

# Arkansas Local Police and Fire Retirement System

Compiled Annual Actuarial Valuation Report  
as of December 31, 2018



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## Compiled Actuarial Valuation Report

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June 25, 2019

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, 2018.

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.

The purposes of the valuation are 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, 2020. 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 has been issued in a separate 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.

Results of the 2018 actuarial valuations indicate that aggregate actuarial accrued liabilities are 71% covered by assets. This result includes the 242 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, 2018. 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, 2018 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 30 years for paid and 28 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.

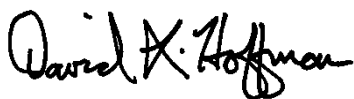
The contribution rate in this report is determined using the actuarial assumptions and methods disclosed in Section E of this report. This report includes risk metrics on pages B-18 through B-21, but does not include a more robust assessment of the risks of future experience not meeting the actuarial 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 regarding whether or not the plan sponsor is actually able to do so is outside our scope 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



Casey T. Ahlbrandt-Rains, ASA

DLH/HGB/CAR:bd

## SECTION A

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### EXECUTIVE SUMMARY

# Executive Summary

## Comments

**Comment 1:** The December 31, 2018 actuarial valuations establish employer contribution rates for the fiscal year beginning in calendar year 2020. Contribution rates for 290 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 22.84% and is uncapped and based on a 16.1-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 2020. 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 2020, that rate is \$59.00 per member per month (\$5.90 per member per month after allocation of Premium Tax money) based on a 16.7-year amortization period. This rate was computed as \$59.00 (\$5.90 per member per month after allocation of Premium Tax money) in the prior valuation based on a 16.0-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, 2018 was unfavorable. Experience losses totaled \$75.5 million or 2.6% of the actuarial accrued liabilities (see page B-17). The market value rate of return for the year ended December 31, 2018 was -3.1% while the recognized rate of return was 4.7%.

**Comment 4:** The ratio of actuarial value of assets to market value of assets is currently 107.5%, as the actuarial value of assets exceeded the market value of assets by \$155.4 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 increase the paid service employer contribution rate by 3.13% of active member payroll.

**Comment 5:** Actuarial accrued liabilities, including both LOPFI and Local Pension and Relief Funds under LOPFI administration, totaled \$3.155 billion while actuarial valuation assets totaled \$2.235 billion. Hence, actuarial accrued liabilities are 71% covered by actuarial valuation assets as of December 31, 2018. Excluding the Local Funds, actuarial accrued liabilities are 76% covered by valuation assets.

**Comment 6:** There were no changes in methods or assumptions in the December 31, 2018 actuarial valuation. There were changes in benefit provisions in the December 31, 2018 actuarial valuation resulting from legislation passed during the 2019 General Assembly Session.

# 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 continue to review and consider lowering the investment return assumption prior to the December 31, 2019 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 16.1 years for paid service and 16.7 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**

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### **VALUATION RESULTS**

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

**Computed December 31, 2018**  
**for Plan Year Beginning January 1, 2020**

Contributions	% of Active Payroll #
Normal Cost of Benefits:	
Age and Service	12.21%
Casualty	2.43%
Refunds	0.90%
Total	15.54%
Unfunded Accrued Liabilities *	13.94%
Total Contribution Requirement	29.48%
Member Portion @	6.64%
Employer Portion before Application of 24-10-405(h)(1) 1% Limit	22.84%
Employer Portion after Application of 24-10-405(h)(1) 1% Limit	22.84%

# Includes DROP participant payroll.

\* Unfunded actuarial accrued liabilities are amortized over a 16.1-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, 2018@**

Group	Number of Active Members	Number of Valuation Groups with Indicated Computed Employer Contributions Expressed as Percents of Active Member Payroll											Totals	
		Under 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	2,229	1	-	1	2	1	2	2	9	4	8	25	128	183
W/O SS	1,654	-	-	-	-	2	1	2	1	1	2	3	2	14
Paid Fire:														
W/SS	155	-	-	-	-	-	-	-	-	-	-	11	20	31
W/O SS	2,717	-	-	-	-	-	2	3	1	-	5	7	44	62
12/31/2018 #	6,755	1	-	1	2	3	5	7	11	5	15	46	194	290
12/31/2017 *	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	
12/31/2016	6,551	-	1	-	-	-	2	3	5	272	283
12/31/2015 *	6,430	1	-	-	1	2	3	5	7	266	285
12/31/2014	6,323	1	-	1	2	3	5	6	11	247	276
12/31/2013	6,245	1	-	2	3	5	6	11	6	238	272
12/31/2012 *#	6,139	1	2	3	6	6	11	7	16	220	272
12/31/2011	6,016	3	3	6	6	12	6	17	19	203	275
12/31/2010	5,949	7	6	6	13	6	17	18	27	174	274
12/31/2009	5,907	8	8	8	5	11	20	17	33	159	269

\* 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, 2018**  
**for Plan Year Beginning January 1, 2020**

Contributions	\$ Per Member Per Month
Normal Cost of Benefits:	
Age and Service	\$ 22.89
Casualty	1.19
Refunds	-
Total	<u>24.08</u>
Unfunded Accrued Liabilities *	<u>34.92</u>
Total Contribution Requirement	59.00
Member Portion	-
Employer Portion	\$ 59.00

\* *Unfunded actuarial accrued liabilities were amortized over a 16.7-year period.*

**LOPFI**  
**Reported Accrued Assets Available for Benefits**  
**December 31, 2018**

<u>Group Type</u>	<u>No. #</u>	<u>Employer Accumulation Account</u>	<u>Members' Deposit Account</u>	<u>Retirement Reserve Account &amp;</u>	<u>Totals @</u>
Paid Police W/SS	183	\$ 95,669,959	\$ 17,960,101	\$ -	\$ 113,630,060
Paid Police W/O SS	14	176,472,479	86,573,778	-	263,046,257
Paid Fire W/SS	31	6,191,826	2,102,314	-	8,294,140
Paid Fire W/O SS	62	338,954,907	133,223,900	-	472,178,807
Subtotal	290	617,289,171	239,860,093	-	857,149,264
Volunteer Police and Fire	596	37,797,560	-	-	37,797,560
Retirants and Beneficiaries	-	-	-	941,588,930	941,588,930
Total	886	\$ 655,086,731	\$ 239,860,093	\$ 941,588,930	\$ 1,836,535,754

**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, 2018. Totals include accounts for employers with no active participants as of December 31, 2018.

& Includes DROP Reserve Account.

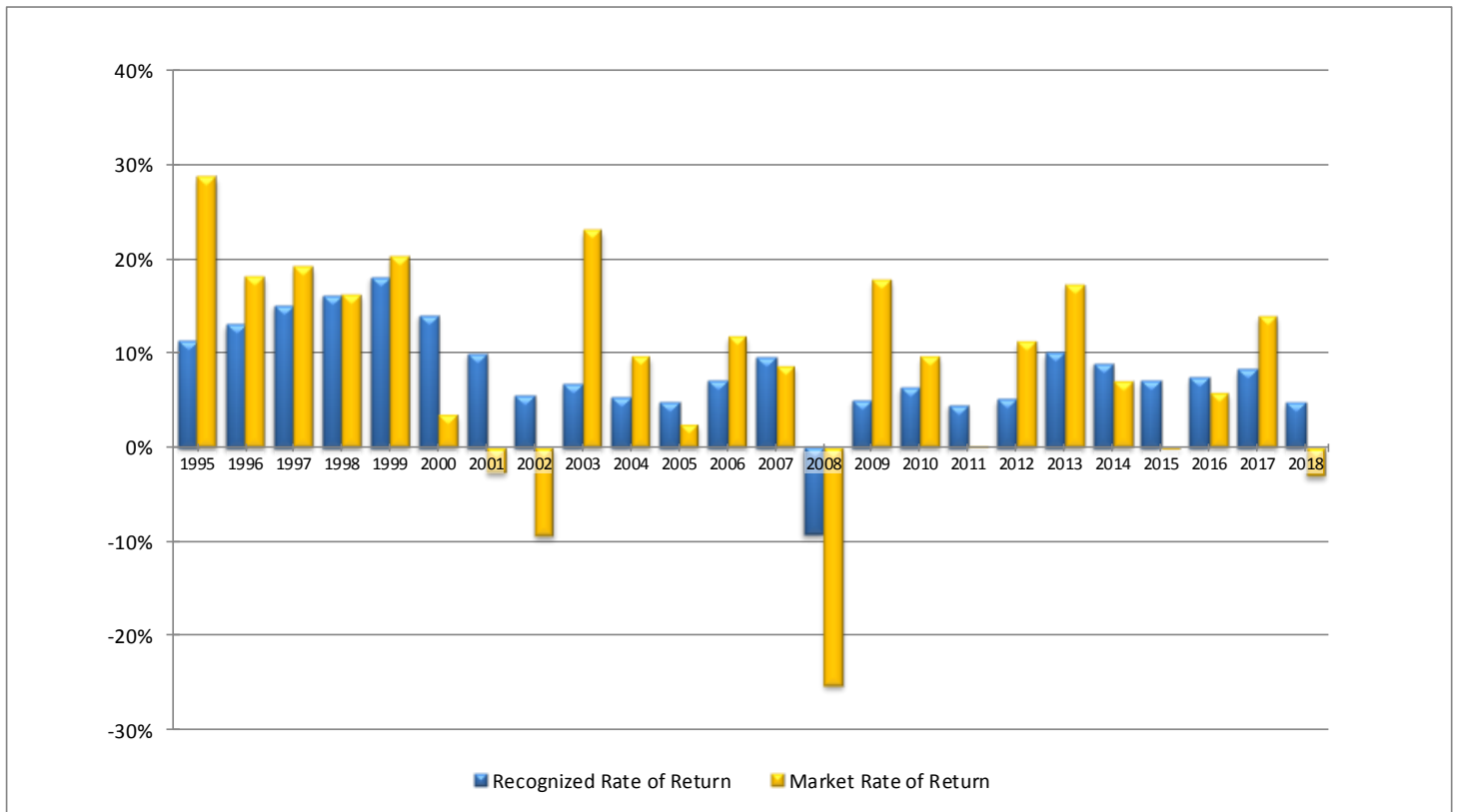
@ Does not include assets of \$243,317,403 invested by LOPFI on behalf of Pension and Relief Funds under LOPFI administration.

# LOPFI

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

Year Ended December 31:	2014	2015	2016	2017	2018
A. Actuarial Value Beginning of Year	\$1,391,830,575	\$1,554,175,988	\$1,702,593,072	\$1,857,485,451	\$2,066,004,218
B. Market Value End of Year	1,610,091,699	1,646,678,312	1,770,838,998	2,074,618,439	2,079,853,157
C. Market Value Beginning of Year	1,467,975,980	1,610,091,699	1,646,678,312	1,770,838,998	2,074,618,439
D. Non-Investment Net Cash Flow	37,152,170	37,416,976	28,455,864	53,667,520	69,683,253
E. Investment Income					
E1. Market Total: B - C - D	104,963,549	(830,363)	95,704,822	250,111,921	(64,448,535)
E1(a). Assumed Rate of Return	8.00%	8.00%	7.75%	7.75%	7.50%
E2. Amount for Immediate Recognition	112,832,533	125,830,748	133,053,628	146,034,739	157,563,438
E3. Amount for Phased-In Recognition: E1-E2	(7,868,984)	(126,661,111)	(37,348,806)	104,077,182	(222,011,973)
F. Phased-In Recognition of Investment Income					
F1. Current Year: 0.20 x E3	(1,573,797)	(25,332,222)	(7,469,761)	20,815,436	(44,402,395)
F2. First Prior Year	22,376,852	(1,573,797)	(25,332,222)	(7,469,761)	20,815,436
F3. Second Prior Year	5,381,814	22,376,852	(1,573,797)	(25,332,222)	(7,469,761)
F4. Third Prior Year	(15,683,289)	5,381,814	22,376,852	(1,573,797)	(25,332,222)
F5. Fourth Prior Year	<u>1,859,130</u>	<u>(15,683,287)</u>	<u>5,381,815</u>	<u>22,376,852</u>	<u>(1,573,796)</u>
F6. Total Recognized Investment Gain	12,360,710	(14,830,640)	(6,617,113)	8,816,508	(57,962,738)
G. Actuarial Value End of Year: A + D + E2 + F6	1,554,175,988	1,702,593,072	1,857,485,451	2,066,004,218	2,235,288,171
120% Corridor	1,932,110,039	1,976,013,974	2,125,006,798	2,489,542,127	2,495,823,788
80% Corridor	1,288,073,359	1,317,342,650	1,416,671,198	1,659,694,751	1,663,882,526
Actuarial Value End of Year	1,554,175,988	1,702,593,072	1,857,485,451	2,066,004,218	2,235,288,171
H. Difference Between Market & Actuarial Value	55,915,711	(55,914,760)	(86,646,453)	8,614,221	(155,435,014)
I. Recognized Rate of Return	8.88%	7.06%	7.36%	8.22%	4.74%
J. Market Rate of Return	7.06%	(0.05)%	5.76%	13.91%	(3.06)%
K. Ratio of Actuarial Value to Market Value	96.53%	103.40%	104.89%	99.58%	107.47%

# 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	\$ 589,536,989	\$ 546,315,508	93 %	15.04 %		30
12/31/2006	247	5,328	679,947,017	633,759,848	93	15.11		30
12/31/2007	261	5,603	790,780,919	740,968,085	94	15.16	15.44 %	30
12/31/2008 #+	258	5,640	941,808,816	778,148,309	83	15.30	15.69	30
12/31/2009	269	5,907	1,089,212,977	765,350,382	70	17.25	18.79	30
12/31/2010	274	5,949	1,188,842,953	840,895,829	71	17.03	19.21	30
12/31/2011	275	6,016	1,307,344,445	928,177,445	71	18.01	19.63	30
12/31/2012 #+	272	6,139	1,434,209,374	1,031,482,975	72	18.97	18.97	22.3
12/31/2013	272	6,245	1,592,077,174	1,188,197,455	75	19.39	19.39	19.5
12/31/2014	276	6,323	1,734,569,468	1,335,956,221	77	20.12	20.12	16.3
12/31/2015 #	285	6,430	1,937,302,402	1,463,508,550	76	21.04	21.04	18.8
12/31/2016	283	6,551	2,101,909,805	1,607,578,162	76	21.90	21.90	16.8
12/31/2017 #	285	6,651	2,317,272,762	1,774,216,157	77	22.44	22.44	17.0
12/31/2018	290	6,755	2,500,817,858	1,890,785,753	76	22.84	22.84	18.2
12/31/2018 +	290	6,755	2,477,962,759	1,890,785,753	76	22.84	22.84	16.1

\* 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**

<b>Valuation Date</b>	<b>Valuation Groups</b>	<b>Active Members</b>	<b>Actuarial Accrued Liabilities</b>	<b>Actuarial Valuation Assets</b>	<b>Assets/ Liabilities*</b>	<b>Average Contribution Rate&amp;</b>	<b>Amortization Period</b>
12/31/2005	325	4,650	\$ 28,869,651	\$ 19,106,574	66 %	\$ 32.30	30
12/31/2006	341	4,905	33,214,438	21,250,207	64	33.91	30
12/31/2007	461	6,620	47,026,093	26,468,537	56	39.15	30
12/31/2008 #	457	6,603	53,074,090	24,187,269	46	46.14	30
12/31/2009	468	6,551	58,959,579	27,103,260	46	49.15	29
12/31/2010	485	6,734	64,586,619	32,173,609	50	49.62	28
12/31/2011	512	7,034	71,670,610	36,812,938	51	51.56	27
12/31/2012 #	511	7,029	78,626,100	42,114,214	54	53.75	26
12/31/2013	534	7,140	84,573,784	49,562,326	59	52.68	25
12/31/2014	554	7,347	90,183,301	57,093,309	63	52.68	20.7
12/31/2015 #	566	7,304	97,465,046	62,673,098	64	54.13	21.2
12/31/2016	573	7,391	103,714,962	69,786,157	67	55.62	18.5
12/31/2017 #	579	7,341	112,025,766	77,776,841	69	59.00	16.0
12/31/2018	596	7,461	118,978,599	83,364,148	70	59.00	16.7

\* 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**  
**(Concluded)**

**Total Plan**

<b>Valuation Date</b>	<b>Valuation Groups</b>	<b>Active Members</b>	<b>Actuarial Accrued Liabilities</b>	<b>Actuarial Valuation Assets</b>	<b>Assets/ Liabilities*</b>
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	2,429,298,528	1,851,992,998	76
12/31/2018	886	14,216	2,619,796,457	1,974,149,901	75
12/31/2018 +	886	14,216	2,596,941,358	1,974,149,901	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, 2018 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.

The December 31, 2018 valuation included 7,811 terminated vested members from 819 political subdivisions.

<u>Service Type</u>	<u>Number</u>	<u>Projected Benefits</u>	<u>Actuarial Accrued Liabilities</u>	<u>Average Age</u>
Paid	3,937	\$ 10,132,223	\$ 74,725,299	42.1
Volunteer	3,874	3,646,123	24,888,436	48.9
Total	7,811	\$ 13,778,346	\$ 99,613,735	45.5

\* 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, 2018 valuation. It includes the actuarial accrued liabilities associated with the service accrued from the terminated employer.

The December 31, 2018 valuation included 4,142 active inactive members from 721 political subdivisions.

<u>Service Type</u>	<u>Number</u>	<u>Actuarial Accrued Liabilities</u>	<u>Average Age</u>
Paid	1,748	\$ 77,120,597	40.2
Volunteer	2,394	5,196,620	40.2
Total	4,142	\$ 82,317,217	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, 2018 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, 2018 valuation included 5,675 retired members from 787 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	2,787	\$ 62,987,136	\$ 867,082,665	57.7	52.3
Volunteer	2,888	3,312,264	39,876,740	62.7	58.0
Total	5,675	\$ 66,299,400	\$ 906,959,405	60.2	55.2

### Deferred Retirement Option Plan (DROP) Results

The following table contains information regarding DROP member data used in the December 31, 2018 valuation. It includes current DROP account deposits, expected benefits at retirement and the actuarial accrued liabilities associated with these benefits.

The December 31, 2018 valuation included 393 DROP members from 83 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	393	\$ 12,445,140	\$ 16,601,976	\$ 251,741,994	56.2	53.6

## LOPFI and Local Plans Schedule of Funding Progress

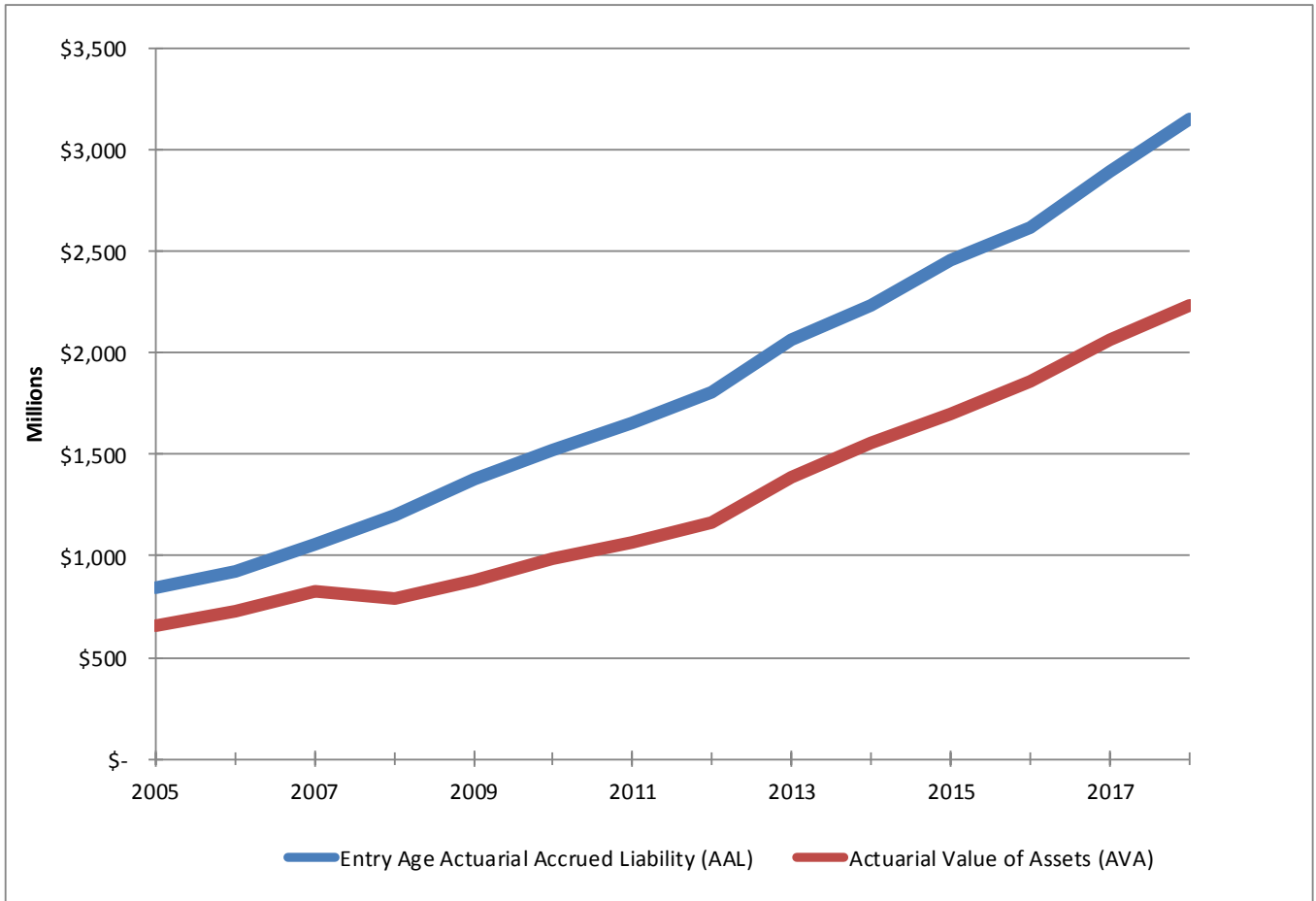
Actuarial Valuation Date	Actuarial Value of Assets (a)	Entry Age Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (c) = (b) - (a)	Funded Ratio (d) = (a)/(b)	Annual Valuation Payroll (e)	UAAL as a Percentage of Valuation Payroll (f) = (c)/(e)
12/31/2005	\$ 653,546,976	\$ 842,926,984	\$ 189,380,008	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%
12/31/2018	2,235,288,171	3,177,738,895	942,450,724	70%	350,825,283	269%
12/31/2018 +	2,235,288,171	3,154,883,796	919,595,625	71%	350,825,283	262%

# 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>
12/31/2009	\$ 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%
12/31/2018	104,016,627	100%



# Short Condition Test Comparative Statement

## LOPFI Plans

### LOPFI Paid Service

Valuation Date December 31	Actuarial Accrued Liabilities for				Portion of Present Values Covered by Assets		
	Member	Current	Active and Inactive	Actuarial			
	Contributions (1)	Retirees and Beneficiaries (2)	Members, Employer Financed Portion (3)	Value of Assets	(1)	(2)	(3)
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
2018 +	239,860,093	867,082,665	1,371,020,001	1,890,785,753	100	100	57

### LOPFI Volunteer Service

Valuation Date December 31	Actuarial Accrued Liabilities for				Portion of Present Values Covered by Assets		
	Member	Current	Active and Inactive	Actuarial			
	Contributions (1)	Retirees and Beneficiaries (2)	Members, Employer Financed Portion (3)	Value of Assets	(1)	(2)	(3)
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
2018	-	39,876,740	79,101,859	83,364,148	-	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			Actuarial Value of Assets	Portion of Present Values Covered by Assets		
	Member Contributions	Current Retirees and Beneficiaries	Active and Inactive Members, Employer Financed Portion		(1)	(2)	(3)
	(1)	(2)	(3)				
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	-
2018	1,158,476	509,574,301	24,638,215	244,799,518	100	48	-

### Local Volunteer Service

Valuation Date December 31	Actuarial Accrued Liabilities for			Actuarial Value of Assets	Portion of Present Values Covered by Assets		
	Member Contributions	Current Retirees and Beneficiaries	Active and Inactive Members, Employer Financed Portion		(1)	(2)	(3)
	(1)	(2)	(3)				
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	-
2018	6,461	22,310,984	254,001	16,338,752	100	73	-

# After changes in actuarial valuation assumptions.

## Derivation of Actuarial Gain (Loss) Year Ended December 31, 2018 (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	\$	826,053,322
(2) Employer normal cost from last valuation		34,748,438
(3) Actual employer contributions		104,016,627
(4) Interest accrual: (1) x 0.0750 + [(2)-(3)] x (0.0750/2)		59,356,442
(5) Expected UAAL before changes: (1) + (2) - (3) + (4)		816,141,575
(6) Change from benefit changes*		27,955,616
(7) Change from revised actuarial assumptions		-
(8) Expected UAAL after changes		844,097,191
(9) Actual UAAL at end of year		919,595,625
(10) Gain (Loss) (8) - (9)		(75,498,434)
(11) Gain (Loss) as percent of actuarial accrued liabilities at start of year	\$2,892,057,540	(2.6)%

\* 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
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)
2018	(2.6)

# Risks Associated With Measuring the Accrued Liability and Actuarially Determined Contribution

The determination of the accrued liability and the actuarially determined contribution requires the use of assumptions regarding future economic and demographic experience. Risk measures, as illustrated in this report, are intended to aid in the understanding of the effects of future experience differing from the assumptions used in the course of the actuarial valuation. Risk measures may also help with illustrating the potential volatility in the accrued liability and the actuarially determined contribution that result from the differences between actual experience and the actuarial assumptions.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions due to changing conditions; 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. The scope of an actuarial valuation does not include an analysis of the potential range of such future measurements.

Examples of risk that may reasonably be anticipated to significantly affect the plan's future financial condition include:

1. Investment risk – actual investment returns may differ from the expected returns;
2. Asset/Liability mismatch – changes in asset values may not match changes in liabilities, thereby altering the gap between the accrued liability and assets and consequently altering the funded status and contribution requirements;
3. Contribution risk – actual contributions may differ from expected future contributions. For example, actual contributions may not be made in accordance with the plan's funding policy or material changes may occur in the anticipated number of covered employees, covered payroll, or other relevant contribution base;
4. Salary and Payroll risk – actual salaries and total payroll may differ from expected, resulting in actual future accrued liability and contributions differing from expected;
5. Longevity risk – members may live longer or shorter than expected and receive pensions for a period of time other than assumed;
6. Other demographic risks – members may terminate, retire or become disabled at times or with benefits other than assumed resulting in actual future accrued liability and contributions differing from expected.

The effects of certain trends in experience can generally be anticipated. For example, if the investment return since the most recent actuarial valuation is less (or more) than the assumed rate, the cost of the plan can be expected to increase (or decrease). Likewise, if longevity is improving (or worsening), increases (or decreases) in cost can be anticipated.

The timely receipt of the actuarially determined contributions is critical to support the financial health of the plan. Users of this report should be aware that contributions made at the actuarially determined rate do not necessarily guarantee benefit security.

# Plan Maturity Measures

Risks facing a pension plan evolve over time. A young plan with virtually no investments and paying few benefits may experience little investment risk. An older plan with a large number of members in pay status and a significant trust may be much more exposed to investment risk. Generally accepted plan maturity measures are discussed in the following pages. A historical summary of these plan maturity measures can be found on page B-21.

## **Funded Ratio**

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.

## **Ratio of Actuarial Accrued Liability to Payroll**

The relationship between actuarial accrued liability and payroll is a useful indicator of the potential volatility of contributions for a fully funded plan. A funding policy that targets a funded ratio of 100% is expected to result in the ratio of assets to payroll and the ratio of liability to payroll converging over time. AAL / Payroll is expected to grow as the System matures. 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.

The ratio of liability to payroll may also be used as a measure of sensitivity of the liability itself. For example, if the actuarial accrued liability is 2.5 times the payroll, a change in liability 2% other than assumed would equal 5% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in liability (and also plan sponsor contributions) as a percentage of payroll.

## **Ratio of Market Value of Assets to Payroll**

The relationship between assets and payroll is a useful indicator of the potential volatility of contributions. For example, if the market value of assets is 2.0 times the payroll, a return on assets 5% different than assumed would equal 10% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in plan sponsor contributions as a percentage of payroll.

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.

## **Ratio of Unfunded Actuarial Accrued Liability to Payroll**

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.

The ratio of the unfunded actuarial accrued liability to payroll is expected to trend toward 0% in 16.100000000000001 years for paid participants.

# Plan Maturity Measures (Concluded)

## Ratio of Net Cash Flow to Market Value of Assets

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.

## 10-Year Trailing Average

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.

## Duration of Actuarial Accrued Liability

The duration of the actuarial accrued liability may be used to approximate the sensitivity to a 1% change in the assumed rate of return. For example, duration of 10 indicates that the liability would increase approximately 10% if the assumed rate of return were lowered 1%.

## Additional Risk Assessment

Additional risk assessment is outside the scope of the annual actuarial valuation. Additional assessment may include scenario tests, sensitivity tests, stochastic modeling, stress tests, and a comparison of the present value of accrued benefits at low-risk discount rates with the actuarial accrued liability.

## 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) AAL/ Payroll (1)/(4)	(7) MV Assets/ Payroll (2)/(4)	(8) UAAL/ Payroll (3)/(4)	(9) Net External Cash Flow (NECF)	(10) NECF/ Assets (9)/(2)	(11) Portfolio Rate of Return	(12) 10-Year Trailing Average	(13) Duration
2008#+	\$ 1,201	\$ 657	\$ 543	\$ 246	55%	488%	267%	221%	\$ 39	6.0%	-25.2%		
2009	1,379	828	551	265	60%	520%	312%	208%	49	6.0%	17.8%		
2010	1,520	956	564	268	63%	566%	356%	210%	47	4.9%	9.6%	3.6%	
2011	1,654	1,002	652	276	61%	600%	363%	237%	44	4.4%	0.2%	3.9%	
2012#+	1,806	1,159	647	285	64%	635%	407%	227%	43	3.7%	11.2%	6.1%	
2013	2,069	1,468	601	299	71%	693%	491%	201%	100	6.8%	17.3%	5.6%	
2014	2,235	1,610	625	308	72%	726%	523%	203%	37	2.3%	7.1%	5.3%	
2015#	2,456	1,647	809	317	67%	774%	519%	255%	37	2.3%	-0.1%	5.1%	
2016	2,623	1,771	852	326	68%	804%	543%	261%	28	1.6%	5.8%	4.5%	
2017#	2,892	2,075	817	339	72%	853%	612%	241%	54	2.6%	13.9%	5.0%	
2018+	3,155	2,080	1,075	351	66%	899%	593%	306%	70	3.4%	-3.1%	7.7%	15.7

# 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.

Short term fluctuations will occur due to experience, plan changes, and assumption and method changes. Long term expectations are described on the prior pages.

## Results for Local Plans Under LOPFI Administration

### Paid Service Plans as of December 31, 2018

Political Subdivision	Actuarial Accrued Liability	Actuarial Valuation Assets	Unfunded Actuarial Accrued Liability	2020 Total Monthly Employer Rate*
Bald Knob Part-Paid Fire	\$ 68,153	\$ 85,969	\$ (17,816)	\$ -
Barling Fire	317,887	268,214	49,673	593
Bella Vista Fire	5,029,137	2,670,644	2,358,493	15,570
Benton Police	2,722,726	1,941,334	781,392	10,181
Bentonville Fire	5,740,644	7,785,193	(2,044,549)	-
Blytheville Police	3,064,760	2,440,303	624,457	6,548
Brinkley Police	442,740	495,079	(52,339)	-
Cabot Police	959,905	3,230,318	(2,270,413)	-
Camden Fire	3,974,115	1,972,743	2,001,372	17,349
Camden Police	3,953,534	2,714,963	1,238,571	10,484
Clinton Fire	183,309	166,716	16,593	245
Conway Fire	8,938,677	5,215,868	3,722,809	47,483
Conway Police	9,399,363	5,494,961	3,904,402	49,903
Crossett Fire	2,961,664	2,346,473	615,191	4,618
Crossett Police	1,152,942	1,309,403	(156,461)	-
El Dorado Fire	6,112,180	1,017,042	5,095,138	42,386
El Dorado Police	3,890,091	(2,609,362)	6,499,453	49,390
Forrest City Fire	2,808,407	2,492,541	315,866	4,275
Forrest City Police	1,908,713	(140,125)	2,048,838	14,515
Fort Smith Fire	32,474,624	13,615,386	18,859,238	124,228
Fort Smith Police	27,913,899	7,813,912	20,099,987	132,380
Gentry Fire	479,848	479,271	577	-
Heber Springs Fire	277,554	278,317	(763)	-
Heber Springs Police	1,820,748	1,414,094	406,654	4,820
Helena - West Helena Fire	3,098,772	906,199	2,192,573	18,643
Helena - West Helena Police	2,325,897	1,172,094	1,153,803	14,304
Hot Springs Fire	17,241,903	(1,360,983)	18,602,886	122,571
Hot Springs Police	22,834,038	14,655,335	8,178,703	69,882
Hot Springs Village Fire	544,415	27,837	516,578	3,378
Hoxie Fire	115,997	90,627	25,370	491
Jonesboro Fire	13,527,122	(1,634,429)	15,161,551	99,897
Jonesboro Police	10,581,637	9,830,377	751,260	6,875
Lincoln Fire	110,712	103,270	7,442	64
Little Rock Fire	97,033,041	47,611,589	49,421,452	268,068
Little Rock Police	89,087,706	37,163,851	51,923,855	332,969

\* 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, 2018 (Concluded)

Political Subdivision	Actuarial Accrued Liability	Actuarial Valuation Assets	Unfunded Actuarial Accrued Liability	2020 Total Monthly Employer Rate*
Lonoke Police	\$ -	\$ (13,041)	\$ 13,041	\$ 267
Lowell Fire	1,094,521	780,785	313,736	5,885
Lowell Police	62,986	(98,107)	161,093	1,435
Magnolia Fire	2,642,916	2,259,648	383,268	5,001
Magnolia Police	1,706,852	1,176,010	530,842	3,527
Malvern Fire	1,584,452	1,959,977	(375,525)	-
Malvern Police	1,120,491	1,523,703	(403,212)	-
Marianna Police	717,550	559,678	157,872	2,610
McGehee Fire	374,004	394,886	(20,882)	-
McGehee Police	211,115	502,671	(291,556)	-
Mena Fire	645,483	636,243	9,240	83
Monticello Fire	693,819	776,475	(82,656)	-
Mountain Home Fire	4,124,541	1,752,978	2,371,563	15,673
Newport Fire	1,119,300	1,264,194	(144,894)	-
Newport Police	1,672,024	625,025	1,046,999	6,285
North Little Rock Fire	26,245,086	6,187,889	20,057,197	132,627
North Little Rock Police	23,297,536	389,599	22,907,937	150,442
Osceola Police	2,567,388	2,975,060	(407,672)	-
Paragould Fire	1,573,351	812,785	760,566	5,037
Paragould Police	2,539,200	520,129	2,019,071	13,311
Pine Bluff Fire	16,687,984	7,593,442	9,094,542	56,002
Pine Bluff Police	23,344,310	14,782,277	8,562,033	47,666
Pocahontas Fire	919,055	636,637	282,418	4,723
Searcy Fire	4,384,657	(222,280)	4,606,937	30,448
Searcy Police	3,640,812	1,388,864	2,251,948	14,677
Stuttgart Fire	3,950,769	1,702,505	2,248,264	25,743
Stuttgart Police	1,723,978	1,707,680	16,298	246
Texarkana Fire	5,969,592	5,624,467	345,125	2,986
Trumann Fire	430,762	258,350	172,412	1,132
Van Buren Fire	2,035,854	790,173	1,245,681	11,205
Walnut Ridge Fire	1,248,807	512,030	736,777	4,862
West Memphis Fire	8,228,746	7,444,525	784,221	6,668
West Memphis Police	5,207,920	6,218,142	(1,010,222)	-
Wynne Fire	476,704	285,756	190,948	1,266

\* 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, 2018

Political Subdivision	Actuarial Accrued Liability	Actuarial Valuation Assets	Unfunded Actuarial Accrued Liability	2020 Total Monthly Employer Rate*
Alzheimer Volunteer Fire	\$ 64,670	\$ 18,101	\$ 46,569	\$ 780
Altus Volunteer Fire	65,417	33,531	31,886	280
Arkansas City Volunteer Fire	31,536	(29,671)	61,207	424
Atkins Volunteer Fire	185,733	195,743	(10,010)	-
Augusta Volunteer Fire	123,597	145,563	(21,966)	-
Bald Knob Volunteer Fire	120,521	54,610	65,911	1,113
Barling Volunteer Fire	51,345	137,281	(85,936)	-
Bay Volunteer Fire	70,325	98,065	(27,740)	-
Bearden Volunteer Fire	82,480	93,955	(11,475)	-
Bella Vista Volunteer Fire	60,555	20,137	40,418	279
Belleville Volunteer Fire	86,873	161,490	(74,617)	-
Bentonville Volunteer Fire	88,928	78,332	10,596	119
Berryville Volunteer Fire	316,148	335,174	(19,026)	-
Biscoe Volunteer Fire	86,617	(10,651)	97,268	670
Bradford Volunteer Fire	169,418	94,394	75,024	437
Bradley Volunteer Fire	121,733	81,801	39,932	324
Bull Shoals Volunteer Fire	126,466	127,137	(671)	-
Caddo Valley Volunteer Fire	131,397	105,591	25,806	390
Caldwell Volunteer Fire	58,880	110,144	(51,264)	-
Calico Rock Volunteer Fire	61,419	99,892	(38,473)	-
Calion Volunteer Fire	83,351	110,308	(26,957)	-
Camden Volunteer Fire	149,726	72,687	77,039	710
Caraway Volunteer Fire	166,962	(137,694)	304,656	2,108
Carthage Volunteer Fire	83,845	60,969	22,876	315
Cash Volunteer Fire	9,667	6,065	3,602	56
Cave City Volunteer Fire	135,821	5,614	130,207	910
Chidester Volunteer Fire	50,719	37,896	12,823	187
Clarksville Volunteer Fire	788,996	1,185,424	(396,428)	-
Clinton Volunteer Fire	376,125	294,603	81,522	1,200
Coal Hill Volunteer Fire	64,326	(1,534)	65,860	460
Cooterneck Volunteer Fire	142,314	(35,605)	177,919	1,232
Corning Volunteer Fire	166,270	155,338	10,932	60
Cotter Volunteer Fire	36,113	28,791	7,322	130

\* 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, 2018 (Continued)

Political Subdivision	Actuarial Accrued Liability	Actuarial Valuation Assets	Unfunded Actuarial Accrued Liability	2020 Total Monthly Employer Rate*
Cotton Plant Volunteer Fire	\$ 88,558	\$ 49,269	\$ 39,289	\$ 585
Crossett Volunteer Fire	186,638	149,775	36,863	294
Danville Volunteer Fire	104,022	38,856	65,166	456
DeQueen Volunteer Fire	349,937	406,852	(56,915)	-
Des Arc Volunteer Fire	269,511	401,285	(131,774)	-
Devalls Bluff Volunteer Fire	158,960	15,576	143,384	990
Diaz Volunteer Fire	132,656	80,381	52,275	1,020
Dover Volunteer Fire	94,952	43,891	51,061	868
Emmet Volunteer Fire	82,449	64,964	17,485	152
England Volunteer Fire	260,684	227,709	32,975	304
Eudora Volunteer Fire	132,607	169,411	(36,804)	-
Farmington Volunteer Fire	158,799	143,385	15,414	294
Fisher Volunteer Fire	27,144	3,259	23,885	156
Forrest City Volunteer Fire	-	(3,295)	3,295	42
Garland Volunteer Fire	52,706	52,460	246	6
Gentry Volunteer Fire	405,570	393,717	11,853	50
Gillett Volunteer Fire	202,544	240,001	(37,457)	-
Gosnell Volunteer Fire	40,228	4,099	36,129	242
Gould Volunteer Fire	53,128	48,743	4,385	78
Grady Volunteer Fire	113,276	129,958	(16,682)	-
Green Forest Volunteer Fire	113,596	88,770	24,826	255
Grover Township Volunteer Fire	101,986	74,838	27,148	525
Grubbs Volunteer Fire	37,570	24,160	13,410	198
Hampton Volunteer Fire	233,117	77,593	155,524	1,080
Hardin Volunteer Fire	79,753	57,351	22,402	385
Hardy Volunteer Fire	175,624	159,610	16,014	300
Harrisburg Volunteer Fire	66,028	246,447	(180,419)	-
Hartford Volunteer Fire	15,493	54,856	(39,363)	-
Heber Springs Volunteer Fire	309,905	337,996	(28,091)	-
Helena - West Helena Volunteer Fire	145,665	19,070	126,595	882
Hermitage Volunteer Fire	50,932	(18,490)	69,422	477
Holiday Island Volunteer Fire	24,869	13,179	11,690	224
Holly Grove Volunteer Fire	40,097	43,960	(3,863)	-
Horatio Volunteer Fire	135,450	137,229	(1,779)	-
Hot Springs Village Volunteer Fire	59,416	(24,868)	84,284	575

\* 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, 2018 (Continued)

Political Subdivision	Actuarial Accrued Liability	Actuarial Valuation Assets	Unfunded Actuarial Accrued Liability	2020 Total Monthly Employer Rate*
Hoxie Volunteer Fire	\$ 37,559	\$ 2,928	\$ 34,631	\$ 665
Humphrey Volunteer Fire	33,673	41,943	(8,270)	-
Huntington Volunteer Fire	75,253	59,499	15,754	130
Huntsville Volunteer Fire	177,398	210,778	(33,380)	-
Imboden Volunteer Fire	248,360	39,555	208,805	1,443
Jasper Volunteer Fire	117,480	8,727	108,753	755
Joiner Volunteer Fire	52,711	32,273	20,438	250
Junction City Volunteer Fire	163,175	159,588	3,587	42
Keiser Volunteer Fire	81,190	47,090	34,100	279
Kensett Volunteer Fire	96,974	69,711	27,263	224
Lake City Volunteer Fire	135,827	86,128	49,699	340
Lake Village Volunteer Fire	143,447	138,816	4,631	54
Lavaca Volunteer Fire	92,965	55,204	37,761	637
Leachville Volunteer Fire	91,799	110,289	(18,490)	-
Lewisville Volunteer Fire	84,514	67,730	16,784	108
Lincoln Volunteer Fire	109,917	94,978	14,939	128
Lockesburg Volunteer Fire	111,306	95,212	16,094	294
Lowell Volunteer Fire	22,533	55,381	(32,848)	-
Luxora Volunteer Fire	33,909	186,329	(152,420)	-
Magazine Volunteer Fire	126,777	(21,406)	148,183	1,028
Magnolia Volunteer Fire	123,861	83,131	40,730	553
Malvern Volunteer Fire	41,377	62,703	(21,326)	-
Mansfield Volunteer Fire	77,108	69,990	7,118	72
Marked Tree Volunteer Fire	164,424	330,991	(166,567)	-
Marmaduke Volunteer Fire	76,276	40,764	35,512	209
Marshall Volunteer Fire	293,068	(3,354)	296,422	2,052
Marvell Volunteer Fire	135,682	92,215	43,467	646
McCrary Volunteer Fire	157,905	220,595	(62,690)	-
McGehee Volunteer Fire	62,765	56,750	6,015	44
McNeil Volunteer Fire	70,684	85,810	(15,126)	-
McRae Volunteer Fire	41,301	10,699	30,602	400
Melbourne Volunteer Fire	107,059	(70,973)	178,032	1,241
Mena Volunteer Fire	54,359	137,269	(82,910)	-
Mineral Springs Volunteer Fire	44,895	66,273	(21,378)	-
Monette Volunteer Fire	140,389	(13,021)	153,410	1,060

\* 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, 2018 (Continued)

Political Subdivision	Actuarial Accrued Liability	Actuarial Valuation Assets	Unfunded Actuarial Accrued Liability	2020 Total Monthly Employer Rate*
Monticello Volunteer Fire	\$ 278,306	\$ 332,775	\$ (54,469)	\$ -
Montrose Volunteer Fire	35,562	16,951	18,611	315
Moro Volunteer Fire	60,931	38,897	22,034	370
Mountain Home Volunteer Fire	79,180	(107,105)	186,285	1,290
Mountain View Volunteer Fire	641,641	239,031	402,610	2,781
Mulberry Volunteer Fire	169,589	218,431	(48,842)	-
Murfreesboro Volunteer Fire	150,828	(121,915)	272,743	1,890
Newark Volunteer Fire	112,460	96,890	15,570	136
Newport Volunteer Fire	75,522	100,039	(24,517)	-
Norman Volunteer Fire	78,770	42,983	35,787	344
Norphlet Volunteer Fire	45,172	63,579	(18,407)	-
North Crossett Volunteer Fire	67,526	(47,710)	115,236	799
Ola Volunteer Fire	260,443	264,594	(4,151)	-
Oppelo Volunteer Fire	124,658	82,229	42,429	342
Ozark Volunteer Fire	825,996	931,217	(105,221)	-
Pangburn Volunteer Fire	204,853	223,966	(19,113)	-
Paragould Volunteer Fire	15,620	(29,297)	44,917	315
Parkin Volunteer Fire	86,059	16,528	69,531	480
Perryville Volunteer Fire	92,617	76,632	15,985	286
Piggott Volunteer Fire	436,764	339,944	96,820	858
Plainview Volunteer Fire	122,797	86,163	36,634	551
Plumerville Volunteer Fire	337,193	72,646	264,547	1,836
Pocahontas Volunteer Fire	87,350	12,904	74,446	1,264
Portland Volunteer Fire	92,004	156,121	(64,117)	-
Prescott Volunteer Fire	154,116	163,914	(9,798)	-
Pulaski County Fire Protection District 5	127,845	(11,963)	139,808	852
Rector Volunteer Fire	143,599	101,561	42,038	352
Rison Volunteer Fire	368,715	142,957	225,758	1,568
Russell Volunteer Fire	53,528	24,482	29,046	429
Searcy Volunteer Fire	79,017	(152,094)	231,111	1,602
Shannon Hills FD Volunteer Fire	78,960	2,019	76,941	532
Sheridan Volunteer Fire	122,170	133,920	(11,750)	-
Smackover Volunteer Fire	376,769	341,526	35,243	342
Sparkman Volunteer Fire	193,649	163,177	30,472	416
St. Francis Volunteer Fire	34,767	(4,633)	39,400	268

\* 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, 2018

### (Concluded)

Political Subdivision	Actuarial Accrued Liability	Actuarial Valuation Assets	Unfunded Actuarial Accrued Liability	2020 Total Monthly Employer Rate*
Stamps City Volunteer Fire	\$ 241,161	\$ 168,060	\$ 73,101	\$ 456
Star City Volunteer Fire	493,584	287,398	206,186	1,672
Stephens Volunteer Fire	147,008	200,224	(53,216)	-
Strong Volunteer Fire	64,577	80,269	(15,692)	-
Stuttgart Volunteer Fire	62,642	(4,010)	66,652	780
Sulphur Springs Volunteer Fire	59,827	48,872	10,955	216
Swifton Volunteer Fire	126,135	57,649	68,486	1,050
Taylor Volunteer Fire	177,245	47,816	129,429	846
Thornton Volunteer Fire	186,817	(40,723)	227,540	1,573
Tillar Volunteer Fire	60,349	46,814	13,535	168
Tracy Area Volunteer Fire	31,708	17,536	14,172	288
Trumann Volunteer Fire	54,377	43,309	11,068	84
Tuckerman Volunteer Fire	66,298	(13,404)	79,702	551
Turrell Volunteer Fire	17,022	9,933	7,089	123
Tyronza Volunteer Fire	165,435	(20,178)	185,613	1,280
Vilonia Volunteer Fire	139,870	110,122	29,748	513
Viola Volunteer Fire	114,017	(36,752)	150,769	1,045
Wabbeska Volunteer Fire	67,431	3,877	63,554	438
Waldo Volunteer Fire	47,445	19,197	28,248	552
Walnut Ridge Volunteer Fire	332,710	52,233	280,477	1,924
Washington Volunteer Fire	34,257	15,580	18,677	132
Weiner Volunteer Fire	251,894	136,292	115,602	672
West Point Volunteer Fire	57,988	45,994	11,994	162
Wheatley Volunteer Fire	86,985	81,747	5,238	99
White Hall Volunteer Fire	126,112	110,464	15,648	112
Wilmot Volunteer Fire	60,474	75,204	(14,730)	-
Wilson Volunteer Fire	95,623	84,396	11,227	162
Wynne Volunteer Fire	143,824	74,752	69,072	481

\* 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**  
**Local Plan Level Dollar Contributions**  
**for Employers with No Active Members**  
**as of December 31, 2018**

<b>Political Subdivision</b>	<b>Actuarial Accrued Liability</b>	<b>Actuarial Valuation Assets</b>	<b>Unfunded Actuarial Accrued Liability</b>	<b>Amort. Years</b>	<b>2020 Total Monthly Employer Rate*</b>
Bryant Volunteer Fire	\$ 111,748	\$ 70,967	\$ 40,781	22	\$ 307
Cammack Village Volunteer Fire	10,987	76,663	(65,676)	7	-
Conway Volunteer Fire	4,291	(5,459)	9,750	7	117
Greenwood Volunteer Fire	210,391	182,382	28,009	14	273
Jonesboro Volunteer Fire	4,081	(83,478)	87,559	18	708
Perla Volunteer Fire	12,074	(12,424)	24,498	4-5	489
Stamps Paid Fire	31,567	25,339	6,228	24	44

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

# LOPFI Level Dollar Contributions

## December 31, 2018

### For Employers with Active Members in Other Departments

Department		Actuarial Accrued Liabilities	Actuarial Value Assets	Unfunded Actuarial Accrued Liabilities (UAAL)	Amort. Years	2020 Total Monthly Employer Rate
Name	Number					
Alzheimer Police	24822	\$ 246,265	\$ 171,812	\$ 74,453	11	\$ 879
Bethel Heights Fire	168633	99,667	160,959	(61,292)	12	-
Bradley Police	200322	112,571	250,146	(137,575)	15	-
Caddo Valley Fire	268233	105,636	77,403	28,233	6	520
Calion Police	276322	13,748	20,121	(6,373)	6	-
Central City Police	319022	37,693	53,860	(16,167)	12	-
Chidester Police	338723	16,520	23,463	(6,943)	6	-
Dyess Police	526622	2,510	15,899	(13,389)	8	-
Foreman Police	635122	182,973	254,813	(71,840)	12	-
Gentry Fire	704832	2,879	3,906	(1,027)	6	-
Gillett Police	713722	272,272	(47,347)	319,619	15	3,128
Greenbrier Fire	744732	5,497	30,819	(25,322)	14	-
Hector Police	865622	65,351	144,556	(79,205)	12	-
Town of Highfill Fire	885032	65,647	72,581	(6,934)	8	-
Joiner Police	1040522	52,659	77,208	(24,549)	9	-
Lewisville Police	1152522	348,436	379,124	(30,688)	15	-
Luxora Police	1195922	341,678	254,054	87,624	15	857
Montrose Police	1418422	25,460	15,836	9,624	10	121
Mount Ida Police	1448622	6,212	109,230	(103,018)	6	-
Newark Police	1497422	25,752	75,676	(49,924)	6	-
Plainview Police	1657822	36,274	16,222	20,052	14	204
Sheridan Fire	1774432	10,475	13,168	(2,693)	15	-
Sparkman Police	1798122	1,028	503	525	15	5
Tontitown Area Fire	1909732	6,828	57,416	(50,588)	11	-

### For Employers with No Active Members

Department		Actuarial Accrued Liabilities	Actuarial Value Assets	Unfunded Actuarial Accrued Liabilities (UAAL)	Amort. Years	2020 Total Monthly Employer Rate
Name	Number					
Cushman Police	431622	\$ 14,514	\$ 32,111	\$ (17,597)	6	\$ -
Friendship Police	665322	42,528	33,153	9,375	6	173
Higginson Police	884222	2,367	10,127	(7,760)	10	-
Perla Police	1628422	64,397	55,903	8,494	6	156
Pleasant Plains Police	1643822	62,069	164,580	(102,511)	12	-
Wilmot Police	2100822	54,015	(217,043)	271,058	15	2,653
Yellville Police	2139322	117,760	154,486	(36,726)	6	-

- (1) These results assume contributions begin January 1, 2020 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, Greenwood 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, 2019, for any of these departments that again are without active members.



## SECTION C

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

**Arkansas Local Police and Fire Retirement System**  
**Brief Summary as of December 31, 2018 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 2019 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 2018 was \$1,410.

***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.

**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 <sup>(6)</sup>		To SSRA	At SSRA	To SSRA	At SSRA
<u>32 Years of Service <sup>(4)</sup></u>							
\$2,400	\$ 2,258	\$ 2,063	\$ 1,164	\$ 2,258	\$ 3,227	94 %	131 %
3,000	2,822	2,577	1,328	2,822	3,905	94	127
3,600	3,387	3,094	1,495	3,387	4,589	94	124
4,200	3,951	3,609	1,658	3,951	5,267	94	122
4,800	4,516	4,125	1,823	4,516	5,948	94	121
<u>28 Years of Service <sup>(4)</sup></u>							
\$2,400	\$ 1,976	\$ 1,805	\$ 1,164	\$ 1,976	\$ 2,969	82 %	121 %
3,000	2,470	2,256	1,328	2,470	3,584	82	117
3,600	2,964	2,708	1,495	2,964	4,203	82	114
4,200	3,457	3,157	1,658	3,457	4,815	82	112
4,800	3,951	3,609	1,823	3,951	5,432	82	110
<u>20 Years of Service <sup>(4)</sup></u>							
\$2,400	\$ 1,411	\$ 1,289	\$ 1,164	\$ 1,411	\$ 2,453	59 %	100 %
3,000	1,764	1,611	1,328	1,764	2,939	59	96
3,600	2,117	1,934	1,495	2,117	3,429	59	93
4,200	2,470	2,256	1,658	2,470	3,914	59	91
4,800	2,822	2,577	1,823	2,822	4,400	59	89

(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 2019 Social Security estimates for a participant who retired in 2009 at age 56.

(6) Amounts at Social Security Retirement Age are adjusted for post-retirement increases of 3% annually from retirement to SSRA. Amounts to Social Security Retirement Age are benefits at commencement.

**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 Total		Percent of FAP		
	To SSRA	At SSRA <sup>(6)</sup>		To SSRA	At SSRA	To SSRA	At SSRA	
<b>32 Years of Service <sup>(4)</sup></b>								
\$2,400	\$ 2,258	\$ 2,063	\$ 1,656	\$ 2,258	\$ 3,719	94 %	118 %	
3,000	2,822	2,577	1,885	2,822	4,462	94	113	
3,600	3,387	3,094	2,110	3,387	5,204	94	110	
4,200	3,951	3,609	2,335	3,951	5,944	94	108	
4,800	4,516	4,125	2,563	4,516	6,688	94	106	
<b>28 Years of Service <sup>(4)</sup></b>								
\$2,400	\$ 1,976	\$ 1,805	\$ 1,656	\$ 1,976	\$ 3,461	82 %	110 %	
3,000	2,470	2,256	1,885	2,470	4,141	82	105	
3,600	2,964	2,708	2,110	2,964	4,818	82	102	
4,200	3,457	3,157	2,335	3,457	5,492	82	100	
4,800	3,951	3,609	2,563	3,951	6,172	82	98	
<b>20 Years of Service <sup>(4)</sup></b>								
\$2,400	\$ 1,411	\$ 1,289	\$ 1,656	\$ 1,411	\$ 2,945	59 %	94 %	
3,000	1,764	1,611	1,885	1,764	3,496	59	89	
3,600	2,117	1,934	2,110	2,117	4,044	59	86	
4,200	2,470	2,256	2,335	2,470	4,591	59	83	
4,800	2,822	2,577	2,563	2,822	5,140	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 2019 at age 56.

(6) Amounts at Social Security Retirement Age are adjusted for post-retirement increases of 3% annually from retirement to SSRA. Amounts to Social Security Retirement Age are benefits at commencement.

**Arkansas Local Police and Fire Retirement System**  
**Brief Summary as of December 31, 2018 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 2019 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, 2018 of LOPFI Coverage for**  
***VOLUNTEER SERVICE***

**Benefits and Conditions Evaluated and/or Considered**  
**(Section References are to Arkansas Code of 1987, Including**  
**Amendments from 2019 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 2018 was \$1,410.

***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, 2018 valuations was \$6.80 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, 2018 valuations was \$11.02 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	
12/31/1999	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
12/31/2018	183	2,229	98,772,944	44,313	2.5	1.9

\* 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
12/31/1999	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
12/31/2018	14	1,654	95,257,685	57,592	0.4	1.9

\* 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	
12/31/1999	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
12/31/2018	31	155	6,673,890	43,057	(1.1)	1.9

\* 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	
12/31/1999	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
12/31/2018	62	2,717	149,934,716	55,184	2.9	1.9

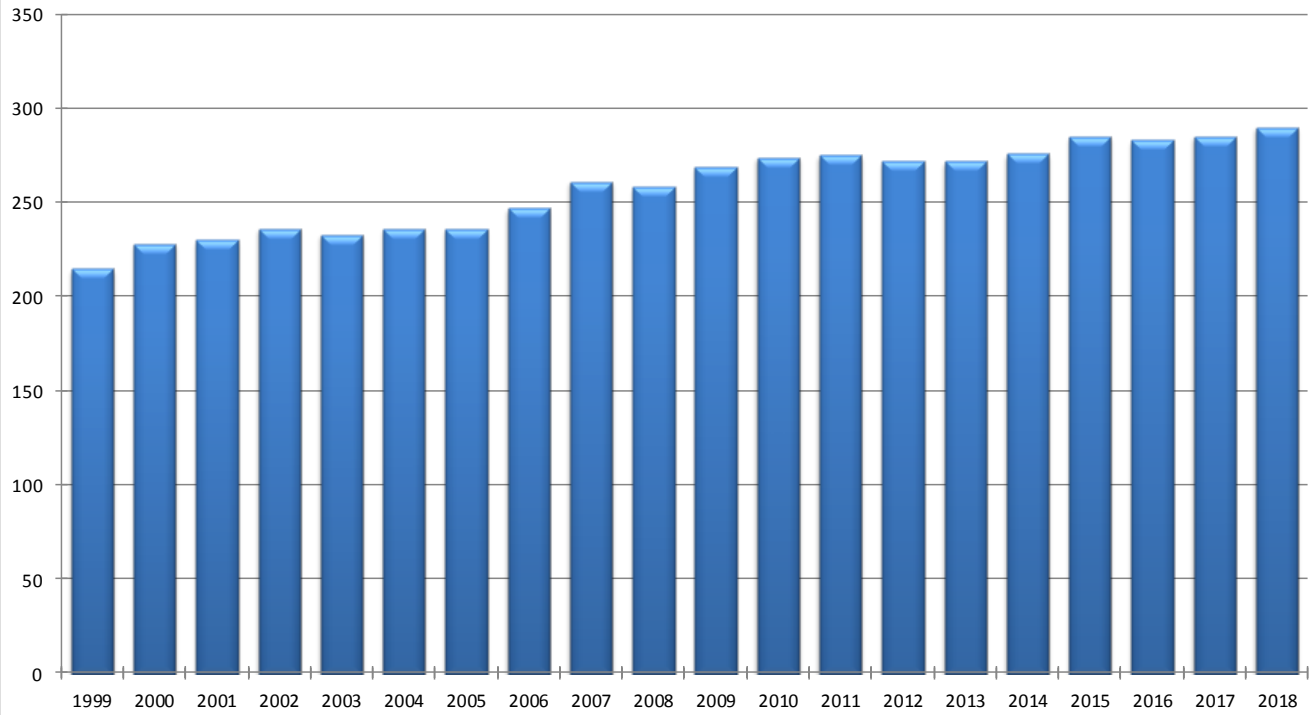
\* Includes DROP participants, if any.

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

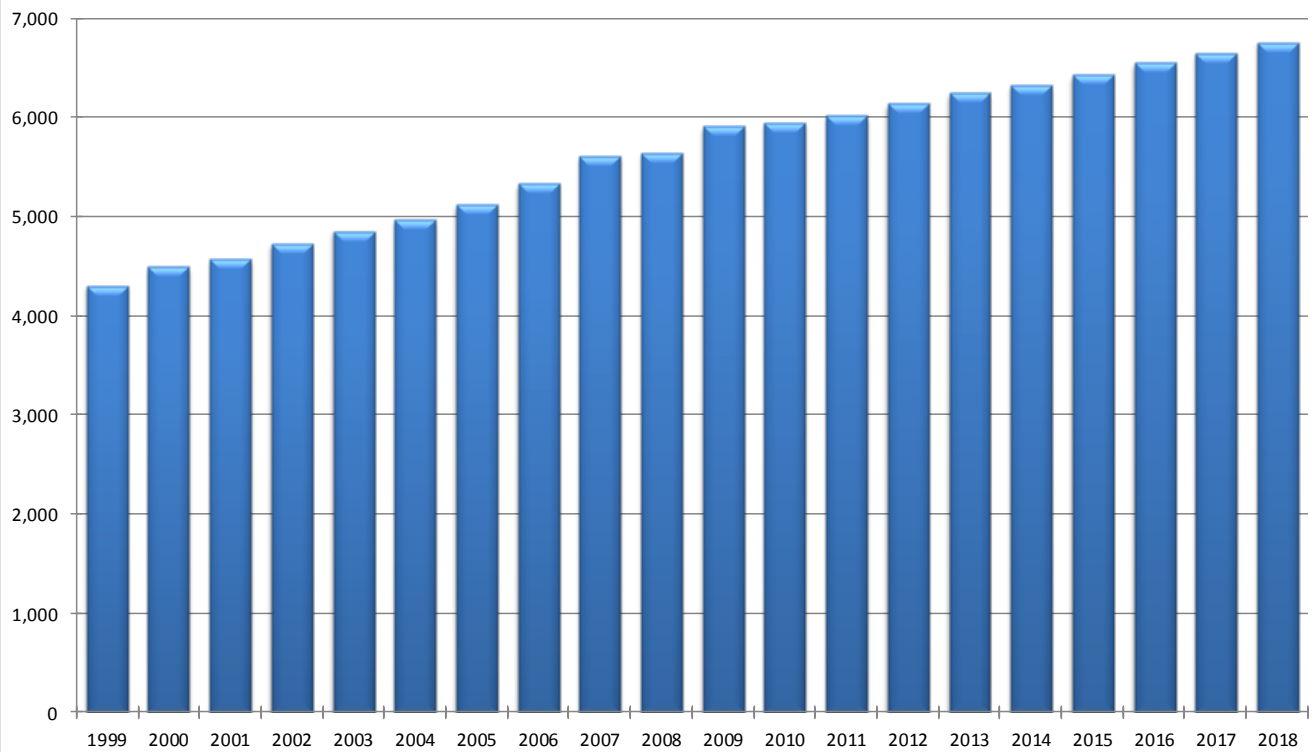
Total Paid	Valuation Groups	Active Members*			Inflation Increase % (CPI)	
		Number	Annual Payroll	Average Pay		% Increase
12/31/1999	215	4,301	\$ 128,200,592	\$ 29,807	4.7 %	2.7 %
12/31/2000	228	4,493	137,294,908	30,558	2.5	3.4
12/31/2001	230	4,573	148,713,511	32,520	6.4	1.6
12/31/2002	236	4,720	163,420,616	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
12/31/2018	290	6,755	350,639,235	51,908	2.0	1.9

\* 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)
12/31/1999	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
12/31/2018	118	452	1.9

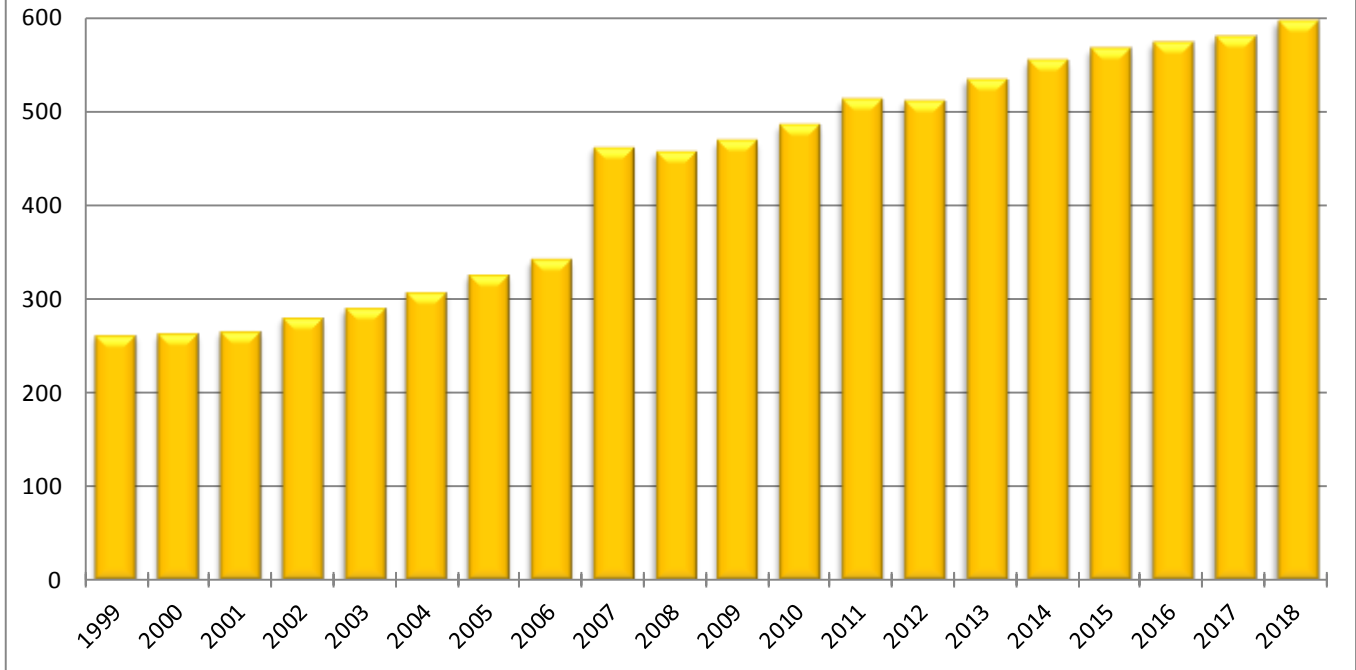
**LOPFI Covered Groups and Covered Persons  
(Excluding Local Plan Members)  
(Continued)**

Volunteer Fire	Valuation Groups	Number of Active Members	Inflation Increase % (CPI)
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
12/31/2018	478	7,009	1.9

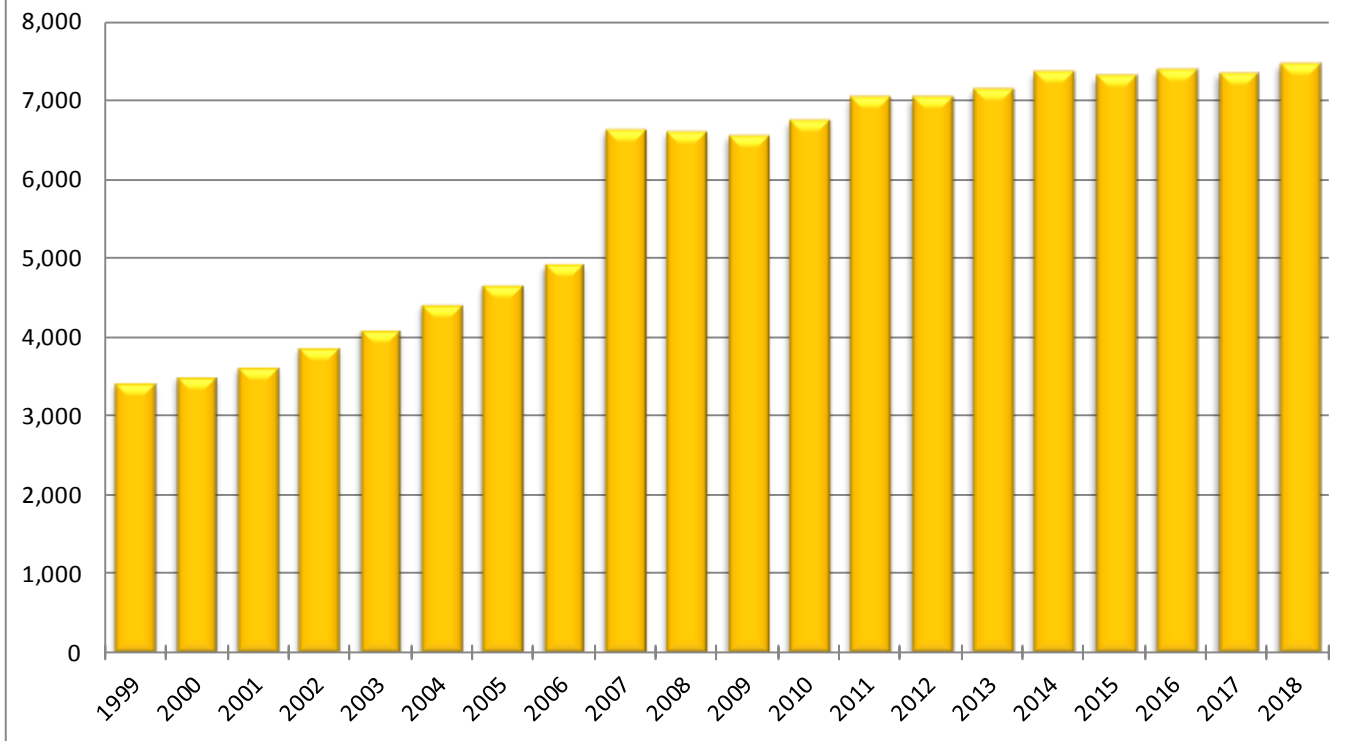
## LOPFI Covered Groups and Covered Persons (Excluding Local Plan Members) (Concluded)

Total Volunteer Police and Fire	Valuation Groups	Number of Active Members	Inflation Increase % (CPI)
12/31/1999	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
12/31/2018	596	7,461	1.9

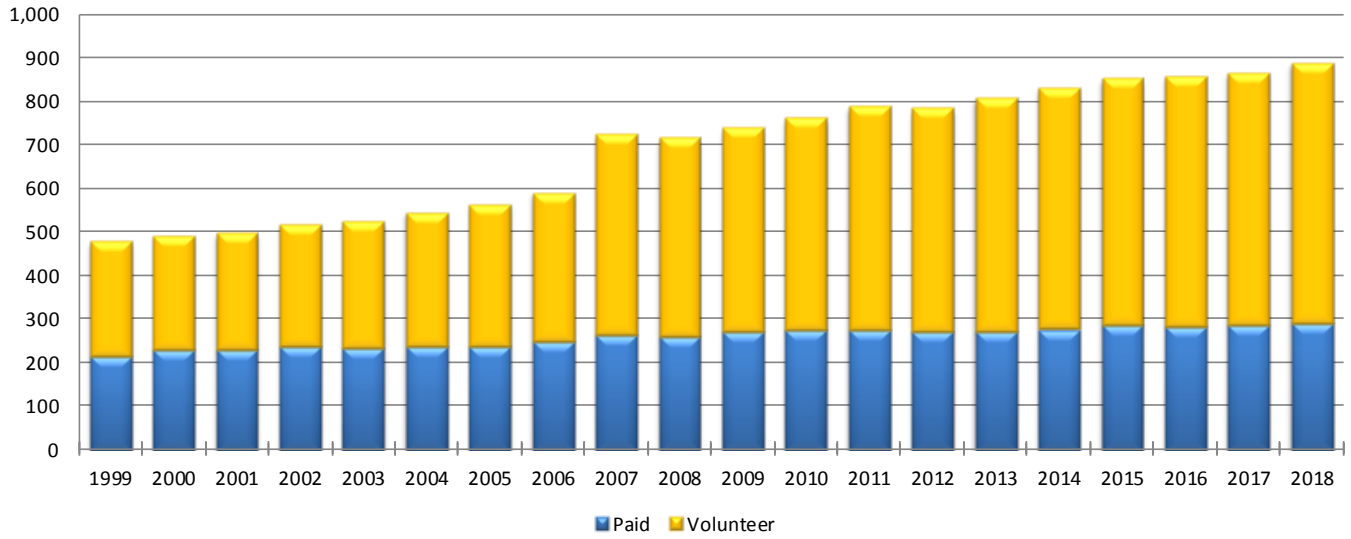
## LOPFI Covered Groups - Volunteer Service



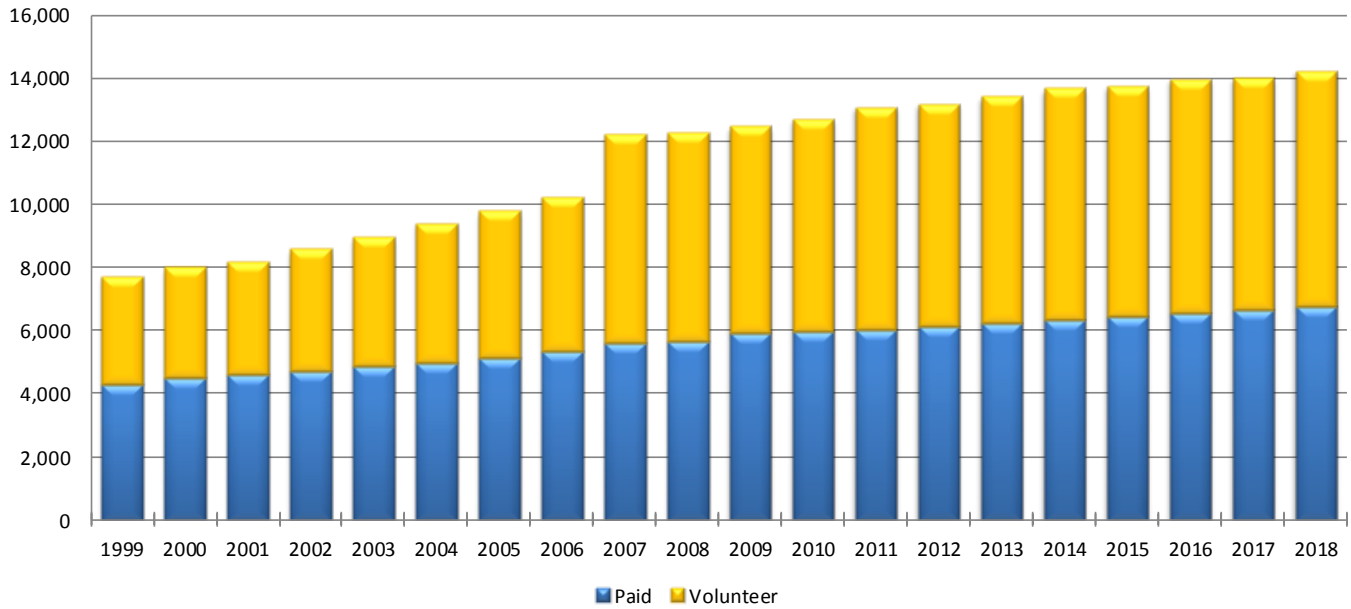
## LOPFI Active Member Count - Volunteer Service



### 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, 2018  
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	3							3	\$ 85,082
20-24	331	23						354	12,500,260
25-29	800	230	47					1,077	43,619,649
30-34	443	383	181	58				1,065	49,105,847
35-39	227	265	310	203	95			1,100	56,878,229
40-44	112	119	211	267	201	94		1,004	57,424,630
45-49	62	71	92	179	315	187	61	967	59,981,300
50-54	27	38	56	76	166	211	75	649	40,708,413
55-59	28	18	47	43	80	123	40	379	22,119,716
60-64	12	16	24	17	15	34	15	133	6,896,953
65-69	1	1	3	4	2	5	3	19	1,139,206
70+	2	1		1			1	5	179,950
<b>Totals</b>	<b>2,048</b>	<b>1,165</b>	<b>971</b>	<b>848</b>	<b>874</b>	<b>654</b>	<b>195</b>	<b>6,755</b>	<b>\$ 350,639,235</b>

\* Includes DROP participants.

Average Age: 39.2 years

Average Service: 12.5 years

Average Pay: \$51,908

As a comparison, 6,651 paid service members participated in LOPFI on December 31, 2017.

LOPFI Staff is included in the table above.

**LOPFI (Excluding Local Plan Members)  
Volunteer Service Active Members – December 31, 2018  
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	68							68
20-24	557	60						617
25-29	494	303	56					853
30-34	400	269	220	61				950
35-39	308	240	182	199	63			992
40-44	251	185	152	146	141	69		944
45-49	208	166	143	125	152	119	41	954
50-54	159	135	119	106	104	87	80	790
55-59	115	89	106	87	78	58	53	586
60-64	65	67	54	51	49	34	37	357
65-69	45	40	34	33	18	21	15	206
70+	46	33	26	13	12	5	9	144
<b>Totals</b>	<b>2,716</b>	<b>1,587</b>	<b>1,092</b>	<b>821</b>	<b>617</b>	<b>393</b>	<b>235</b>	<b>7,461</b>

Average Age: 41.6 years

Average Service: 10.5 years

As a comparison, 7,341 Volunteer Service members participated in LOPFI on December 31, 2017.

**Benefit Program 2 Employers  
December 31, 2018  
(Included in Paid Service Schedules)**

<b>Employer</b>	<b>Number of Active Members*</b>	<b>Payroll</b>
Bella Vista Paid Police	32	\$ 1,801,562
Bella Vista Paid Fire	59	2,960,615
Fayetteville Paid Police	133	7,743,466
Fayetteville Paid Fire	122	8,075,700
Hot Springs Paid Police	106	5,741,808
Hot Springs Paid Fire	89	4,502,977
Marion Paid Police	27	1,035,843
<b>Total Benefit Program 2</b>	<b>568</b>	<b>\$ 31,861,971</b>

\* Includes DROP participants, if any.

**Benefit Program 4 Employers  
December 31, 2018  
(Included in Volunteer Service Schedules)**

<b>Employer</b>	<b>Number of Active Members</b>
Greenwood Volunteer Fire	34
Higginson Volunteer Police	4
Higginson Volunteer Fire	12
Norfolk Volunteer Police	1
<b>Total Benefit Program 4</b>	<b>51</b>



# 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, 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)
December 31, 2018	Retirement	320	9,702,523	38	398,114	2,975	73,441,540	14.51	24,686	3.65
	Survivor of active	12	83,922	5	23,899	108	883,506	7.29	8,181	0.34
	Survivor of retired	11	110,354	9	108,967	97	1,107,230	0.13	11,415	(1.93)

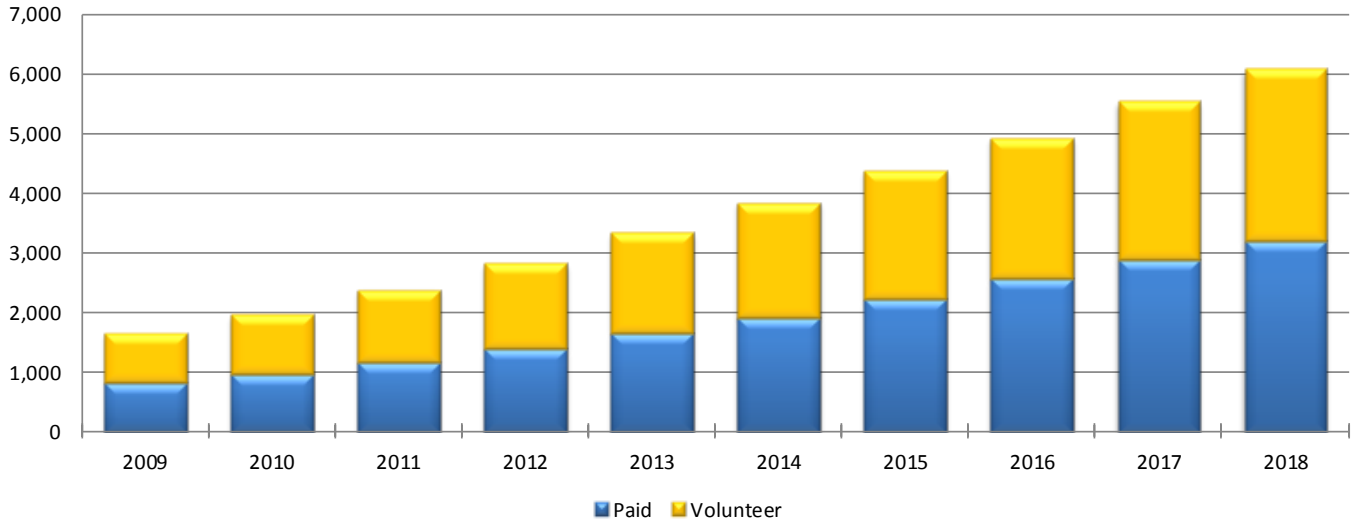
\* Includes DROP participants.

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

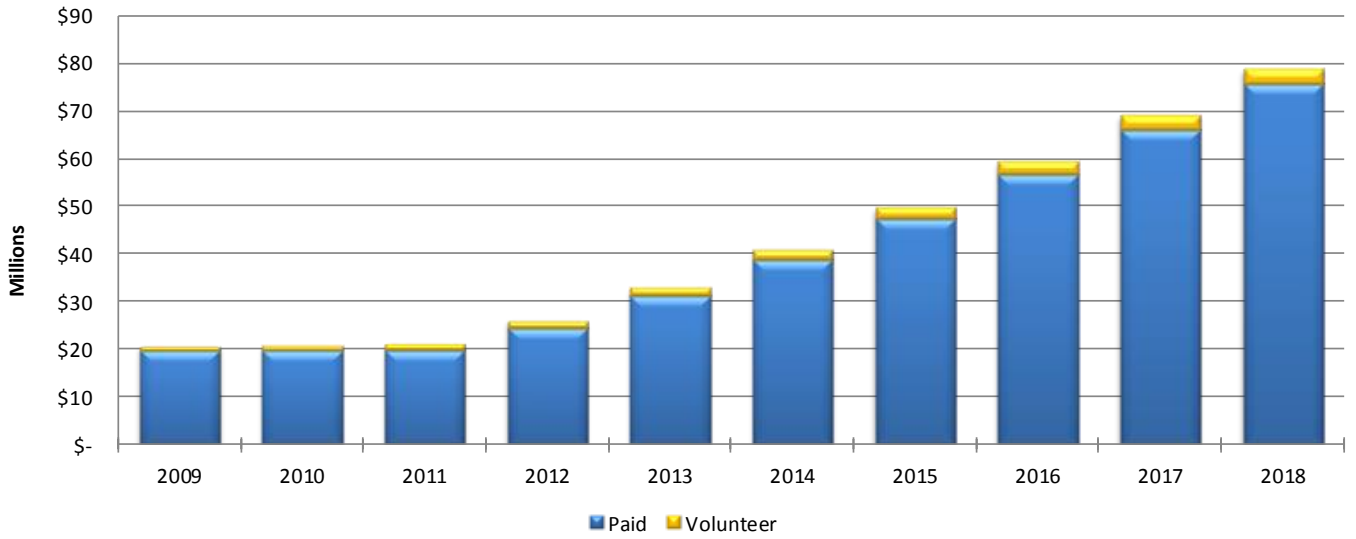
## LOPFI Volunteer Service

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, 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
December 31, 2018	Retirement	302	362,684	54	71,173	2,568	3,082,284	10.45	1,200	(0.25)
	Survivor of active	2	2,860	8	3,113	168	64,689	(0.39)	385	3.22
	Survivor of retired	28	38,862	15	21,944	152	165,291	11.40	1,087	1.87

### 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, 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
December 31, 2018	Retirement	237	8,914,833	54	1,178,112	1,447	39,290,143	24.52	27,153	8.77
	Survivor of active	4	90,907	-	-	27	472,826	23.80	17,512	5.46
	Survivor of retired	102	3,066,934	26	459,655	487	10,428,831	33.33	21,414	12.52

\* 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, 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	0.99	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	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	(10.73)	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	10	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
December 31, 2018	Retirement	77	225,052	41	73,666	866	1,661,232	10.03	1,918	5.44
	Survivor of active	1	2,109	1	1,957	17	26,919	0.57	1,583	0.51
	Survivor of retired	60	141,299	21	32,132	389	688,656	18.84	1,770	6.88

**LOPFI (Excluding Local Plan Members)**  
**Paid Service Retirants and Beneficiaries\* – December 31, 2018**  
**Tabulated by Attained Ages**

Attained Ages	Age & Service Retirants		Disability Retirants		Survivor Beneficiaries	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 10					5	\$ 26,584
10-14					13	63,166
15-19					17	83,250
20-24					1	8,394
25-29					4	21,058
30-34			14	\$ 307,457	1	13,622
35-39	31	\$ 387,095	19	585,228	7	77,380
40-44	54	710,499	67	1,648,589	12	133,350
45-49	142	3,408,686	137	3,789,609	19	206,232
50-54	473	14,399,161	111	3,130,318	23	196,541
55-59	690	20,702,797	111	3,228,508	35	506,285
60-64	488	10,673,363	59	1,506,745	15	147,053
65-69	304	4,992,227	28	759,812	23	216,500
70-74	142	1,599,936	21	521,566	21	182,065
75-79	57	783,187	4	118,644	5	80,501
80-84	21	160,764	1	24,263	3	20,278
85-89	1	3,086			1	8,477
90 & Over						
<b>Totals</b>	<b>2,403</b>	<b>\$ 57,820,801</b>	<b>572</b>	<b>\$ 15,620,739</b>	<b>205</b>	<b>\$ 1,990,736</b>

\* Includes DROP participants.

**LOPFI (Excluding Local Plan Members)**  
**Volunteer Service Retirants and Beneficiaries – December 31, 2018**  
**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	\$ 1,119
10-14					13	2,150
15-19					36	4,690
20-24					5	768
25-29					1	343
30-34			3	\$ 625	3	3,373
35-39	27	\$ 15,937	8	3,079	9	3,897
40-44	33	16,788	25	9,339	14	6,929
45-49	91	56,230	43	18,327	16	11,345
50-54	221	206,190	14	6,723	25	14,476
55-59	382	496,035	25	16,709	31	21,505
60-64	512	664,814	10	10,274	37	39,757
65-69	486	629,585	8	9,125	41	35,821
70-74	322	430,558	4	4,018	28	26,471
75-79	202	279,951			32	32,891
80-84	101	132,697			13	17,629
85-89	41	60,234			5	4,419
90 & Over	10	15,046			1	2,397
<b>Totals</b>	<b>2,428</b>	<b>\$ 3,004,065</b>	<b>140</b>	<b>\$ 78,219</b>	<b>320</b>	<b>\$ 229,980</b>

**LOPFI (Local Plan Members)  
Paid Service Retirants and Beneficiaries\* – December 31, 2018  
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						
20-24					3	\$ 68,658
25-29						
30-34						
35-39						
40-44					1	23,776
45-49					3	54,335
50-54	2	\$ 12,975			5	150,227
55-59	80	2,126,507	5	\$ 145,373	18	436,629
60-64	255	7,310,469	18	438,971	33	918,358
65-69	312	9,248,806	27	703,146	78	1,943,124
70-74	310	8,648,461	30	664,939	80	1,926,756
75-79	200	5,203,946	16	348,883	100	2,105,552
80-84	105	2,564,379	11	236,436	92	1,583,171
85-89	49	1,077,472	7	125,694	65	1,109,389
90 & Over	18	399,490	2	34,196	36	581,682
<b>Totals</b>	<b>1,331</b>	<b>\$ 36,592,505</b>	<b>116</b>	<b>\$ 2,697,638</b>	<b>514</b>	<b>\$ 10,901,657</b>

\* Includes DROP members.



**LOPFI (Local Plan Members)**  
**Volunteer Service Retirants and Beneficiaries – December 31, 2018**  
**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	\$ 605
15-19						
20-24					1	900
25-29						
30-34						
35-39						
40-44	1	\$ 2,643				
45-49						
50-54	4	6,000			1	1,320
55-59	43	90,489			4	9,457
60-64	127	254,702	1	\$ 1,236	14	23,074
65-69	142	259,327	5	6,636	32	58,047
70-74	190	375,634	3	3,600	70	127,269
75-79	158	297,874	2	2,400	71	124,570
80-84	102	200,536	1	1,200	75	132,700
85-89	51	97,268	1	1,200	73	132,436
90 & Over	35	60,487			63	105,197
<b>Totals</b>	<b>853</b>	<b>\$ 1,644,960</b>	<b>13</b>	<b>\$ 16,272</b>	<b>406</b>	<b>\$ 715,575</b>

## LOPFI Participating Group By Type December 31, 2018

<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>	
Allison Sylamore						X	
Alma						X	
Alexander	X		X	X		X	
Altus	X					X	
Alzheimer			X			X	
Amity	X		X			X	
Antioch						X	
Appleton Rural						X	
Arch Street FPD #16						X	
Arkadelphia					X	X	
Arkansas City						X	
Ashdown	X		X			X	
Ash Flat	X		X		X	X	
Atkins	X		X			X	
Augusta	X					X	
Austin	X					X	
Avoca						X	
Bald Knob	X					X	
Barling	X		X	X		X	
Barton-Lexa Fire Department, Inc.						X	
Batesville	X		X		X	X	
Bauxite	X		X			X	
Bay	X		X			X	
Bay Village						X	
Beaverfork						X	
Beaver Lake				X		X	
Bearden						X	
Beebe				X		X	
Bee Branch						X	
Belleville						X	
Bella Vista	X			X			
Benton	X				X		
Bentonville	X		X		X	X	
Bergman						X	
Bigelow						X	
Bethel Heights	X		X			X	
Bethesda Area						X	
Berryville	X		X			X	
Bigger-Reyno						X	
Big Creek						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	

## LOPFI Participating Group By Type December 31, 2018

<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>	
Bradford	X		X			X	
Bradley			X			X	
Bradley County Rural						X	
Brookland Fire Protection District						X	
Brinkley		X	X		X	X	
Brookland	X		X				
Bruno Fire Protection District						X	
Bryant	X		X		X		
Buena Vista						X	
Buford				X		X	
Bull Shoals	X		X	X		X	
Burnt Ridge						X	
Butterfield						X	
Cabot	X				X	X	
Caddo Valley	X		X			X	
Caldwell						X	
Cairo						X	
Calico Rock						X	
Calion						X	
Camden		X			X	X	
Calvert Township						X	
Camp						X	
Cammack Village	X		X				
Cane Creek						X	
Capps-Batavia						X	
Caraway	X					X	
Carlisle	X					X	
Carthage						X	
Cash						X	
Cave City	X		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	
Cherry Hill						X	
Cherokee Village	X		X	X			
Cherry Valley	X					X	
Chidester						X	
Chimes						X	
Choctaw						X	
Cincinnati						X	
Clarendon	X					X	
Clarksville	X					X	
Clinton	X			X		X	

## LOPFI Participating Group By Type December 31, 2018

<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>	
Collegeville						X	
Colt						X	
Coal Hill	X		X			X	
Concord	X						
Conway	X				X		
Cooterneck						X	
Compton						X	
Conway County						X	
Cord						X	
Corning	X					X	
Cotter	X		X			X	
Cotter/Gassville Rural						X	
BDR FD#1						X	
Cotton Plant	X					X	
Cottonwood Rural Fire Assoc						X	
County Line						X	
Cove Rural						X	
Crawfordsville						X	
Crow Mountain Fire Protection Dist						X	
Crossett	X		X		X	X	
Crystal Fire Protection District						X	
Curtis Rural						X	
Dalton						X	
Damascus						X	
Danville						X	
Dardanelle						X	
Deann						X	
Decatur	X		X			X	
Deer						X	
Delaware						X	
De Queen	X				X	X	
Dermott	X					X	
Des Arc	X		X			X	
Devalls Bluff	X		X			X	
Desha						X	
DeWitt	X					X	
Diaz	X		X			X	
Dierks	X		X				
District 7 Crawford Co. Volunt						X	
Dodd Mountain						X	
Dumas						X	
Dover	X		X			X	
Dyess						X	
Earle						X	
East Camden	X					X	
East End Fire Protection District						X	
East Pulaski County						X	
Elaine						X	

## LOPFI Participating Group By Type December 31, 2018

<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>	
El Dorado		X			X		
Elkins	X		X	X		X	
Elm Springs	X		X				
Emmet						X	
EMP Rural Fire Association						X	
England						X	
Etowah						X	
Eudora						X	
Evansville						X	
Eureka Springs	X		X		X	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		
Fifty Six						X	
Fisher						X	
Fire District #6 Crawford Co						X	
Flippin	X		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	
Garnett						X	
Gassville	X		X	X		X	
Gentry	X		X			X	
Gillett						X	
Gillham						X	
Glenwood	X		X			X	
Goshen	X		X				
Goshen Fire Dist Assoc						X	
Gosnell	X					X	
Grady						X	
Gould						X	
Gravette	X		X	X		X	
Gravel Ridge					X	X	
Grayson Fire Assoc						X	
Green Forest	X					X	
Greenbrier						X	
Greenland	X		X				

## LOPFI Participating Group By Type December 31, 2018

<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>	
Greenwood	X				X		
Greenwood Rural						X	
Greers Ferry	X					X	
Grover Township						X	
Gum Springs						X	
Grubbs						X	
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			X	
Harmon						X	
Harrell						X	
Harrisburg	X					X	
Harrison	X		X		X	X	
Hartford	X		X			X	
Haskell	X		X	X		X	
Hatfield						X	
Hazen						X	
Heber Springs	X				X	X	
Helena-West Helena		X	X		X	X	
Hector			X				
Hermitage	X		X			X	
Hensley						X	
Hickory Creek						X	
Hickory Ridge						X	
Higginson							
Highfill	X		X			X	
Hilltop Fire District# 51						X	
Highway 15 South						X	
Hilltop						X	
Highway 286 East						X	
Highland	X		X			X	
Holland						X	
Holly Grove	X		X			X	
Hollis						X	
Holiday Island					X	X	
Hon						X	
Hope					X	X	
Hopewell Fire District						X	
Horatio						X	
Horseshoe Lake						X	
Hot Springs		X			X		

## LOPFI Participating Group By Type December 31, 2018

<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>	
Hot Springs Village	X			X		X	
Hoxie	X		X		X	X	
Hughes	X		X			X	
Humphrey	X					X	
Highway 94 East						X	
Huntsville	X		X			X	
Huntington	X					X	
Huttig	X					X	
Highway 70 West FPA						X	
Imboden						X	
Inspiration Point Rural Fire Protec						X	
Ione Community						X	
Jacksonville	X				X		
Johnson County Rfd #1						X	
Jasper	X					X	
Johnson County Rfd #2						X	
Johnson County Rfd #4						X	
Johnson County Rfd #5						X	
Johnson County Rfd #7						X	
Johnson	X						
Johnson Area				X		X	
Joiner						X	
Johnson County Rfd #8						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	
Lamar	X					X	
Krooked Kreek						X	
Lake City	X					X	
Lake Hamilton				X		X	
Lake Maumelle Area RFD						X	
Lakeview		X	X				
Lake Village	X					X	
Landis						X	
Lavaca	X		X			X	
Lawson-Urbana						X	
Lazy Acres						X	
Leachville	X					X	
Lead Hill						X	
Lepanto	X					X	
Leslie						X	
Lewisville						X	

## LOPFI Participating Group By Type December 31, 2018

<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>	
Liberty						X	
Little Flock	X		X			X	
Little Rock		X			X		
Lincoln	X			X		X	
Linwood-Moscow						X	
Lockesburg						X	
London Rural						X	
Lone Rock						X	
Lonoke	X					X	
LOPFI Staff							X
Louann						X	
Lowell	X		X		X	X	
Luxora						X	
Lynne						X	
Magazine						X	
Magnolia	X		X		X	X	
Malvern	X				X	X	
Mammoth Spring						X	
Manila	X			X		X	
Mansfield	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 FPA				X		X	
Morning Star						X	
Moro						X	
Morrilton						X	
Morrow						X	
Mount Holly						X	



## LOPFI Participating Group By Type December 31, 2018

<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>	
Mountainburg	X		X			X	
Mountain Home	X		X		X	X	
Mountain Pine	X		X				
Mount Ida						X	
Mt Judea Area						X	
Mountain View	X		X			X	
Mulberry	X					X	
Murfreesboro	X					X	
Nashville					X	X	
Natural Dam						X	
New Blaine Rural						X	
Newark						X	
Newport	X		X		X	X	
Nimrod/Aplin						X	
Nob Hill					X	X	
Norman						X	
Norfolk							
Norphlet			X			X	
Oil Trough						X	
Northeast Benton Co.						X	
Northeast Lakeside						X	
North Crossett						X	
Northeast Saline County Fire						X	
Northeast Greene County Fire Dis						X	
Northside						X	
Northside						X	
North Little Rock		X			X		
North Pulaski FPD						X	
Oak Grove						X	
Oak Grove					X	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	
Parthenon						X	
Patterson	X		X			X	
Paris						X	
Parkin						X	
Pea Ridge	X		X			X	
Peel						X	
Perryville	X					X	
Philadelphia						X	
Piggott						X	
Pleasant Plains						X	
Pine Bluff		X	X		X		

## LOPFI Participating Group By Type December 31, 2018

<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>	
Pine Ridge						X	
Pine Village						X	
Pineville						X	
Plumerville						X	
Plainview						X	
Pocahontas	X		X		X	X	
Ponca						X	
Pottsville	X		X			X	
Portland	X					X	
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	
Rison	X					X	
Richwood						X	
Riverdale						X	
Rockport	X						
Rockport						X	
Rogers	X		X		X		
Rondo						X	
Round Mountain						X	
Rudd's Crossing						X	
Rose Bud						X	
Ross Van Ness - Wellford						X	
Ruddell Hill						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	
Searcy	X		X		X	X	
Sedgwick Fire Improvement Dist						X	
Shannon Hills	X		X				
Shannon Hills						X	
Shaw						X	
Shady Grove Fire & Rescue						X	
Sheridan						X	
Sherwood	X						
Siloam Springs	X				X	X	
Sixth District						X	
Smyrna						X	

## LOPFI Participating Group By Type December 31, 2018

<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>	
Smackover	X		X			X	
Snowball						X	
South Carroll Co Fire Assoc						X	
Southbend						X	
SE Jefferson Co						X	
Sparkman			X			X	
South Mountain						X	
Southside						X	
South Greene County						X	
Springdale	X				X		
Southridge						X	
Stamps	X					X	
Star City	X		X			X	
Stephens	X					X	
Town of St. Charles						X	
St. Francis						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	
Tracy Area						X	
Trumann	X		X		X	X	
Tuckerman	X		X			X	
Tull Fire & Rescue						X	
Turrell						X	
Turtle Creek						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	

## LOPFI Participating Group By Type December 31, 2018

<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>	
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			X	
Wescon						X	
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	
Woodlawn						X	
Wilson	X					X	
Wilton						X	
Winchester						X	
Wright-Pastoria						X	
Wynne	X				X	X	
Y-City						X	
Yellville						X	
Zinc						X	

## SECTION D

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### 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.***

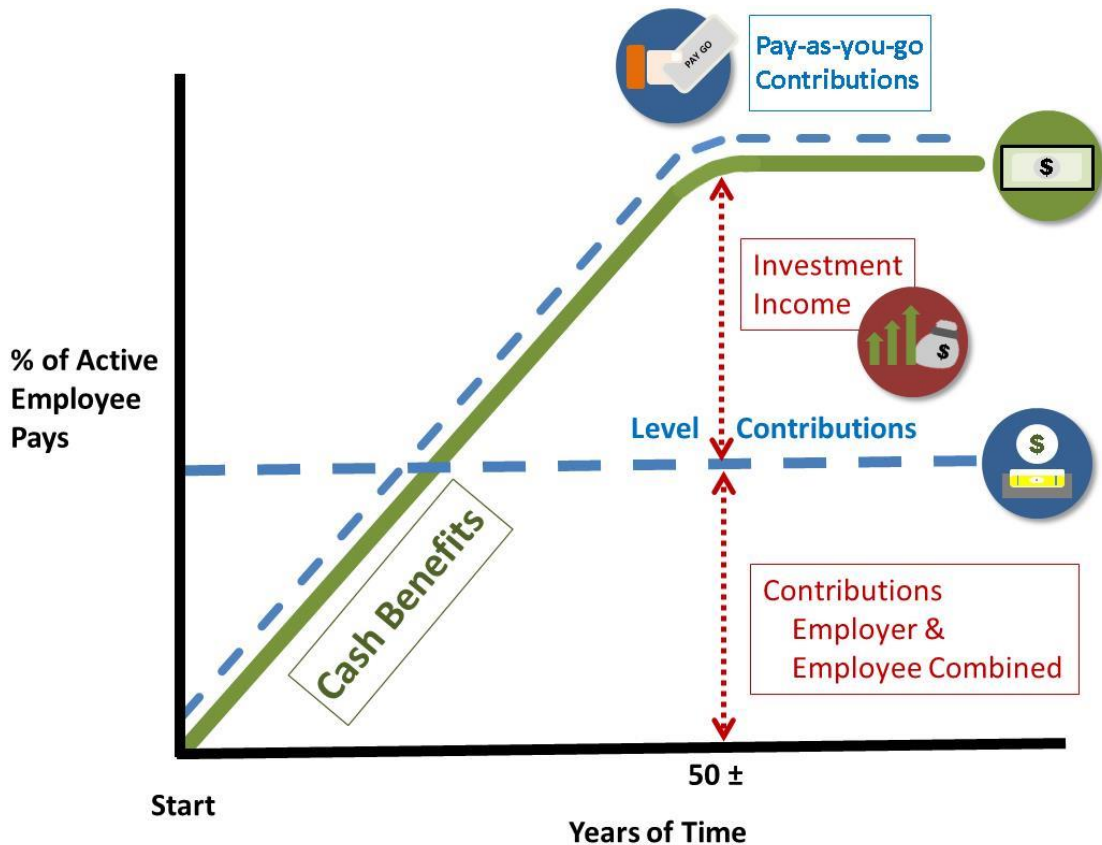
An actuarial valuation has a number of ingredients such as: the rate of investment return which plan assets will earn; the rates of withdrawal of active members who leave covered employment before qualifying for any monthly benefit; the rates of mortality; the rates of disability; the rates of pay increases;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

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### 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 \$6.80 effective July 1, 2019 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 \$11.02 effective July 1, 2019 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.

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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

## 16.1-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
2018	\$ 100,000	8.90%	13.94%	22.84%	\$ 22,840
2019	103,250	8.90%	13.94%	22.84%	23,582
2020	106,606	8.90%	13.94%	22.84%	24,349
2021	110,070	8.90%	13.94%	22.84%	25,140
2022	113,648	8.90%	13.94%	22.84%	25,957
2023	117,341	8.90%	13.94%	22.84%	26,801
2024	121,155	8.90%	13.94%	22.84%	27,672
2025	125,092	8.90%	13.94%	22.84%	28,571
2026	129,158	8.90%	13.94%	22.84%	29,500
2027	133,355	8.90%	13.94%	22.84%	30,458
2028	137,689	8.90%	13.94%	22.84%	31,448
2029	142,164	8.90%	13.94%	22.84%	32,470
2030	146,785	8.90%	13.94%	22.84%	33,526
2031	151,555	8.90%	13.94%	22.84%	34,615
2032	156,481	8.90%	13.94%	22.84%	35,740
2033	161,566	8.90%	13.94%	22.84%	36,902
2034	166,817	8.90%	13.94%	22.84%	38,101
2035	172,239	8.90%	13.94%	22.84%	39,339
2036	177,837	8.90%	0.00%	8.90%	15,827
2037	183,616	8.90%	0.00%	8.90%	16,342
2038	189,584	8.90%	0.00%	8.90%	16,873
2039	195,745	8.90%	0.00%	8.90%	17,421
2040	202,107	8.90%	0.00%	8.90%	17,988
2041	208,675	8.90%	0.00%	8.90%	18,572
2042	215,457	8.90%	0.00%	8.90%	19,176
2043	222,460	8.90%	0.00%	8.90%	19,799
2044	229,690	8.90%	0.00%	8.90%	20,442
2045	237,155	8.90%	0.00%	8.90%	21,107
2046	244,862	8.90%	0.00%	8.90%	21,793

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 16.7-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
2018	\$ 6.80	10	\$ 24.08	\$ 34.92	\$ 59.00	\$ 7,080
2019	6.97	10	24.68	34.92	59.60	7,152
2020	7.14	10	25.30	34.92	60.22	7,226
2021	7.32	10	25.93	34.92	60.85	7,302
2022	7.50	10	26.58	34.92	61.50	7,380
2023	7.69	10	27.24	34.92	62.16	7,459
2024	7.88	10	27.92	34.92	62.84	7,541
2025	8.08	10	28.62	34.92	63.54	7,625
2026	8.28	10	29.34	34.92	64.26	7,711
2027	8.49	10	30.07	34.92	64.99	7,799
2028	8.70	10	30.82	34.92	65.74	7,889
2029	8.92	10	31.59	34.92	66.51	7,981
2030	9.14	10	32.38	34.92	67.30	8,076
2031	9.37	10	33.19	34.92	68.11	8,173
2032	9.60	10	34.02	34.92	68.94	8,273
2033	9.84	10	34.87	34.92	69.79	8,375
2034	10.09	10	35.74	34.92	70.66	8,479
2035	10.34	10	36.63	34.92	71.55	8,586
2036	10.60	10	37.55	34.92	72.47	8,696
2037	10.87	10	38.49	0.00	38.49	4,619
2038	11.14	10	39.45	0.00	39.45	4,734
2039	11.42	10	40.44	0.00	40.44	4,853
2040	11.71	10	41.45	0.00	41.45	4,974
2041	12.00	10	42.49	0.00	42.49	5,099
2042	12.30	10	43.55	0.00	43.55	5,226
2043	12.61	10	44.64	0.00	44.64	5,357
2044	12.93	10	45.76	0.00	45.76	5,491

@ 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 \$6.80 effective July 1, 2019. 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 Next Year*		Value at Retirement: \$1.00 Monthly for Life		Future Life Expectancy (years)*					
	Men	Women	Men	Women	2018		2023		2028	
					Men	Women	Men	Women	Men	Women
35	0.173%	0.136%	\$ 154.32	\$ 156.82	46.33	50.01	46.89	50.53	47.44	51.05
40	0.254%	0.208%	150.58	153.97	41.24	44.90	41.77	45.40	42.31	45.91
45	0.364%	0.264%	145.83	150.35	36.29	39.91	36.80	40.39	37.32	40.88
50	0.536%	0.335%	139.81	145.46	31.49	34.97	32.00	35.44	32.50	35.92
55	0.770%	0.469%	132.39	138.92	26.90	30.12	27.39	30.58	27.86	31.04
60	1.077%	0.700%	123.28	130.64	22.54	25.46	22.98	25.88	23.42	26.31
65	1.548%	1.045%	112.26	120.43	18.43	21.04	18.81	21.42	19.21	21.82
70	2.310%	1.621%	99.12	107.85	14.61	16.87	14.93	17.22	15.29	17.58
75	3.679%	2.649%	83.80	92.86	11.11	13.01	11.40	13.34	11.70	13.66
80	6.196%	4.522%	67.06	76.04	8.03	9.58	8.29	9.86	8.54	10.14

\* 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%