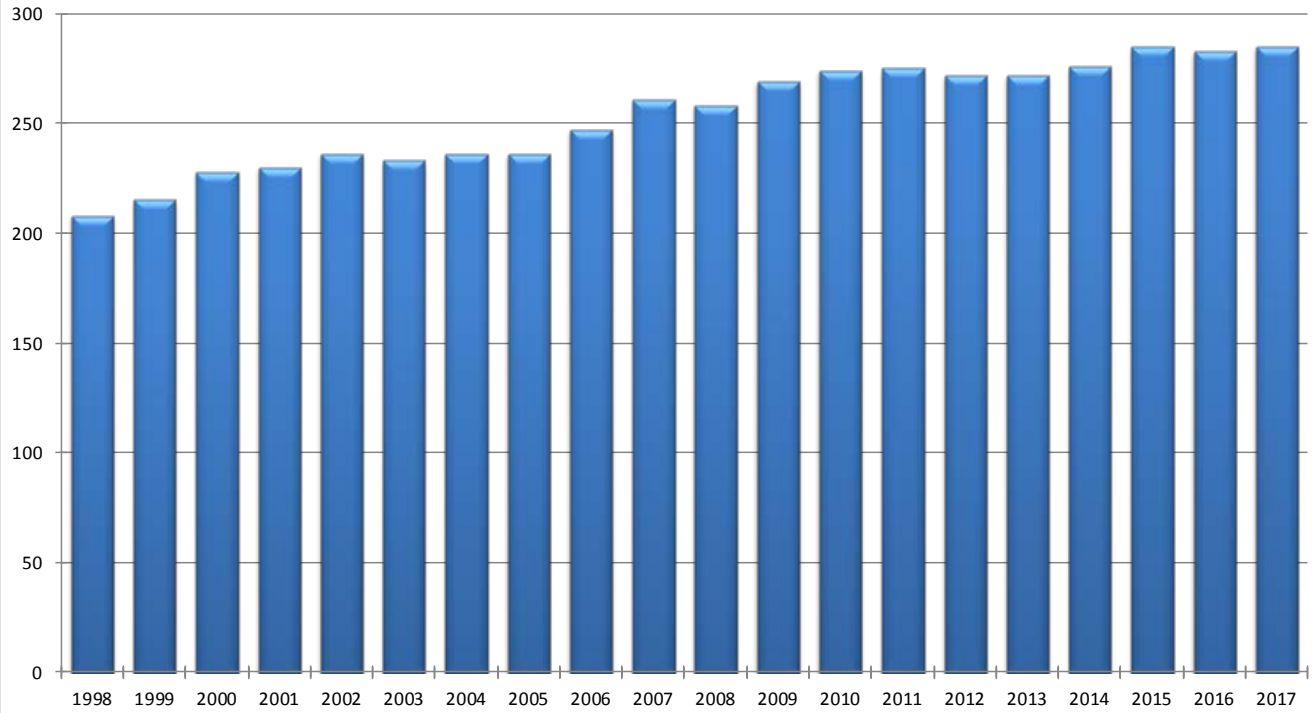
\* Includes DROP participants, if any.

## LOPFI Covered Groups and Covered Persons (Excluding Local Plan Members) (Continued)

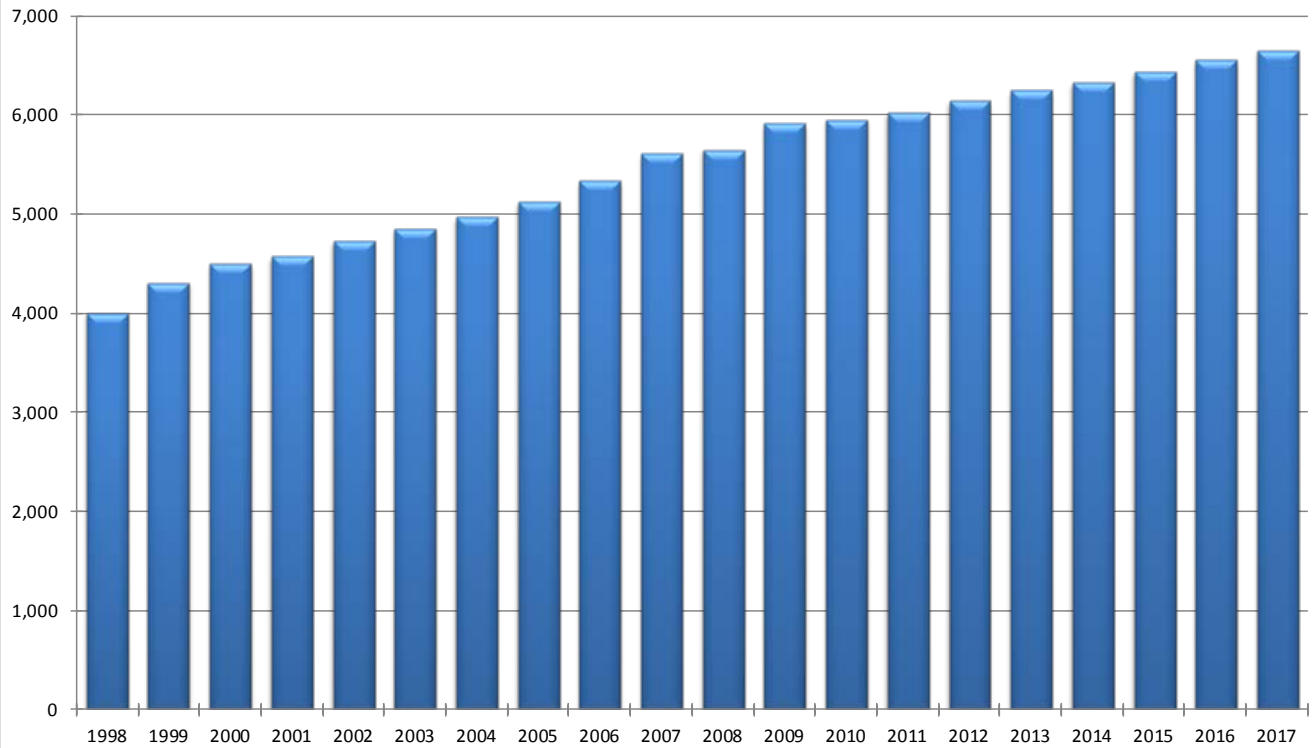
Total Paid	Valuation Groups	Active Members*			Inflation Increase % (CPI)	
		Number	Annual Payroll	Average Pay		% Increase
12/31/1998	208	3,998	\$ 113,830,550	\$ 28,472	3.8	1.6 %
12/31/1999	215	4,301	128,200,592	29,807	4.7	2.7
12/31/2000	228	4,493	137,294,908	30,558	2.5	3.4
12/31/2001	230	4,573	148,713,511	32,520	6.4	1.6
12/31/2002	236	4,720	163,420,616	34,623	6.5	2.4
12/31/2003	233	4,849	176,054,967	36,307	4.9	1.9
12/31/2004	236	4,966	187,341,513	37,725	3.9	3.3
12/31/2005	236	5,115	197,501,660	38,612	2.4	3.4
12/31/2006	247	5,328	212,949,694	39,968	3.5	2.5
12/31/2007	261	5,603	230,177,530	41,081	2.7	4.1
12/31/2008	258	5,640	241,675,203	42,850	4.3	0.1
12/31/2009	269	5,907	261,726,443	44,308	3.4	2.7
12/31/2010	274	5,949	264,905,380	44,529	0.5	1.5
12/31/2011	275	6,016	272,769,765	45,341	1.8	3.0
12/31/2012	272	6,139	282,170,105	45,964	1.4	1.7
12/31/2013	272	6,245	296,617,371	47,497	3.3	1.5
12/31/2014	276	6,323	307,405,199	48,617	2.4	0.8
12/31/2015	285	6,430	316,897,246	49,284	1.4	0.7
12/31/2016	283	6,551	326,005,293	49,764	1.0	2.1
12/31/2017	285	6,651	338,620,737	50,913	2.3	2.1

\* Includes DROP participants, if any.

### LOPFI Covered Groups - Paid Service



### LOPFI Active Member Count - Paid Service



**LOPFI Covered Groups and Covered Persons  
(Excluding Local Plan Members)  
(Continued)**

Volunteer Police	Valuation Groups	Number of Active Members	Inflation Increase % (CPI)
12/31/1998	7	8	1.6 %
12/31/1999	8	10	2.7
12/31/2000	8	9	3.4
12/31/2001	10	16	1.6
12/31/2002	19	49	2.4
12/31/2003	24	55	1.9
12/31/2004	24	55	3.3
12/31/2005	32	70	3.4
12/31/2006	38	91	2.5
12/31/2007	51	118	4.1
12/31/2008	42	123	0.1
12/31/2009	44	139	2.7
12/31/2010	58	174	1.5
12/31/2011	72	230	3.0
12/31/2012	69	224	1.7
12/31/2013	85	293	1.5
12/31/2014	98	335	0.8
12/31/2015	105	366	0.7
12/31/2016	104	396	2.1
12/31/2017	108	408	2.1

**LOPFI Covered Groups and Covered Persons  
(Excluding Local Plan Members)  
(Continued)**

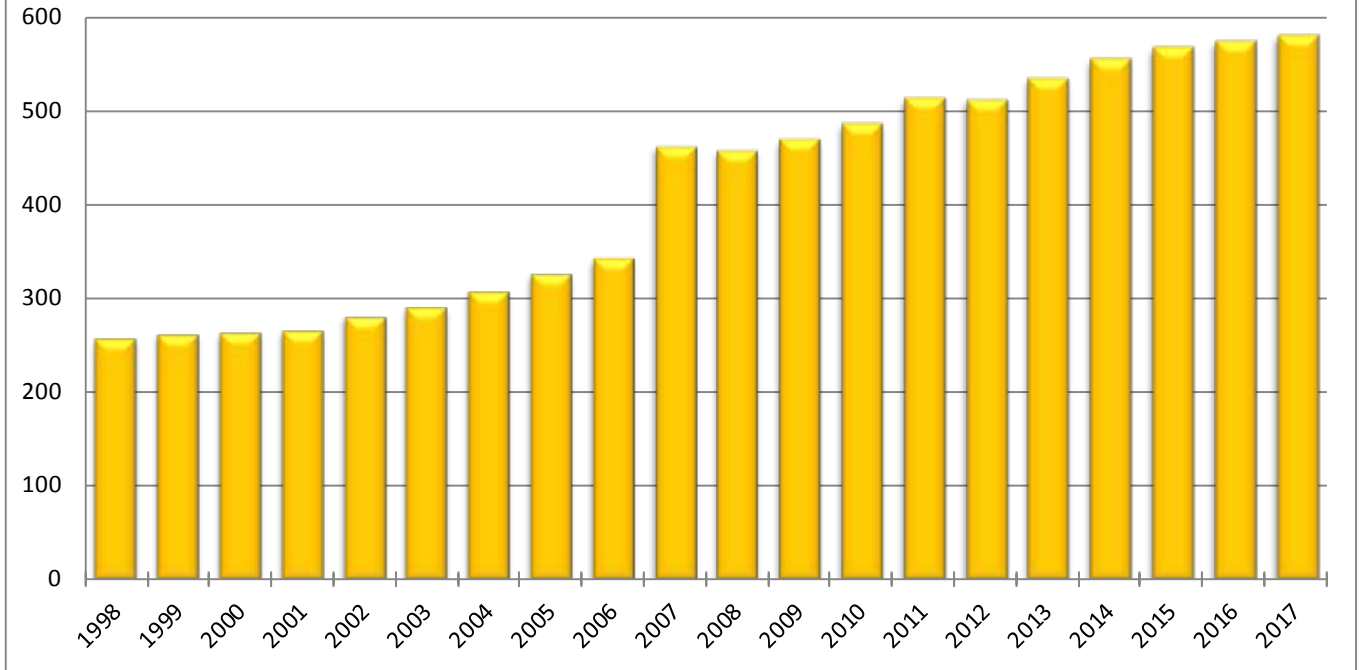
Volunteer Fire	Valuation Groups	Number of Active Members	Inflation Increase % (CPI)
12/31/1998	249	3,175	1.6 %
12/31/1999	253	3,397	2.7
12/31/2000	254	3,481	3.4
12/31/2001	255	3,585	1.6
12/31/2002	261	3,809	2.4
12/31/2003	266	4,033	1.9
12/31/2004	282	4,351	3.3
12/31/2005	293	4,580	3.4
12/31/2006	303	4,814	2.5
12/31/2007	410	6,502	4.1
12/31/2008	415	6,480	0.1
12/31/2009	424	6,412	2.7
12/31/2010	427	6,560	1.5
12/31/2011	440	6,804	3.0
12/31/2012	442	6,805	1.7
12/31/2013	449	6,847	1.5
12/31/2014	456	7,012	0.8
12/31/2015	461	6,938	0.7
12/31/2016	469	6,995	2.1
12/31/2017	471	6,933	2.1



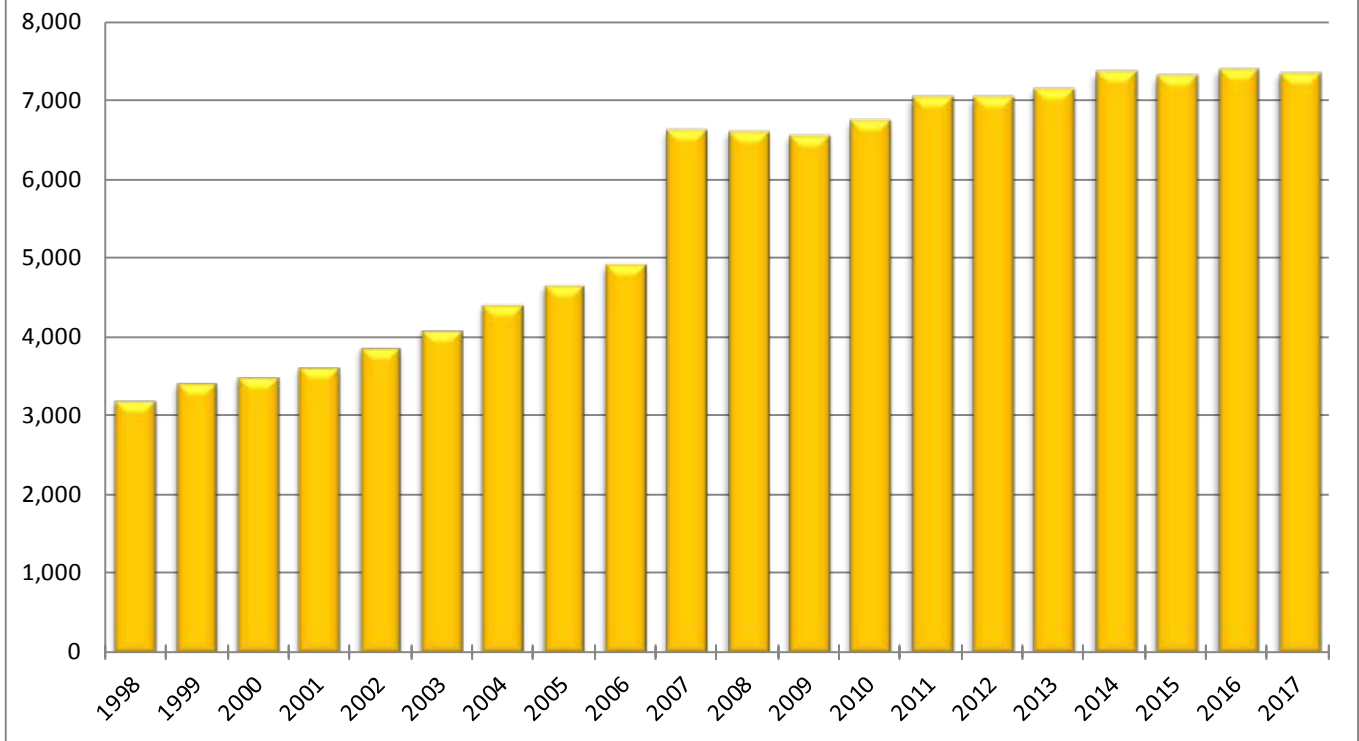
## LOPFI Covered Groups and Covered Persons (Excluding Local Plan Members) (Concluded)

Total Volunteer Police and Fire	Valuation Groups	Number of Active Members	Inflation Increase % (CPI)
12/31/1998	256	3,183	1.6 %
12/31/1999	261	3,407	2.7
12/31/2000	262	3,490	3.4
12/31/2001	265	3,601	1.6
12/31/2002	280	3,858	2.4
12/31/2003	290	4,088	1.9
12/31/2004	306	4,406	3.3
12/31/2005	325	4,650	3.4
12/31/2006	341	4,905	2.5
12/31/2007	461	6,620	4.1
12/31/2008	457	6,603	0.1
12/31/2009	468	6,551	2.7
12/31/2010	485	6,734	1.5
12/31/2011	512	7,034	3.0
12/31/2012	511	7,029	1.7
12/31/2013	534	7,140	1.5
12/31/2014	554	7,347	0.8
12/31/2015	566	7,304	0.7
12/31/2016	573	7,391	2.1
12/31/2017	579	7,341	2.1

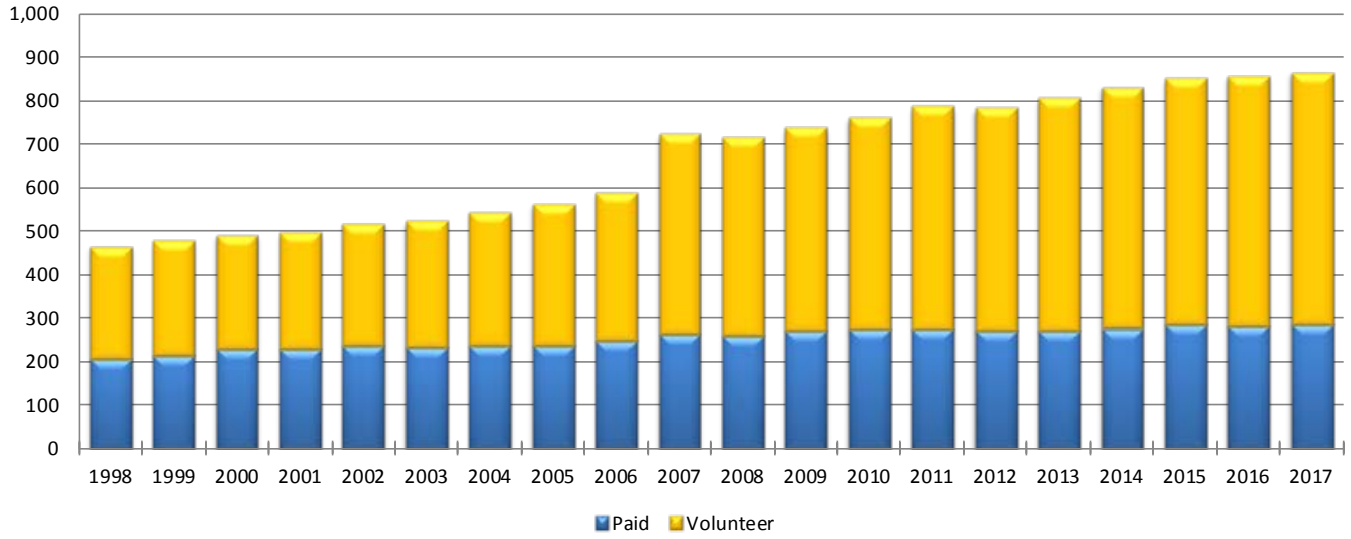
## LOPFI Covered Groups - Volunteer Service



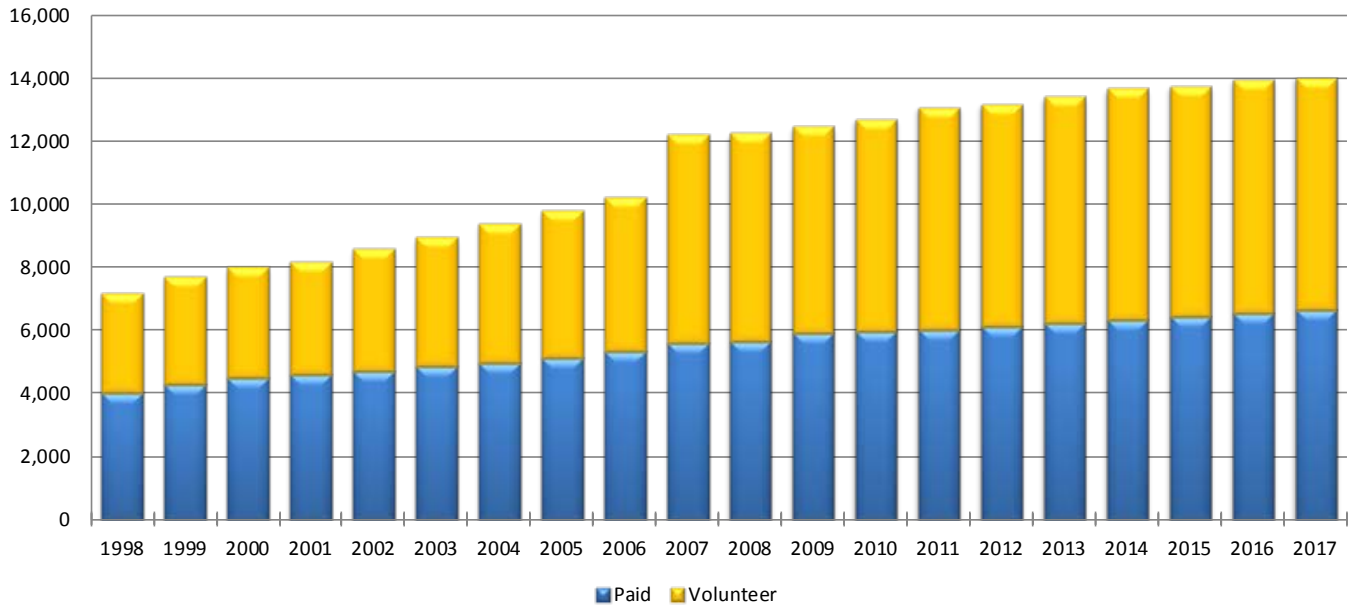
## LOPFI Active Member Count - Volunteer Service



### LOPFI Covered Groups - Paid and Volunteer Combined



### LOPFI Active Member Count - Paid and Volunteer Combined



**LOPFI (Excluding Local Plan Members)  
Paid Service Active Members – December 31, 2017  
Attained Age and Years of Service**

Attained Age	Years of Service at Valuation Date							Totals*	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Annual Payroll
Under 20	6							6	\$ 183,120
20-24	333	21						354	12,783,793
25-29	751	213	43					1,007	40,292,621
30-34	435	367	195	73				1,070	48,012,871
35-39	238	250	335	180	99			1,102	55,595,609
40-44	95	120	199	329	166	95		1,004	56,772,362
45-49	61	76	94	214	311	158	62	976	58,500,254
50-54	29	32	59	76	158	218	75	647	39,463,091
55-59	29	22	43	37	69	121	37	358	20,441,190
60-64	9	13	15	17	16	22	18	110	5,771,875
65-69	1	1	2	5	3	1	2	15	723,644
70+		1					1	2	80,307
<b>Totals</b>	<b>1,987</b>	<b>1,116</b>	<b>985</b>	<b>931</b>	<b>822</b>	<b>615</b>	<b>195</b>	<b>6,651</b>	<b>\$ 338,620,737</b>

\* Includes DROP participants.

Average Age: 39.2 years

Average Service: 12.5 years

Average Pay: \$50,913

As a comparison, 6,551 paid service members participated in LOPFI on December 31, 2016.

LOPFI Staff is included in the table above.

**LOPFI (Excluding Local Plan Members)  
Volunteer Service Active Members – December 31, 2017  
Attained Age and Years of Service**

Attained Age	Years of Service at Valuation Date							Total Number
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	
Under 20	70							70
20-24	563	45						608
25-29	448	316	61					825
30-34	399	250	218	66				933
35-39	291	232	202	170	69			964
40-44	248	176	142	167	131	66		930
45-49	201	156	166	137	132	125	45	962
50-54	154	125	126	104	119	89	76	793
55-59	116	88	100	96	86	48	45	579
60-64	76	61	51	56	50	31	34	359
65-69	44	36	30	31	15	18	14	188
70+	50	21	23	14	10	4	8	130
<b>Totals</b>	<b>2,660</b>	<b>1,506</b>	<b>1,119</b>	<b>841</b>	<b>612</b>	<b>381</b>	<b>222</b>	<b>7,341</b>

Average Age: 41.6 years

Average Service: 10.5 years

As a comparison, 7,391 Volunteer Service members participated in LOPFI on December 31, 2016.

**Benefit Program 2 Employers  
December 31, 2017  
(Included in Paid Service Schedules)**

<b>Employer</b>	<b>Number of Active Members*</b>	<b>Payroll</b>
Bella Vista Paid Police	29	\$ 1,519,624
Bella Vista Paid Fire	50	2,636,056
Fayetteville Paid Police	129	7,194,063
Fayetteville Paid Fire	118	7,573,248
Hot Springs Paid Police	105	5,663,442
Hot Springs Paid Fire	88	4,241,821
Marion Paid Police	29	1,093,203
<b>Total BP2</b>	<b>548</b>	<b>\$ 29,921,457</b>

\* Includes DROP participants, if any.

# Retirants and Beneficiaries\* Added to and Removed from Rolls

## Comparative Statement

### LOPFI Paid Service

Valuation Date		Added		Removed		End of Year		% Increase in Annual Allowance	Average	
		No.	Annual Allowance	No.	Annual Allowance	No.	Annual Allowance		Annual Allowance	% Increase in Allowance
December 31, 2008	Retirement	120	\$ 1,896,855	6	\$ 25,908	618	\$ 9,191,906	25.56 %	\$ 14,874	2.40 %
	Survivor of active	7	50,387	-	-	75	411,798	13.94	5,491	3.31
	Survivor of retired	1	4,408	2	8,225	21	133,551	(2.78)	6,360	1.86
December 31, 2009	Retirement	106	2,288,426	13	136,647	711	11,343,685	23.41	15,955	7.27
	Survivor of active	14	106,529	3	13,914	86	504,413	22.49	5,865	6.81
	Survivor of retired	3	26,940	1	4,677	23	155,814	16.67	6,775	6.53
December 31, 2010	Retirement	138	2,819,765	11	144,330	838	14,019,120	23.59	16,729	4.85
	Survivor of active	10	100,894	8	62,685	88	542,622	7.58	6,166	5.13
	Survivor of retired	25	191,680	19	144,024	29	203,470	30.59	7,016	3.56
December 31, 2011	Retirement	193	4,940,414	12	88,382	1,019	18,871,152	34.61	18,519	10.70
	Survivor of active	11	63,152	4	28,540	95	577,234	6.38	6,076	(1.46)
	Survivor of retired	7	66,463	1	6,838	35	263,095	29.30	7,517	7.14
December 31, 2012	Retirement	244	4,714,486	14	140,145	1,249	23,445,493	24.24	18,771	1.36
	Survivor of active	6	60,138	9	30,482	92	606,890	5.14	6,597	8.57
	Survivor of retired	9	107,013	3	44,081	41	326,027	23.92	7,952	5.79
December 31, 2013	Retirement	266	6,777,411	14	186,507	1,501	30,036,397	28.11	20,011	6.61
	Survivor of active	8	67,790	1	4,286	99	670,394	10.46	6,772	2.65
	Survivor of retired	8	71,254	2	48,476	47	348,805	6.99	7,421	(6.68)
December 31, 2014	Retirement	282	7,947,806	28	409,987	1,755	37,574,216	25.10	21,410	6.99
	Survivor of active	6	59,054	5	23,887	100	705,561	5.25	7,056	4.19
	Survivor of retired	12	223,965	1	2,251	58	570,519	63.56	9,837	32.56
December 31, 2015	Retirement	311	8,567,006	17	369,053	2,049	45,772,169	21.82	22,339	4.34
	Survivor of active	5	52,935	8	38,557	97	719,939	2.04	7,422	5.19
	Survivor of retired	13	217,911	4	18,596	67	769,834	34.94	11,490	16.80
December 31, 2016	Retirement	358	9,667,785	33	412,922	2,374	55,027,032	20.22	23,179	3.76
	Survivor of active	1	41,255	3	21,630	95	739,564	2.73	7,785	4.89
	Survivor of retired	16	236,963	4	21,003	79	985,794	28.05	12,478	8.60
December 31, 2017	Retirement	352	9,567,871	33	457,772	2,693	64,137,131	16.56	23,816	2.75
	Survivor of active	11	102,949	5	19,030	101	823,483	11.35	8,153	4.73
	Survivor of retired	21	281,874	5	161,825	95	1,105,843	12.18	11,640	(6.72)

\* Includes DROP participants.

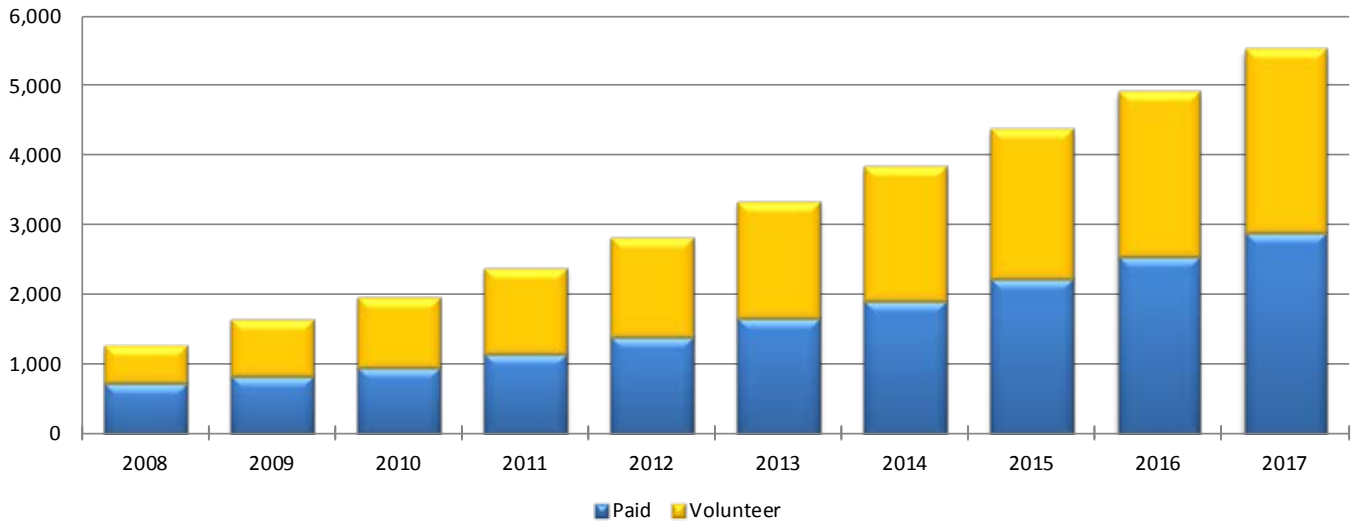
# Retirants and Beneficiaries Added to and Removed from Rolls Comparative Statement - (Continued)

## LOPFI Volunteer Service

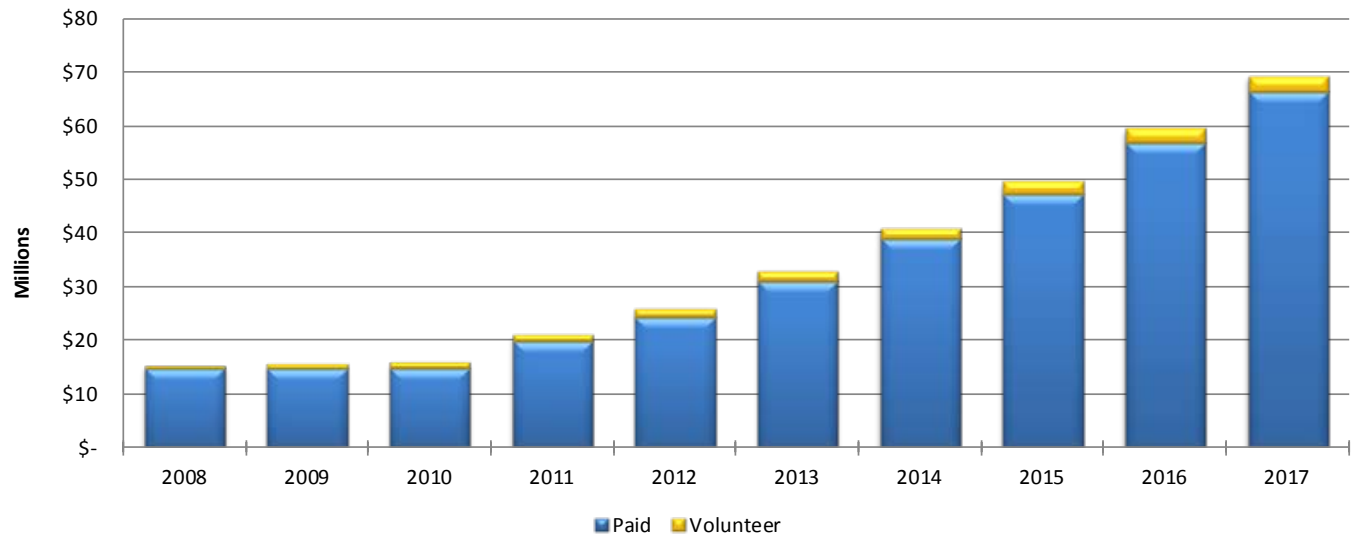
Valuation Date		Added		Removed		End of Year		% Increase in Annual Allowance	Average	
		No.	Annual Allowance	No.	Annual Allowance	No.	Annual Allowance		Annual Allowance	% Increase in Allowance
December 31, 2008	Retirement	106	\$ 134,401	9	\$ 6,415	463	\$ 478,136	36.55 %	\$ 1,033	7.94 %
	Survivor of active	15	4,235	2	452	54	18,898	25.03	350	(5.15)
	Survivor of retired	6	5,511	1	375	24	16,294	46.03	679	15.67
December 31, 2009	Retirement	272	359,520	14	10,099	721	827,557	73.08	1,148	11.13
	Survivor of active	14	4,482	2	873	66	22,507	19.10	341	(2.57)
	Survivor of retired	13	12,309	4	1,227	33	27,376	68.01	830	22.24
December 31, 2010	Retirement	182	213,270	16	15,511	887	1,025,316	23.90	1,156	0.70
	Survivor of active	12	5,150	3	1,464	75	26,193	16.38	349	2.35
	Survivor of retired	29	25,603	20	15,326	42	37,653	37.54	897	8.07
December 31, 2011	Retirement	195	232,470	18	17,746	1,064	1,240,040	20.94	1,165	0.78
	Survivor of active	21	9,896	-	-	96	36,089	37.78	376	7.74
	Survivor of retired	18	16,523	2	771	58	53,405	41.83	921	2.68
December 31, 2012	Retirement	215	229,048	24	25,481	1,255	1,443,607	16.42	1,150	(1.29)
	Survivor of active	15	3,735	3	868	108	38,956	7.94	361	(3.99)
	Survivor of retired	14	15,241	4	3,162	68	65,484	22.62	963	4.56
December 31, 2013	Retirement	234	274,185	27	30,879	1,462	1,686,913	16.85	1,154	0.35
	Survivor of active	21	7,185	7	2,099	122	44,042	13.06	361	0.00
	Survivor of retired	26	29,008	3	1,758	91	92,734	41.61	1,019	5.82
December 31, 2014	Retirement	241	276,068	22	24,459	1,681	1,938,522	14.92	1,153	(0.09)
	Survivor of active	16	4,151	6	2,208	132	45,985	4.41	348	(3.60)
	Survivor of retired	18	18,571	10	13,075	99	98,230	5.93	992	(2.65)
December 31, 2015	Retirement	251	339,418	33	36,715	1,899	2,241,225	15.62	1,180	2.34
	Survivor of active	11	3,182	7	1,574	136	47,593	3.50	350	0.57
	Survivor of retired	22	20,746	5	2,910	116	116,066	18.16	1,001	0.91
December 31, 2016	Retirement	218	283,941	42	48,527	2,075	2,476,639	10.50	1,194	1.19
	Survivor of active	22	10,936	6	1,251	152	57,278	20.35	377	7.71
	Survivor of retired	29	35,094	14	14,065	131	137,095	18.12	1,047	4.60
December 31, 2017	Retirement	280	357,463	35	43,329	2,320	2,790,773	12.68	1,203	0.75
	Survivor of active	28	8,857	6	1,193	174	64,942	13.38	373	(1.06)
	Survivor of retired	17	22,702	9	11,424	139	148,373	8.23	1,067	1.91



### LOPFI Retirants and Beneficiaries - Member Count



### LOPFI Retirants and Beneficiaries - Total Annual Benefits



# Retirants and Beneficiaries\* Added to and Removed from Rolls Comparative Statement - (Continued)

## Local Paid Service

Valuation Date		Added		Removed		End of Year		% Increase in Annual Allowance	Average	
		No.	Annual Allowance	No.	Annual Allowance	No.	Annual Allowance		Annual Allowance	% Increase in Allowance
December 31, 2008	Retirement	39	\$ 1,076,014	25	\$ 384,056	810	\$ 16,412,337	4.40	\$ 20,262	2.60 %
	Survivor of active	3	83,382	-	-	7	124,763	201.50	17,823	72.29
	Survivor of retired	18	346,417	22	173,580	216	2,887,102	6.37	13,366	8.33
December 31, 2009	Retirement	10	438,424	22	292,992	798	16,557,769	0.89	20,749	2.40
	Survivor of active	17	227,302	1	1,500	23	350,565	180.98	15,242	(14.48)
	Survivor of retired	20	286,266	29	327,986	207	2,845,382	(1.45)	13,746	2.84
December 31, 2010	Retirement	118	2,666,918	28	406,946	888	18,817,741	13.65	21,191	2.13
	Survivor of active	-	1,890	-	6,122	23	346,333	(1.21)	15,058	(1.21)
	Survivor of retired	187	2,875,614	154	2,286,964	240	3,434,032	20.69	14,308	4.09
December 31, 2011	Retirement	34	991,101	21	321,147	901	19,487,695	3.56	21,629	2.07
	Survivor of active	3	24,618	2	25,746	24	345,205	(0.33)	14,384	(4.48)
	Survivor of retired	15	287,361	12	139,014	243	3,582,379	4.32	14,742	3.03
December 31, 2012	Retirement	35	1,122,749	25	431,333	911	20,179,111	3.55	22,151	2.41
	Survivor of active	-	2,005	1	4,214	23	342,996	(0.64)	14,913	3.68
	Survivor of retired	28	631,844	19	210,681	252	4,003,542	11.76	15,887	7.77
December 31, 2013	Retirement	300	8,003,688	22	403,589	1,189	27,779,210	37.66	23,364	5.48
	Survivor of active	3	70,252	4	51,330	22	361,918	5.52	16,451	10.31
	Survivor of retired	102	2,151,973	7	76,301	347	6,079,214	51.85	17,519	10.27
December 31, 2014	Retirement	34	1,037,839	41	795,906	1,182	28,021,143	0.87	23,707	1.47
	Survivor of active	-	3,226	-	-	22	365,144	0.89	16,597	0.89
	Survivor of retired	27	612,017	18	273,656	356	6,417,575	5.57	18,027	2.90
December 31, 2015	Retirement	48	1,585,403	39	668,103	1,191	28,938,443	3.27	24,298	2.49
	Survivor of active	1	11,069	2	39,490	21	336,723	(7.78)	16,034	(3.39)
	Survivor of retired	39	736,035	23	370,013	372	6,783,597	5.70	18,235	1.15
December 31, 2016	Retirement	28	663,817	42	808,519	1,177	28,793,741	(0.50)	24,464	0.68
	Survivor of active	1	8,712	-	-	22	345,435	2.59	15,702	(2.07)
	Survivor of retired	28	593,043	23	347,147	377	7,029,493	3.62	18,646	2.25
December 31, 2017	Retirement	122	3,554,712	35	795,031	1,264	31,553,422	9.58	24,963	2.04
	Survivor of active	2	43,909	1	7,425	23	381,919	10.56	16,605	5.75
	Survivor of retired	58	1,149,220	24	357,161	411	7,821,552	11.27	19,031	2.06

\* Includes DROP participants.

# Retirants and Beneficiaries Added to and Removed from Rolls Comparative Statement - (Concluded)

## Local Volunteer Service

Valuation Date		Added		Removed		End of Year		% Increase in Annual Allowance	Average	
		No.	Annual Allowance	No.	Annual Allowance	No.	Annual Allowance		Annual Allowance	% Increase in Allowance
December 31, 2008	Retirement	130	\$ 240,216	5	\$ 7,007	526	\$ 865,274	36.90	\$ 1,645	4.38 %
	Survivor of active	3	5,327	-	-	5	8,701	157.89	1,740	3.14
	Survivor of retired	45	63,123	10	12,266	156	205,941	32.79	1,320	2.96
December 31, 2009	Retirement	128	196,439	20	30,294	634	1,031,419	19.20	1,627	(1.09)
	Survivor of active	9	12,556	-	-	14	21,257	144.31	1,518	(12.76)
	Survivor of retired	43	59,514	17	23,031	182	242,424	17.72	1,332	0.91
December 31, 2010	Retirement	48	87,376	23	34,348	659	1,084,447	5.14	1,646	1.17
	Survivor of active	-	211	-	-	14	21,468	1	1,533	0.99
	Survivor of retired	131	181,383	113	151,528	200	272,279	12.32	1,361	2.18
December 31, 2011	Retirement	21	37,674	25	35,673	655	1,086,448	0.18	1,659	0.79
	Survivor of active	-	217	-	-	14	21,685	1.01	1,549	1.04
	Survivor of retired	25	35,876	15	18,322	210	289,833	6.45	1,380	1.40
December 31, 2012	Retirement	9	24,510	24	38,642	640	1,072,316	(1.30)	1,675	0.96
	Survivor of active	-	185	2	2,511	12	19,359	(11)	1,613	4.13
	Survivor of retired	14	24,689	22	30,267	202	284,255	(1.92)	1,407	1.96
December 31, 2013	Retirement	49	93,001	20	31,531	669	1,133,786	5.73	1,695	1.19
	Survivor of active	3	3,730	1	1,800	14	21,289	9.97	1,521	(5.70)
	Survivor of retired	33	57,346	18	27,045	217	314,556	10.66	1,450	3.06
December 31, 2014	Retirement	47	88,609	22	32,882	694	1,189,513	4.92	1,714	1.12
	Survivor of active	-	232	-	-	14	21,521	1.09	1,537	1.05
	Survivor of retired	32	56,045	11	14,792	238	355,809	13.11	1,495	3.10
December 31, 2015	Retirement	27	50,934	30	46,371	691	1,194,076	0.38	1,728	0.82
	Survivor of active	1	1,439	1	1,200	14	21,760	1.11	1,554	1.11
	Survivor of retired	27	41,171	19	26,369	246	370,611	4.16	1,507	0.80
December 31, 2016	Retirement	37	80,525	40	60,439	688	1,214,162	1.68	1,765	2.14
	Survivor of active	1	2,526	2	2,340	13	21,946	0.85	1,688	8.62
	Survivor of retired	45	76,922	16	22,294	275	425,239	14.74	1,546	2.59
December 31, 2017	Retirement	175	358,989	33	63,305	830	1,509,846	24.35	1,819	3.06
	Survivor of active	4	4,821	-	-	17	26,767	21.97	1,575	(6.69)
	Survivor of retired	99	190,566	24	36,316	350	579,489	36.27	1,656	7.12

**LOPFI (Excluding Local Plan Members)**  
**Paid Service Retirants and Beneficiaries\* – December 31, 2017**  
**Tabulated by Attained Ages**

Attained Ages	Age & Service Retirants		Disability Retirants		Survivor Beneficiaries	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 10					4	\$ 21,419
10-14					9	47,544
15-19					19	92,865
20-24						
25-29			3	\$ 59,402	8	64,888
30-34			7	175,128	2	23,395
35-39	15	\$ 171,679	33	784,997	6	68,503
40-44	57	664,911	69	1,718,748	9	100,447
45-49	122	3,019,036	134	3,677,617	24	244,831
50-54	431	12,863,218	115	3,169,291	21	214,327
55-59	595	17,460,136	97	2,658,952	33	456,698
60-64	439	9,062,890	54	1,310,473	13	146,968
65-69	281	4,018,268	31	811,635	27	219,926
70-74	114	1,255,905	17	395,919	14	139,521
75-79	57	633,811	3	79,271	5	71,434
80-84	18	122,288	1	23,556	1	8,330
85-89					1	8,230
90 & Over						
<b>Totals</b>	<b>2,129</b>	<b>\$ 49,272,142</b>	<b>564</b>	<b>\$ 14,864,989</b>	<b>196</b>	<b>\$ 1,929,326</b>

\* Includes DROP participants.

**LOPFI (Excluding Local Plan Members)**  
**Volunteer Service Retirants and Beneficiaries – December 31, 2017**  
**Tabulated by Attained Ages**

Attained Ages	Age & Service Retirants		Disability Retirants		Survivor Beneficiaries	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 10					11	\$ 1,267
10-14					19	2,604
15-19					37	4,890
20-24					2	376
25-29					1	333
30-34			1	\$ 13	2	766
35-39	13	\$ 8,603	12	3,380	6	3,457
40-44	35	17,785	22	10,271	13	5,260
45-49	70	52,930	38	16,074	17	9,131
50-54	201	195,139	20	11,955	23	16,338
55-59	342	455,717	20	14,695	35	25,836
60-64	469	613,403	8	7,412	35	35,080
65-69	449	563,523	11	11,501	40	31,837
70-74	279	360,311	1	1,259	29	24,432
75-79	198	275,485			26	28,452
80-84	95	114,830			9	13,195
85-89	31	48,362			8	10,061
90 & Over	5	8,125				
<b>Totals</b>	<b>2,187</b>	<b>\$ 2,714,213</b>	<b>133</b>	<b>\$ 76,560</b>	<b>313</b>	<b>\$ 213,315</b>

**LOPFI (Local Plan Members)  
Paid Service Retirants and Beneficiaries\* – December 31, 2017  
Tabulated by Attained Ages**

Attained Ages	Age & Service Retirants		Disability Retirants		Survivor Beneficiaries	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 10						
10-14						
15-19					1	\$ 2,100
20-24					1	2,100
25-29						
30-34						
35-39						
40-44					1	23,084
45-49	1	\$ 6,300			3	54,093
50-54	4	22,643			5	142,671
55-59	89	2,403,286	9	\$ 279,433	17	384,782
60-64	263	7,151,676	17	393,544	29	758,754
65-69	259	6,912,047	29	689,899	69	1,554,041
70-74	241	5,976,530	27	638,104	64	1,391,320
75-79	163	3,759,020	9	176,759	84	1,444,192
80-84	82	1,832,327	12	245,402	70	1,085,016
85-89	39	782,794	3	51,787	64	951,452
90 & Over	14	194,140	3	37,731	26	409,866
<b>Totals</b>	<b>1,155</b>	<b>\$ 29,040,763</b>	<b>109</b>	<b>\$ 2,512,659</b>	<b>434</b>	<b>\$ 8,203,471</b>

\* Includes DROP members.

# LOPFI (Local Plan Members)

## Volunteer Service Retirants and Beneficiaries – December 31, 2017

### Tabulated by Attained Ages

Attained Ages	Age & Service Retirants		Disability Retirants		Survivor Beneficiaries	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 10						
10-14					2	\$ 600
15-19					2	1,800
20-24						
25-29						
30-34						
35-39	1	\$ 2,566				
40-44						
45-49						
50-54	5	7,200				
55-59	58	114,445			7	14,046
60-64	116	208,349	2	\$ 2,633	16	24,808
65-69	160	299,263	6	7,560	31	49,934
70-74	167	298,659	2	2,400	73	121,352
75-79	139	252,694	1	1,200	54	95,547
80-84	86	162,058	1	1,200	59	101,834
85-89	47	84,114	2	3,000	75	118,808
90 & Over	37	62,505			48	77,527
<b>Totals</b>	<b>816</b>	<b>\$ 1,491,853</b>	<b>14</b>	<b>\$ 17,993</b>	<b>367</b>	<b>\$ 606,256</b>

## LOPFI Participating Group By Type December 31, 2017

<u>Political Subdivision</u>	<u>POLICE</u>			<u>FIRE</u>			<u>OTHER</u>
	<u>Paid with SS</u>	<u>Paid w/o SS</u>	<u>Volunteer Service</u>	<u>Paid with SS</u>	<u>Paid w/o SS</u>	<u>Volunteer Service</u>	
Alma						X	
Alzheimer						X	
Altus			X			X	
Amity	X		X			X	
Antioch						X	
Appleton Rural						X	
Arch Street FPD #16						X	
Arkadelphia					X	X	
Arkansas City						X	
Ash Flat	X		X		X	X	
Ashdown	X		X			X	
Atkins	X		X			X	
Augusta	X					X	
Austin	X					X	
Avoca						X	
Bald Knob	X		X			X	
Barling	X		X	X		X	
Barton-Lexa Fire Department, Inc.						X	
Batesville	X		X		X	X	
Bauxite	X		X				
Bay	X		X			X	
Bay Village						X	
BDR FD#1						X	
Bearden						X	
Beaver Lake				X		X	
Beaverfork						X	
Bee Branch						X	
Beebe				X		X	
Bella Vista	X			X		X	
Belleville						X	
Benton	X				X		
Bentonville	X				X	X	
Bergman						X	
Berryville	X		X			X	
Bethel Heights	X		X			X	
Bethesda Area						X	
Big Creek						X	
Bigelow						X	
Bigger-Reyno						X	
Biscoe						X	
Bismarck Fire Pro Association						X	
Black Rock	X		X				
Blytheville	X				X		
Bonanza						X	
Bono	X		X				
Bono FID						X	
Booneville						X	
Boston Mountain						X	
Bradford	X					X	



## LOPFI Participating Group By Type December 31, 2017

<u>Political Subdivision</u>	<u>POLICE</u>			<u>FIRE</u>			<u>OTHER</u>
	<u>Paid with SS</u>	<u>Paid w/o SS</u>	<u>Volunteer Service</u>	<u>Paid with SS</u>	<u>Paid w/o SS</u>	<u>Volunteer Service</u>	
Bradley	X		X			X	
Bradley County Rural						X	
Brinkley		X	X		X	X	
Brookland	X		X				
Brookland Fire Protection District						X	
Bruno Fire Protection District						X	
Bryant	X		X		X		
Buena Vista						X	
Buford						X	
Bull Shoals	X		X	X		X	
Burnt Ridge						X	
Butterfield						X	
Cabot	X				X	X	
Caddo Valley	X		X			X	
Cairo						X	
Caldwell						X	
Calico Rock						X	
Calion						X	
Calvert Township						X	
Camden		X			X	X	
Cammack Village	X		X				
Camp						X	
Cane Creek						X	
Capps-Batavia						X	
Caraway	X					X	
Carlisle	X					X	
Carthage						X	
Cash						X	
Cave City	X			X		X	
Cave Springs	X		X			X	
Center						X	
Center Grove						X	
Centerton	X		X		X	X	
Central City						X	
Chambersville						X	
Charleston						X	
Charlotte						X	
Cherokee Village	X		X	X			
Cherry Hill						X	
Cherry Valley	X					X	
Chidester						X	
Chimes						X	
Choctaw						X	
Cincinnati						X	
Clarendon	X					X	
Clarksville	X		X			X	
Clinton	X			X		X	
Coal Hill	X		X			X	

## LOPFI Participating Group By Type December 31, 2017

<u>Political Subdivision</u>	<u>POLICE</u>			<u>FIRE</u>			<u>OTHER</u>
	<u>Paid with SS</u>	<u>Paid w/o SS</u>	<u>Volunteer Service</u>	<u>Paid with SS</u>	<u>Paid w/o SS</u>	<u>Volunteer Service</u>	
Collegetown						X	
Colt						X	
Compton						X	
Concord	X						
Conway	X				X		
Conway County						X	
Cooterneck						X	
Cord						X	
Corning	X					X	
Cotter	X		X			X	
Cotter/Gassville Rural						X	
Cotton Plant	X					X	
Cottonwood Rural Fire Assoc						X	
County Line						X	
Cove Rural						X	
Crawfordsville						X	
Crossett	X		X		X	X	
Crow Mountain Fire Protection Dist						X	
Crystal Fire Protection District						X	
Curtis Rural						X	
Dalton						X	
Damascus						X	
Danville						X	
Dardanelle						X	
De Queen	X				X	X	
Deann						X	
Decatur	X		X			X	
Deer						X	
Delaware						X	
Dermott	X					X	
Des Arc	X					X	
Desha						X	
Devalls Bluff	X					X	
DeWitt	X					X	
Diaz	X		X			X	
Dierks	X		X				
District 7 Crawford Co. Volunt						X	
Dodd Mountain						X	
Dover	X		X			X	
Dumas						X	
Dyess						X	
Earle						X	
East Camden	X					X	
East End Fire Protection District						X	
El Dorado		X	X		X		
Elaine						X	
Elkins	X		X	X		X	
Elm Springs	X		X				

## LOPFI Participating Group By Type December 31, 2017

<u>Political Subdivision</u>	<u>POLICE</u>			<u>FIRE</u>			<u>OTHER</u>
	<u>Paid with SS</u>	<u>Paid w/o SS</u>	<u>Volunteer Service</u>	<u>Paid with SS</u>	<u>Paid w/o SS</u>	<u>Volunteer Service</u>	
Emmet						X	
EMP Rural Fire Association						X	
England						X	
Etowah						X	
Eudora						X	
Eureka Springs	X		X		X	X	
Evansville						X	
Evening Shade						X	
Faircrest						X	
Fairfield Bay	X					X	
Fairview Fire Protection District						X	
Fairview Rural Fire District						X	
Farmington	X		X	X		X	
Fayetteville		X			X		
Fire District #6 Crawford Co						X	
Fisher						X	
Flippin	X		X			X	
Floral						X	
Fordyce						X	
Foreman						X	
Forrest City	X		X		X	X	
Fort Smith		X	X		X		
Fox						X	
Frenchport						X	
Gallatin						X	
Gamaliel						X	
Garland						X	
Gassville	X		X			X	
Gentry	X		X			X	
Gillett	X					X	
Glenwood	X		X			X	
Goshen	X						
Goshen Fire Dist Assoc						X	
Gosnell	X					X	
Gould						X	
Grady						X	
Gravel Ridge					X	X	
Gravette	X		X	X		X	
Grayson Fire Assoc						X	
Green Forest	X					X	
Greenbrier						X	
Greenland	X		X				
Greenwood	X				X	X	
Greenwood Rural						X	
Greers Ferry	X					X	
Grover Township						X	
Grubbs						X	
Gum Springs						X	

## LOPFI Participating Group By Type December 31, 2017

<u>Political Subdivision</u>	<u>POLICE</u>			<u>FIRE</u>			<u>OTHER</u>
	<u>Paid with SS</u>	<u>Paid w/o SS</u>	<u>Volunteer Service</u>	<u>Paid with SS</u>	<u>Paid w/o SS</u>	<u>Volunteer Service</u>	
Gurdon						X	
Guy Community						X	
Hackett	X		X			X	
Hagarville RFD #3						X	
Halley						X	
Hamburg						X	
Hampton	X					X	
Hand Cove Fire Prot District						X	
Hardin						X	
Hardy	X					X	
Harmon						X	
Harrell						X	
Harrisburg	X					X	
Harrison	X		X		X	X	
Hartford	X					X	
Haskell	X		X	X		X	
Hatfield						X	
Hazen						X	
Heber Springs	X				X	X	
Hector			X				
Helena-West Helena		X	X		X	X	
Hensley						X	
Hermitage	X		X			X	
Hickory Creek						X	
Hickory Ridge						X	
Higginson			X			X	
Highfill	X		X			X	
Highland						X	
Highway 15 South						X	
Highway 286 East						X	
Highway 70 West FPA						X	
Hilltop						X	
Hilltop Fire District# 51						X	
Holiday Island					X	X	
Holland						X	
Hollis						X	
Holly Grove			X			X	
Hon						X	
Hope					X	X	
Hopewell Fire District						X	
Horatio						X	
Hot Springs		X			X		
Hot Springs Village	X			X		X	
Hoxie	X		X		X	X	
Hughes	X		X			X	
Humphrey	X					X	
Huntington	X					X	
Huntsville	X		X			X	

## LOPFI Participating Group By Type December 31, 2017

<u>Political Subdivision</u>	<u>POLICE</u>			<u>FIRE</u>			<u>OTHER</u>
	<u>Paid with SS</u>	<u>Paid w/o SS</u>	<u>Volunteer Service</u>	<u>Paid with SS</u>	<u>Paid w/o SS</u>	<u>Volunteer Service</u>	
Huttig	X					X	
Imboden						X	
Inspiration Point Rural Fire Protec						X	
lone Community						X	
Jacksonville	X				X		
Jasper	X					X	
Johnson	X						
Johnson Area				X		X	
Johnson County Rfd #1						X	
Johnson County Rfd #2						X	
Johnson County Rfd #4						X	
Johnson County Rfd #5						X	
Johnson County Rfd #7						X	
Johnson County Rfd #8						X	
Joiner						X	
Jonesboro		X	X		X		
Joplin						X	
Judsonia	X		X			X	
Junction City	X		X			X	
Keiser						X	
Kensett	X		X			X	
Keo						X	
Kibler	X						
Knoxville						X	
Krooked Kreek						X	
Lake City	X					X	
Lake Hamilton				X		X	
Lake Maumelle Area RFD						X	
Lake Village	X					X	
Lakeview		X	X				
Lamar	X					X	
Landis						X	
Lavaca	X		X			X	
Lawson-Urbana						X	
Lazy Acres						X	
Leachville	X		X			X	
Lead Hill						X	
Lepanto	X					X	
Leslie						X	
Lewisville	X					X	
Liberty						X	
Lincoln	X			X		X	
Linwood-Moscow						X	
Little Flock	X		X			X	
Little Rock		X			X		
Lockesburg						X	
London Rural						X	
Lone Rock						X	

## LOPFI Participating Group By Type December 31, 2017

<u>Political Subdivision</u>	<u>POLICE</u>			<u>FIRE</u>			<u>OTHER</u>
	<u>Paid with SS</u>	<u>Paid w/o SS</u>	<u>Volunteer Service</u>	<u>Paid with SS</u>	<u>Paid w/o SS</u>	<u>Volunteer Service</u>	
Lonoke	X					X	
LOPFI Staff							X
Louann						X	
Lowell	X		X		X	X	
Luxora	X					X	
Lynne						X	
Magazine						X	
Magnolia	X		X		X	X	
Malvern	X				X	X	
Mammoth Spring						X	
Manila	X			X		X	
Mansfield	X		X			X	
Marble						X	
Marianna	X			X		X	
Marion	X		X	X		X	
Marked Tree	X					X	
Marmaduke	X		X			X	
Marshall	X		X			X	
Marvell	X		X			X	
Maumelle		X			X	X	
Mayflower	X		X	X		X	
Maynard						X	
McCrary	X		X			X	
McGehee	X				X	X	
McNeil						X	
McRae	X					X	
Melbourne						X	
Melrose						X	
Mena					X	X	
Midland						X	
Mineral Springs	X					X	
Monette	X					X	
Monticello					X	X	
Montrose						X	
Morning Star						X	
Morning Star FPA				X		X	
Moro						X	
Morrilton						X	
Morrow						X	
Mount Holly						X	
Mount Ida						X	
Mountain Home	X		X		X	X	
Mountain View	X		X			X	
Mountainburg	X		X			X	
Mt Judea Area						X	
Mulberry	X					X	
Murfreesboro	X					X	
Nashville					X	X	

## LOPFI Participating Group By Type December 31, 2017

<u>Political Subdivision</u>	<u>POLICE</u>			<u>FIRE</u>			<u>OTHER</u>
	<u>Paid with SS</u>	<u>Paid w/o SS</u>	<u>Volunteer Service</u>	<u>Paid with SS</u>	<u>Paid w/o SS</u>	<u>Volunteer Service</u>	
Natural Dam						X	
New Blaine Rural						X	
Newark						X	
Newport	X		X		X	X	
Nimrod/Aplin						X	
Nob Hill					X	X	
Norman						X	
Norphlet			X			X	
North Crossett						X	
North Little Rock		X			X		
North Pulaski FPD						X	
Northeast Benton Co.						X	
Northeast Greene County Fire Dis						X	
Northeast Lakeside						X	
Northeast Saline County Fire						X	
Northside						X	
Northside						X	
Oak Grove						X	
Oak Grove					X	X	
Oil Trough						X	
Ola	X		X			X	
Oppelo	X					X	
Osceola	X		X		X	X	
Ouachita Co FD #1						X	
Oxley						X	
Ozark	X		X	X		X	
Pangburn	X		X			X	
Paragould	X		X		X	X	
Paris						X	
Parkin						X	
Parks						X	
Parthenon						X	
Patterson	X		X			X	
Pea Ridge	X		X			X	
Peel						X	
Perryville	X					X	
Philadelphia						X	
Piggott						X	
Pine Bluff		X	X		X		
Pine Ridge						X	
Pine Village						X	
Pineville						X	
Plainview						X	
Pleasant Plains						X	
Plumerville						X	
Pocahontas	X		X		X	X	
Ponca						X	
Portland	X					X	
Pottsville	X		X			X	

## LOPFI Participating Group By Type December 31, 2017

<u>Political Subdivision</u>	<u>POLICE</u>			<u>FIRE</u>			<u>OTHER</u>
	<u>Paid with SS</u>	<u>Paid w/o SS</u>	<u>Volunteer Service</u>	<u>Paid with SS</u>	<u>Paid w/o SS</u>	<u>Volunteer Service</u>	
Prairie Grove	X		X	X		X	
Prescott						X	
Pulaski Co					X	X	
Pyatt Rural Fire & Def Assoc						X	
Quail Creek						X	
Ravenden	X					X	
Rector	X		X			X	
Redfield	X		X			X	
Richwood						X	
Rison	X					X	
Riverdale						X	
Rockport	X						
Rockport						X	
Rogers	X				X		
Rondo						X	
Rose Bud						X	
Ross Van Ness - Wellford						X	
Round Mountain						X	
Ruddell Hill						X	
Rudd's Crossing						X	
Russell						X	
Russellville	X				X		
Salem	X					X	
Salem-Saline County						X	
Saratoga						X	
Sardis Fire Protection District						X	
Scotland						X	
Scott						X	
Scranton Rural						X	
SE Jefferson Co						X	
Searcy	X		X		X	X	
Sedgwick Fire Improvement Dist						X	
Shady Grove Fire & Rescue						X	
Shannon Hills	X		X				
Shannon Hills						X	
Shaw						X	
Sheridan				X		X	
Sherwood	X						
Siloam Springs	X				X	X	
Sixth District						X	
Smackover	X					X	
Smyrna						X	
Snowball						X	
South Carroll Co Fire Assoc						X	
South Greene County						X	
South Mountain						X	
Southbend						X	
Southridge						X	
Southside						X	



## LOPFI Participating Group By Type December 31, 2017

<u>Political Subdivision</u>	<u>POLICE</u>			<u>FIRE</u>			<u>OTHER</u>
	<u>Paid with SS</u>	<u>Paid w/o SS</u>	<u>Volunteer Service</u>	<u>Paid with SS</u>	<u>Paid w/o SS</u>	<u>Volunteer Service</u>	
Sparkman			X			X	
Springdale	X				X		
St. Francis						X	
Stamps	X					X	
Star City	X					X	
Stephens						X	
Strawberry						X	
Strickler						X	
Strong	X					X	
Stuttgart	X				X	X	
Sulphur	X					X	
Summit						X	
Sunnyland Rural						X	
Sunset Rural						X	
Swifton	X					X	
Taylor						X	
Texarkana		X	X		X		
Thornton						X	
Tillar						X	
Timbo						X	
Tinsman						X	
Tontitown	X		X			X	
Tontitown Area						X	
Town of St. Charles						X	
Tracy Area						X	
Trumann	X		X		X	X	
Tuckerman	X		X			X	
Tull Fire & Rescue						X	
Turrell						X	
Tyronza	X		X			X	
Umpire						X	
Valley Springs						X	
Van Buren	X		X		X		
Vandervoort Rural						X	
Velvet Ridge Fire Protection Distr						X	
Vilonia	X		X	X		X	
Viola						X	
Wabbaseka						X	
Waldo	X		X			X	
Waldron	X					X	
Walnut Ridge	X		X		X	X	
Ward	X		X	X		X	
Warren					X	X	
Washington						X	
Water Valley						X	
Watson Chapel						X	
Wedington						X	
Weiner	X					X	
Wescon						X	

## LOPFI Participating Group By Type December 31, 2017

<u>Political Subdivision</u>	<u>POLICE</u>			<u>FIRE</u>			<u>OTHER</u>
	<u>Paid with SS</u>	<u>Paid w/o SS</u>	<u>Volunteer Service</u>	<u>Paid with SS</u>	<u>Paid w/o SS</u>	<u>Volunteer Service</u>	
Wesley						X	
West Fork	X		X	X		X	
West Memphis	X		X		X		
West Point						X	
West Pulaski						X	
Western Greene Co						X	
Western Grove						X	
Wheatley	X					X	
Wheeler						X	
White Bluff-Rye Hill						X	
White Hall	X					X	
Whitehouse						X	
Wickes RVFD #2						X	
Williams Junction						X	
Wilmar						X	
Wilmot	X					X	
Wilson	X					X	
Wilton						X	
Winchester						X	
Woodlawn						X	
Wright-Pastoria						X	
Wynne	X		X		X	X	
Y-City						X	
Yellville						X	
Zinc						X	

## **SECTION D**

---

### **FINANCIAL PRINCIPLES**

# Financial Principles and Operational Techniques of LOPFI

## Local Police and Fire Retirement System

**Promises Made, and To Be Paid For.** As each year is completed, the System in effect hands an "IOU" to each member then acquiring a year of service credit -- the "IOU" says: "The Arkansas Local Police and Fire Retirement System owes you one year's worth of retirement benefits, payments in cash commencing when you qualify for retirement."

The related *key financial questions* are:

**Which generation of taxpayers contributes the money to cover the IOU?** The present taxpayers, who receive the benefit of the member's present year of service? **Or the future taxpayers**, who happen to be in Arkansas at the time the IOU becomes a cash demand, years and often decades later?

**LOPFI intends that this year's taxpayers contribute the money to cover the IOUs being handed out this year.** By following this principle, **the employer contribution rate will remain approximately level from generation to generation** -- our children and our grandchildren will contribute the same percents of pay we contribute now.

There are systems which have a design for deferring contributions to future taxpayers lured by a lower contribution rate now and putting aside the fact that the contribution rate must relentlessly grow much greater over decades of time -- consume now, and let your children face your financial pollution after you've retired.

An inevitable by-product of the level-cost design is the accumulation of reserve assets, for decades, and the income produced when the assets are invested. **Invested assets are a by-product and not the objective.** **Investment income** becomes in effect **the third contributor** for benefits to employees, and is interlocked with the contribution amounts required from employees and employers.

Translated to actuarial terminology, this level-cost objective means that the contribution rates must total at least the following:

Normal Cost (the cost of members' service being rendered this year)

... plus ...

Interest on Unfunded Actuarial Accrued Liabilities (unfunded actuarial accrued liabilities are the difference between: liabilities for members' service already rendered; and the accrued assets of the governmental unit in the plan).

**Computing Contributions to Support System Benefits.** From a given schedule of benefits and from the employee data and asset data furnished, the actuary determines the contribution rates to support the benefits, by means of ***an actuarial valuation and a funding method.***

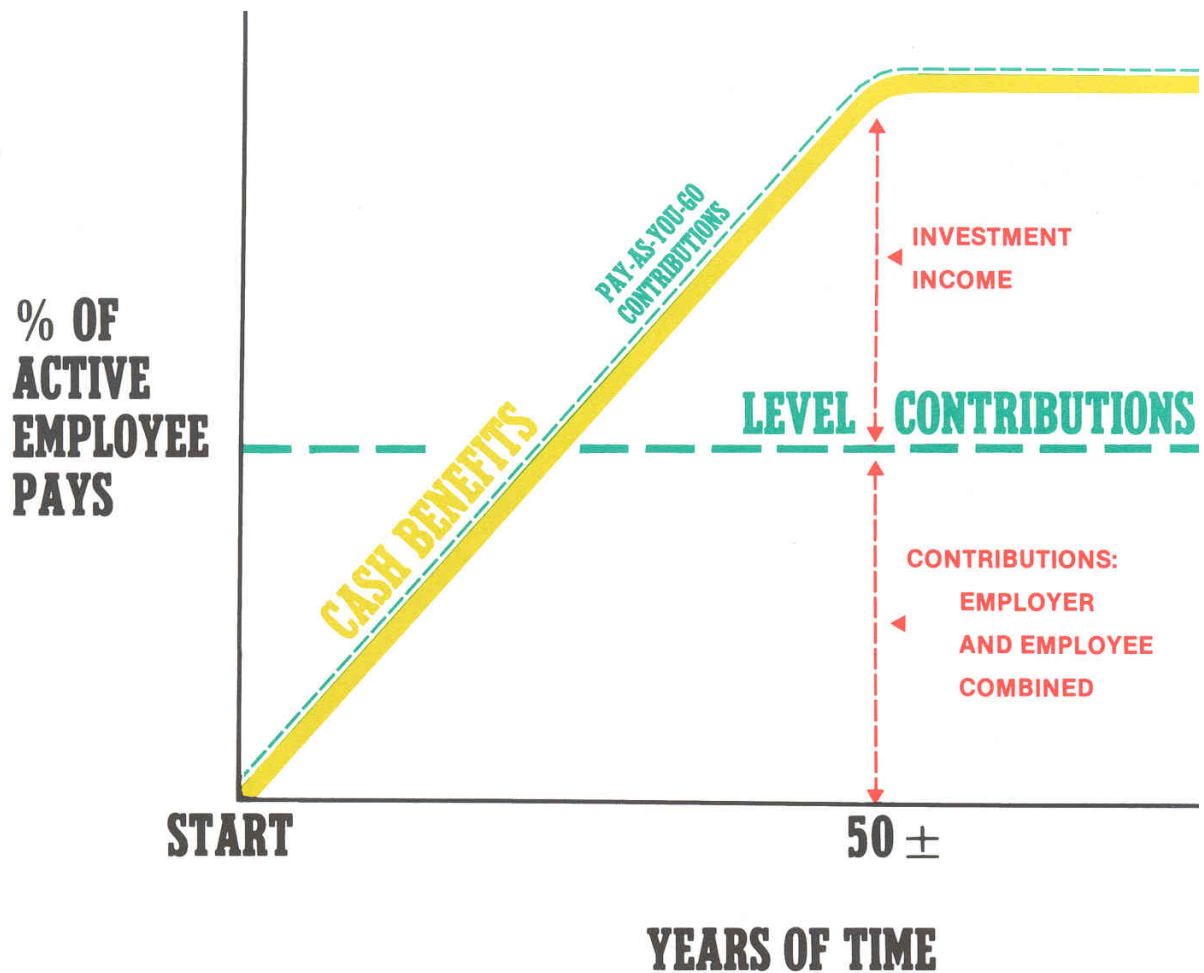
An actuarial valuation has a number of ingredients such as: the rate of investment return which plan assets will earn; the rates of withdrawal of active members who leave covered employment before qualifying for any monthly benefit; the rates of mortality; the rates of disability; the rates of pay increases; and the assumed age or ages at actual retirement.

In making an actuarial valuation, the system must assume what the above experience will be for the next year and for decades in the future. Only the subsequent actual experience of the System can indicate the degree of accuracy of the assumptions.

**Reconciling Differences between Assumed Experience and Actual Experience.** Once actual experience has occurred and been observed, it will not coincide exactly with assumed experience, regardless of the wisdom of the assumptions and regardless of the skill of the actuary and the calculations made. The future can be predicted with considerable but not complete precision, except that inflation seems to defy reliable prediction.

LOPFI copes with these continually changing differences by having ***annual actuarial valuations***, separately for each participating paid employer group and in aggregate for participating volunteer employer groups. Each annual actuarial valuation is a complete recalculation of assumed future experience, taking into account all past differences between assumed and actual experience. The result is continually changing employer contribution rates.

To avoid causing employer budget problems, LOPFI provides a maximum annual increase of one percent of payroll for any one participating employer (not including the effect of any benefit changes throughout the year).



**CASH BENEFITS LINE.** This relentlessly increasing line is the fundamental reality of retirement plan financing. It happens each time a new benefit is added for future retirements (and happens regardless of the design for contributing for benefits).

**LEVEL CONTRIBUTION LINE.** Determining the level contribution line requires detailed assumptions concerning a variety of experiences in future decades, including:

**Economic Risk Areas**

- Rates of investment return
- Rates of pay increase
- Changes in active member group size

**Non-Economic Risk Areas**

- Ages at actual retirement
- Rates of mortality
- Rates of withdrawal of active members (turnover)
- Rates of disability

## Actuarial Valuation Process

The **actuarial valuation** is the mathematical process by which the contribution rate is determined, and the flow of activity constituting the valuation may be summarized as follows:

- A. **Covered people data**, furnished by plan administrator, including:
  - Retired lives now receiving benefits
  - Former employees with vested benefits not yet payable
  - Active employees
- + B. **Asset data** (cash & investments), furnished by plan administrator
- + C. **Assumptions concerning future financial experiences in various risk areas**, which assumptions are established by the Board of Trustees after consulting with the actuary
- + D. **The funding method** for determining employer contributions (the long-term, planned pattern for employer contributions)
- + E. **Mathematically combining the assumptions, the funding method, and the data**
- = F. Determination of:

***Plan financial position***

and/or ***New Employer Contribution Rate***

## SECTION E

---

### SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS



# SUMMARY OF ASSUMPTIONS USED FOR LOPFI ACTUARIAL VALUATIONS

## Assumptions Adopted by Board of Trustees After Consulting With Actuary

*The actuarial assumptions used* in making the valuations are shown in this section of the report. The assumptions are established by the Board after consulting with the actuary as outlined in A.C.A. 24-10-205(a)(1).

### ECONOMIC ASSUMPTIONS -----

*The investment return rate* used in the valuation was 7.50% per year, compounded annually (net after administrative expenses). This rate of return is not the assumed real rate of return. The real rate of return is defined to be the portion of investment return which is more than the wage inflation rate. With a 3.25% wage inflation assumption, the 7.50% investment return rate translates to an assumed real rate of return of 4.25%.

*Price inflation* was assumed to be 2.50% a year. This assumption was utilized to increase the basic benefit factor for volunteer members.

*Pay increase assumptions* for individual active members are summarized in Schedule A-5. Part of the assumption for each age is for a merit and/or seniority increase, and the other 3.25% recognizes wage inflation.

*Total active member payroll* is assumed to increase 3.25% a year, which is the portion of the individual pay increase assumptions attributable to wage inflation.

*The number of active members* is assumed to remain constant at the present level of LOPFI active members.

### NON-ECONOMIC ASSUMPTIONS -----

*The mortality tables* used to measure retired life mortality were the RP-2014 Healthy Annuitant benefit weighted generational mortality tables for males and females. The disability post-retirement mortality tables used were the RP-2014 Disabled Retiree benefit weighted generational mortality tables for males and females. The death-in-service mortality tables used were the RP-2014 Employee benefit weighted generational mortality tables for males and females. Fifty percent of deaths-in-service were assumed to be duty related. The tables applied credibility adjustments of 135% for males and 125% for females and were adjusted for fully generational mortality improvements using Scale MP-2016. Related retired life mortality values are shown in Schedule A-1.

*The probabilities of retirement* for members eligible to retire are shown in Schedule A-3.

*The probabilities of withdrawal from service* are summarized in Schedule A-4, and the *probabilities of disability* are summarized in Schedule A-2.

**An individual entry age actuarial cost method of valuation** was used in determining age & service allowance normal costs and the allocation of actuarial present values between service rendered before and after the valuation date. The entry-age actuarial cost method has the following characteristics:

- (i) the annual normal costs for each individual active member, payable from the member's actual date of employment to the member's projected date of retirement are sufficient to accumulate the actuarial present value of the member's benefit at the time of retirement; and
- (ii) each annual normal cost is: (a) a constant percentage of the member's year by year projected covered pay for paid service plans, or (b) an increasing dollar amount for volunteer service plans.

Differences in the past between assumed experience and actual experience ("actuarial gains and losses") are inevitable and become part of accrued liabilities. In LOPFI, cumulative actuarial losses and gains are the same as unfunded (or overfunded) accrued liabilities.

Unfunded accrued liabilities are amortized to produce contribution amounts (principal and interest) which are (a) level percent of payroll contributions over a period of future years for paid service plans, or (b) increasing dollar amounts for volunteer service plans.

For Benefit Program 3 volunteer service plans, the contribution rates from the December 31, 2002 valuation were developed based on a \$5.00 per month basic benefit factor. This factor is \$6.68 effective July 1, 2018 and is assumed to increase at the assumed rate of price inflation in future years. For Benefit Program 4 volunteer service plans, the contribution rates from the December 31, 2012 valuation were developed based on a \$10.00 per month basic benefit factor. This factor is \$10.83 effective July 1, 2018 and is assumed to increase at the assumed rate of price inflation in future years.

## **OTHER TECHNICAL ASSUMPTIONS** -----

**Decrements** are assumed to occur at the middle of the valuation year.

**The probability of being married**, for death-in-service benefits, is assumed to be 90%.

**Active members who are eligible to participate in the DROP** are assumed to participate in the DROP program in such a manner that is the most advantageous to them. We assume on average the DROP duration for members currently in the DROP is 5 years.

**Future service credit** is always assumed to accrue at the rate of 1 year of credit every 12 calendar months. Lower service accrual rates (service breaks or less-than-full-time employment) or higher service accrual rates (addition of military credit or reinstatement of prior service) are reflected as they are reported. Any lower or higher accrual rates may result in small financial gains or losses when reported.

**The form of benefit payment** assumed in the valuation for paid service and volunteer service plans is the Five Year Certain and Life Option. For local plans under LOPFI administration, the assumed form of benefit payment is 100% joint and survivor for police plans and the Life Option for fire plans. For local fire plans under LOPFI administration who have adopted Act 397, the assumed form of benefit payment is 100% joint and survivor.

**Employer contribution dollars** were assumed to be **paid in equal installments** throughout the employer fiscal year.

**Present assets (cash & investments) were used based on a smoothed market value.**

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

-----  
Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as: plan experience differing from that anticipated by the economic and demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of the actuary's assignment, the actuary did not perform an analysis of the potential range of such future measurements.

# Illustration of Computed Employer Contributions 17.0-Year Closed Amortization Period

## LOPFI Paid Service (Based on Projected Future Payroll)

Year Ended December 31,	Illustrative Payroll	Normal Cost	Payment for Amortization of UAL	Computed Employer Rate	Annual Employer Dollar Contribution
2017	\$ 100,000	9.64%	12.80%	22.44%	\$ 22,440
2018	103,250	9.64%	12.80%	22.44%	23,169
2019	106,606	9.64%	12.80%	22.44%	23,922
2020	110,070	9.64%	12.80%	22.44%	24,700
2021	113,648	9.64%	12.80%	22.44%	25,503
2022	117,341	9.64%	12.80%	22.44%	26,331
2023	121,155	9.64%	12.80%	22.44%	27,187
2024	125,092	9.64%	12.80%	22.44%	28,071
2025	129,158	9.64%	12.80%	22.44%	28,983
2026	133,355	9.64%	12.80%	22.44%	29,925
2027	137,689	9.64%	12.80%	22.44%	30,898
2028	142,164	9.64%	12.80%	22.44%	31,902
2029	146,785	9.64%	12.80%	22.44%	32,938
2030	151,555	9.64%	12.80%	22.44%	34,009
2031	156,481	9.64%	12.80%	22.44%	35,114
2032	161,566	9.64%	12.80%	22.44%	36,255
2033	166,817	9.64%	12.80%	22.44%	37,434
2034	172,239	9.64%	12.80%	22.44%	38,650
2035	177,837	9.64%	12.80%	22.44%	39,907
2036	183,616	9.64%	0.00%	9.64%	17,701
2037	189,584	9.64%	0.00%	9.64%	18,276
2038	195,745	9.64%	0.00%	9.64%	18,870
2039	202,107	9.64%	0.00%	9.64%	19,483
2040	208,675	9.64%	0.00%	9.64%	20,116
2041	215,457	9.64%	0.00%	9.64%	20,770
2042	222,460	9.64%	0.00%	9.64%	21,445
2043	229,690	9.64%	0.00%	9.64%	22,142
2044	237,155	9.64%	0.00%	9.64%	22,862
2045	244,862	9.64%	0.00%	9.64%	23,605

This illustration is not intended to exactly predict future employer contributions, but instead is intended to illustrate the general trend of future contributions based upon current benefit structure and assumed future economic and demographic activity. It is unlikely that future contributions will match exactly for any given year those rates shown above.

# Illustration of Computed Employer Contributions 16.0-Year Closed Amortization Period

## LOPFI Benefit Program 3 Volunteer Service (Based on Projected Benefit Factors)

Year Ended December 31,	Basic Benefit Factor@	Illustrative Monthly Active Member Count	Normal Cost	Payment for Amortization of UAL	Computed Monthly Employer Rate	Annual Employer Dollar Contribution
2017	\$ 6.68	10	\$ 23.90	\$ 35.10	\$ 59.00	\$ 7,080
2018	6.85	10	24.50	35.10	59.60	7,152
2019	7.02	10	25.11	35.10	60.21	7,225
2020	7.20	10	25.74	35.10	60.84	7,301
2021	7.38	10	26.38	35.10	61.48	7,378
2022	7.56	10	27.04	35.10	62.14	7,457
2023	7.75	10	27.72	35.10	62.82	7,538
2024	7.94	10	28.41	35.10	63.51	7,621
2025	8.14	10	29.12	35.10	64.22	7,706
2026	8.34	10	29.85	35.10	64.95	7,794
2027	8.55	10	30.60	35.10	65.70	7,884
2028	8.76	10	31.37	35.10	66.47	7,976
2029	8.98	10	32.15	35.10	67.25	8,070
2030	9.20	10	32.95	35.10	68.05	8,166
2031	9.43	10	33.77	35.10	68.87	8,264
2032	9.67	10	34.61	35.10	69.71	8,365
2033	9.91	10	35.48	35.10	70.58	8,470
2034	10.16	10	36.37	35.10	71.47	8,576
2035	10.41	10	37.28	0.00	37.28	4,474
2036	10.67	10	38.21	0.00	38.21	4,585
2037	10.94	10	39.17	0.00	39.17	4,700
2038	11.21	10	40.15	0.00	40.15	4,818
2039	11.49	10	41.15	0.00	41.15	4,938
2040	11.78	10	42.18	0.00	42.18	5,062
2041	12.07	10	43.23	0.00	43.23	5,188
2042	12.37	10	44.31	0.00	44.31	5,317
2043	12.68	10	45.42	0.00	45.42	5,450

@ Basic benefit factor - \$5.00 per month for each year of service beginning July 1, 2003. Increased by price inflation on July 1, 2004 and every July 1 thereafter. This factor is \$6.68 effective July 1, 2018. For purposes for this illustration, the factor was assumed to increase by 2.50% a year, compounded.

This illustration is not intended to exactly predict future employer contributions, but instead is intended to illustrate the general trend of future contributions based upon current benefit structure and assumed future economic and demographic activity. It is unlikely that future contributions will match exactly for any given year those rates shown above.

**Schedule A-1**  
**Single Life Retirement Values**  
**Based on the RP-2014 Healthy Annuitant**  
**Generational Mortality Tables**  
**and 7.50% Interest**  
**(First Used for December 31, 2017 Valuations)**

Sample Attained Ages	Probability of Dying		Value at Retirement:		Future Life Expectancy (years)*					
	Next Year*		\$1.00 Monthly for Life		2017		2022		2027	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
35	0.174%	0.136%	\$ 154.25	\$ 156.76	46.22	49.91	46.77	50.43	47.33	50.95
40	0.255%	0.208%	150.49	153.90	41.13	44.81	41.66	45.30	42.20	45.81
45	0.368%	0.265%	145.71	150.26	36.18	39.81	36.70	40.29	37.22	40.78
50	0.544%	0.339%	139.63	145.33	31.38	34.87	31.90	35.35	32.40	35.82
55	0.779%	0.472%	132.19	138.77	26.80	30.03	27.29	30.49	27.77	30.94
60	1.083%	0.701%	123.08	130.49	22.45	25.38	22.89	25.79	23.33	26.23
65	1.553%	1.050%	112.06	120.25	18.36	20.97	18.73	21.34	19.13	21.74
70	2.326%	1.638%	98.87	107.59	14.55	16.80	14.87	17.15	15.21	17.51
75	3.719%	2.680%	83.50	92.56	11.05	12.94	11.34	13.27	11.64	13.59
80	6.268%	4.570%	66.74	75.74	7.98	9.53	8.24	9.81	8.49	10.08

\* Life expectancies in future years are determined by the fully generational MP-2016 projection scale.

Sample Attained Ages	Benefit Increasing 3.00% Yearly	Portion of Age 55 Lives Still Alive	Sample Attained Ages
55	\$100	100 %	55
60	116	95	60
65	134	89	65
70	156	81	70
75	181	69	75
80	209	53	80

## Schedule A-2 Probabilities of Disability Retirement

### Paid Service Members (First Used for December 31, 2017 Valuations)

Sample Ages	Percent Becoming Disabled within Next Year	
	Non-Duty	Duty
20	0.07 %	0.12 %
25	0.07	0.12
30	0.10	0.15
35	0.13	0.21
40	0.20	0.32
45	0.31	0.49
50	0.52	0.84
55	0.91	1.45
60	1.36	2.18

### Volunteer Service Members (First Used for December 31, 2017 Valuations)

Sample Ages	Percent Becoming Disabled within Next Year	
	Non-Duty	Duty
20	0.04 %	0.00 %
25	0.04	0.00
30	0.04	0.00
35	0.04	0.00
40	0.09	0.01
45	0.12	0.01
50	0.23	0.02
55	0.41	0.04
60	0.65	0.06

## Schedule A-3

### Probabilities of Retirement for Members Eligible to Retire (First Used for December 31, 2017 Valuations)

#### Paid Service Members

Retirement Ages	Percents of Active Members Retiring within Next Year		Years of Service	Percents of Active Members Retiring within Next Year
	Early	Normal		
45-49	6 %			
50-54	6			
55		18 %	28	20 %
56		15	29	15
57		15	30	15
58		15	31	15
59		15	32	15
60		20	33	25
61		15	34	100
62		25		
63		25		
64		25		
65		50		
66		60		
67		70		
68		80		
69		90		
70+		100		

A member was assumed eligible for retirement after attaining age 55 with 20 years of service or age 60 with 5 years of service or any age with 28 or more years of service. A member was assumed to retire with 100% probability at 34 or more years of service credit.

A member was assumed eligible for a reduced benefit after attaining age 50 with 20 or more years of service or any age with 25 or more years of paid service credit.

The probabilities of retirement shown above represent ultimate termination of employment (whether or not the member participates in the DROP).

We assume on average the DROP duration (for members currently in the DROP) is 5 years. Active members who are eligible to participate in the DROP are assumed to participate in the DROP program in such a manner that is the most advantageous to them.



**Schedule A-3**  
**Probabilities of Retirement for Members Eligible to Retire**  
**(Concluded)**  
**(First Used for December 31, 2017 Valuations)**

**Volunteer Service Members**

<b>Retirement Ages</b>	<b>Percents of Active Members Retiring within Next Year</b>	
	<b>Early</b>	<b>Normal</b>
Under 50		18 %
50-54	2.5 %	18
55-59		15
60-64		10
65-69		15
70-74		20
75+		100

A member was assumed to be eligible for retirement after 28 years of service, attaining age 55 with 20 years of service, or age 60 with 5 years of service.

A member was assumed eligible for a reduced benefit after attaining age 50 with 20 or more years of service.

**Schedule A-4**  
**Rates of Separation (Excluding Deaths and Disability)**  
**from Active Employment Before Retirement**  
**(First Used for December 31, 2017 Valuations)**

**Paid Service Members**

Sample Ages	Years of Service	% of Active Members Separating within Next Year
ALL	0	18.00 %
	1	16.00
	2	13.00
	3	11.00
	4	10.00
25	5 & Over	9.42
30		7.92
35		6.07
40		4.84
45		3.87
50		3.08
55		0.88
60		0.00

**Volunteer Service Members**

Sample Ages	Years of Service	% of Active Members Separating within Next Year
ALL	0	23.00 %
	1	21.00
	2	19.00
	3	17.00
	4	15.00
25	5 & Over	9.50
30		9.50
35		9.50
40		9.50
45		9.50
50		9.50
55		9.50
60		9.50

**Schedule A-5**  
**Pay Increase Assumptions**  
**for an Individual Paid Service Member**  
**(First Used for December 31, 2017 Valuations)**

Pay Increase Assumptions for an Individual Member			
Service Years	Merit and Seniority	Base (Economic)	Increase Next Year
1	15.00%	3.25%	18.25%
2	9.00%	3.25%	12.25%
3	4.00%	3.25%	7.25%
4	3.00%	3.25%	6.25%
5	2.00%	3.25%	5.25%
6	1.50%	3.25%	4.75%
7	1.50%	3.25%	4.75%
8	1.50%	3.25%	4.75%
9	1.00%	3.25%	4.25%
10	1.00%	3.25%	4.25%
11	0.50%	3.25%	3.75%
12	0.50%	3.25%	3.75%
13	0.50%	3.25%	3.75%
14	0.50%	3.25%	3.75%
15	0.50%	3.25%	3.75%
16	0.50%	3.25%	3.75%
17	0.50%	3.25%	3.75%
18	0.50%	3.25%	3.75%
19	0.50%	3.25%	3.75%
20+	0.50%	3.25%	3.75%