



The Initial Valuation For  
**Rock Community Fire Protection  
District**  
as of October 31, 2018



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December 3, 2018

Rock Community Fire Protection District  
Arnold, Missouri

Ladies and Gentlemen:

Submitted in this report are the results of the actuarial valuation prepared to determine the employer contribution rates required to support, for your employees, the benefits provided by the Missouri Local Government Employees Retirement System (LAGERS). This report contains the information needed to comply with Missouri state disclosure requirements regarding the adoption of LAGERS benefits by a political subdivision (Sections 105.660 - 106.685 RSMo).

The contribution requirement for benefits likely to accrue as a result of the future service of your employees is described on pages 4 thru 11 as the current cost plus the disability cost. This contribution rate, expressed as a percent of active employee payroll, will depend on the benefit program adopted.

The contribution requirement to pay for benefits likely to result from service rendered by your employees before you join LAGERS is described on pages 4 thru 11 as the prior service cost. The value established for prior service is called the unfunded actuarial accrued liability (these amounts are further described in Appendix I). The prior service cost is the rate of contribution designed to pay for the unfunded actuarial accrued liability over a period of not more than 30 years.

Section 70.730 of the Revised Statutes of Missouri requires participating employers to contribute the current cost, disability cost, and prior service cost (the total employer cost as shown on pages 4 thru 11). These contributions are mandatory after official action has been taken to join the System.

The total annual dollar costs shown on pages 12 and 13 represent the dollar cost of each benefit program for a one year period based on the payroll reported for this actuarial valuation. In budgeting amounts for LAGERS contributions you should consider any changes in payroll which have been made since data was submitted for the valuation and any changes anticipated to be made before the end of the period for which you are preparing the budget.

The actuarial assumptions and methods used to determine the stated costs are described in Appendix II of this report. In our opinion, they do produce results which, in the aggregate, are reasonable. Additional miscellaneous and technical assumptions as well as disclosures required by the actuarial standards of practice may be found in the LAGERS Compiled Annual Actuarial Valuation report as of February 28, 2018.

The computed contributions required for LAGERS participation will permit the System to continue to operate in accordance with the actuarial principles of level cost financing and the state law which governs LAGERS. Summary provisions of the law as well as benefit illustrations can be found in Appendices III and IV.

Projections needed to comply with Missouri state disclosure requirements (Section 105.665 of the RSMo) regarding the adoption of LAGERS benefits by a political subdivision are available upon request from LAGERS.

Please note that this entire report must be available as public information for at least 45 calendar days prior to the date final official action is taken by your governing body to join the System. You may wish to make notice of this report in the official minutes of the next meeting of your governing body. This action would not be binding on your subdivision, yet would establish the beginning date of the 45 day waiting period.

In accordance with LAGERS Board policy, the employer contribution rates established by this valuation report are valid for purposes of joining the System for a two year period from the date of this valuation which was October 31, 2018. The valuation was based on data furnished from your records concerning individual employees (see Appendix V).

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

Mita Drazilov is a member of the American Academy of Actuaries and meets the Qualification Standards of the Academy of Actuaries to render the actuarial opinions herein.

Respectfully submitted,

A handwritten signature in black ink that reads "Mita Drazilov". The signature is fluid and cursive, with the first name "Mita" and last name "Drazilov" clearly distinguishable.

Mita D. Drazilov, ASA, FCA, MAAA



## Alternate Plan Provisions Affecting Employer Contribution Rates

The law governing LAGERS provides for either a contributory plan or a non-contributory plan, with benefits based on either a 5 year or 3 year Final Average Salary (FAS).

**Contributory Plan.** Under the contributory plan, each covered member contributes 4% of compensation to LAGERS. If an employee terminates before being eligible for an immediate benefit, the member's contributions, plus any interest credited to the member's individual account, are refunded upon request.

**Non-Contributory Plan.** Under the non-contributory plan, there is no individual employee contribution to the plan, no individual account maintained for each employee, and no refund paid to employees who terminate before being eligible for a benefit.

The law further provides for nine different benefit programs (benefit formula factors) and allows an employer to elect "rule of 80" eligibility for benefits. Under the rule of 80, employees are eligible for unreduced benefits at the earlier of (i) attainment of their minimum service retirement age or (ii) such time as their years of age plus years of LAGERS credited service equals 80.

In total this allows for 72 different combinations of benefit plans, giving employers considerable latitude in designing the retirement program which they feel best suits their particular situation.

The applicable combinations of these items may be changed from time to time, however, there are limitations on the frequency of changes. A more detailed description of plan provisions may be found in Appendix III of this report.

# Rock Community Fire Protection District

## Employer Contribution Rates (Contributory Plan - 5 Year FAS) (4% member contributions are additional)

### Regular Retirement Eligibility

Benefit Program	Employee Groups	Percents of Active Member Payroll			
		Prior Service Cost *	Current Cost	Disability Cost	Total Employer Contribution Rate
L-1	General	1.10%	3.80%	0.20%	5.10%
	Fire	1.20	3.90	0.60	5.70
L-3	General	1.50	5.40	0.30	7.20
	Fire	1.50	5.70	0.70	7.90
LT-4(65)	General	1.30	4.60	0.20	6.10
	Fire	1.50	5.70	0.60	7.80
LT-5(65)	General	1.60	6.00	0.30	7.90
	Fire	1.80	6.90	0.70	9.40
L-7	General	1.90	7.00	0.30	9.20
	Fire	1.90	7.30	0.80	10.00
LT-8(65)	General	1.90	7.30	0.30	9.50
	Fire	2.00	8.20	0.80	11.00
L-12	General	2.20	8.60	0.40	11.20
	Fire	2.20	9.00	0.90	12.10
LT-14(65)	General	2.20	8.80	0.40	11.40
	Fire	2.30	9.40	0.90	12.60
L-6	General	2.60	10.10	0.50	13.20
	Fire	2.50	10.70	1.00	14.20

\* Prior service credit was given for vesting purposes only.

# Rock Community Fire Protection District

## Employer Contribution Rates (Contributory Plan - 3 Year FAS) (4% member contributions are additional)

### Regular Retirement Eligibility

Benefit Program	Employee Groups	Percents of Active Member Payroll			
		Prior Service Cost *	Current Cost	Disability Cost	Total Employer Contribution Rate
L-1	General	1.20%	4.00%	0.20%	5.40%
	Fire	1.20	4.20	0.60	6.00
L-3	General	1.60	5.60	0.30	7.50
	Fire	1.60	5.90	0.70	8.20
LT-4(65)	General	1.30	4.80	0.20	6.30
	Fire	1.50	6.10	0.60	8.20
LT-5(65)	General	1.60	6.30	0.30	8.20
	Fire	1.80	7.30	0.70	9.80
L-7	General	1.90	7.30	0.30	9.50
	Fire	1.90	7.70	0.80	10.40
LT-8(65)	General	2.00	7.70	0.30	10.00
	Fire	2.10	8.60	0.80	11.50
L-12	General	2.30	9.00	0.40	11.70
	Fire	2.30	9.30	0.90	12.50
LT-14(65)	General	2.30	9.20	0.40	11.90
	Fire	2.40	9.80	0.90	13.10
L-6	General	2.60	10.70	0.50	13.80
	Fire	2.60	11.20	1.00	14.80

\* Prior service credit was given for vesting purposes only.

# Rock Community Fire Protection District

## Employer Contribution Rates (Non-Contributory Plan - 5 Year FAS) (No member contributions)

### Regular Retirement Eligibility

Benefit Program	Employee Groups	Percents of Active Member Payroll			
		Prior Service Cost *	Current Cost	Disability Cost	Total Employer Contribution Rate
L-1	General	1.30%	7.50%	0.20%	9.00%
	Fire	1.20	7.70	0.60	9.50
L-3	General	1.60	9.10	0.30	11.00
	Fire	1.60	9.50	0.70	11.80
LT-4(65)	General	1.40	8.30	0.20	9.90
	Fire	1.50	9.60	0.60	11.70
LT-5(65)	General	1.70	9.70	0.30	11.70
	Fire	1.80	10.80	0.70	13.30
L-7	General	2.00	10.80	0.30	13.10
	Fire	1.90	11.20	0.80	13.90
LT-8(65)	General	2.00	11.10	0.30	13.40
	Fire	2.00	12.10	0.80	14.90
L-12	General	2.30	12.40	0.40	15.10
	Fire	2.20	12.90	0.90	16.00
LT-14(65)	General	2.30	12.60	0.40	15.30
	Fire	2.30	13.30	0.90	16.50
L-6	General	2.60	14.00	0.50	17.10
	Fire	2.50	14.60	1.00	18.10

\* Prior service credit was given for vesting purposes only.



# Rock Community Fire Protection District

## Employer Contribution Rates (Non-Contributory Plan - 3 Year FAS) (No member contributions)

### Regular Retirement Eligibility

Benefit Program	Employee Groups	Percents of Active Member Payroll			
		Prior Service Cost *	Current Cost	Disability Cost	Total Employer Contribution Rate
L-1	General	1.30%	7.70%	0.20%	9.20%
	Fire	1.30	8.00	0.60	9.90
L-3	General	1.70	9.40	0.30	11.40
	Fire	1.60	9.80	0.70	12.10
LT-4(65)	General	1.50	8.50	0.20	10.20
	Fire	1.60	9.90	0.60	12.10
LT-5(65)	General	1.80	10.00	0.30	12.10
	Fire	1.80	11.20	0.70	13.70
L-7	General	2.00	11.10	0.30	13.40
	Fire	1.90	11.60	0.80	14.30
LT-8(65)	General	2.10	11.50	0.30	13.90
	Fire	2.10	12.50	0.80	15.40
L-12	General	2.40	12.80	0.40	15.60
	Fire	2.20	13.30	0.90	16.40
LT-14(65)	General	2.40	13.00	0.40	15.80
	Fire	2.30	13.80	0.90	17.00
L-6	General	2.70	14.50	0.50	17.70
	Fire	2.60	15.10	1.00	18.70

\* Prior service credit was given for vesting purposes only.

# Rock Community Fire Protection District

## Employer Contribution Rates (Contributory Plan - 5 Year FAS) (4% member contributions are additional)

### Rule of 80 Retirement Eligibility#

Benefit Program	Employee Groups	Percents of Active Member Payroll			
		Prior Service Cost *	Current Cost	Disability Cost	Total Employer Contribution Rate
L-1	General	1.10%	4.10%	0.20%	5.40%
	Fire	1.10	4.50	0.60	6.20
L-3	General	1.50	5.70	0.30	7.50
	Fire	1.40	6.30	0.70	8.40
LT-4(65)	General	1.30	5.30	0.20	6.80
	Fire	1.60	6.90	0.60	9.10
LT-5(65)	General	1.60	6.60	0.30	8.50
	Fire	1.80	8.10	0.70	10.60
L-7	General	1.80	7.40	0.30	9.50
	Fire	1.80	8.10	0.80	10.70
LT-8(65)	General	1.90	8.00	0.30	10.20
	Fire	2.00	9.30	0.80	12.10
L-12	General	2.10	9.10	0.40	11.60
	Fire	2.10	9.90	0.90	12.90
LT-14(65)	General	2.20	9.40	0.40	12.00
	Fire	2.20	10.50	0.90	13.60
L-6	General	2.50	10.70	0.50	13.70
	Fire	2.40	11.70	1.00	15.10

# The cost for the Rule of 80 provision is very dependent upon the age at hire of the employees. If hiring practices in the future differ from those of the past, the cost for this provision could increase or decrease. The cost shown is based on the age and service characteristics of the present group.

\* Prior service credit was given for vesting purposes only.

# Rock Community Fire Protection District

## Employer Contribution Rates (Contributory Plan - 3 Year FAS) (4% member contributions are additional)

### Rule of 80 Retirement Eligibility#

Benefit Program	Employee Groups	Percents of Active Member Payroll			
		Prior Service Cost *	Current Cost	Disability Cost	Total Employer Contribution Rate
L-1	General	1.20%	4.40%	0.20%	5.80%
	Fire	1.20	4.70	0.60	6.50
L-3	General	1.50	6.00	0.30	7.80
	Fire	1.50	6.60	0.70	8.80
LT-4(65)	General	1.40	5.50	0.20	7.10
	Fire	1.60	7.40	0.60	9.60
LT-5(65)	General	1.70	6.90	0.30	8.90
	Fire	1.80	8.60	0.70	11.10
L-7	General	1.90	7.80	0.30	10.00
	Fire	1.80	8.50	0.80	11.10
LT-8(65)	General	2.00	8.40	0.30	10.70
	Fire	2.10	9.80	0.80	12.70
L-12	General	2.20	9.60	0.40	12.20
	Fire	2.20	10.30	0.90	13.40
LT-14(65)	General	2.30	9.70	0.40	12.40
	Fire	2.30	10.90	0.90	14.10
L-6	General	2.60	11.20	0.50	14.30
	Fire	2.50	12.20	1.00	15.70

# The cost for the Rule of 80 provision is very dependent upon the age at hire of the employees. If hiring practices in the future differ from those of the past, the cost for this provision could increase or decrease. The cost shown is based on the age and service characteristics of the present group.

\* Prior service credit was given for vesting purposes only.

# Rock Community Fire Protection District

## Employer Contribution Rates (Non-Contributory Plan - 5 Year FAS) (No member contributions)

### Rule of 80 Retirement Eligibility#

Benefit Program	Employee Groups	Percents of Active Member Payroll			
		Prior Service Cost *	Current Cost	Disability Cost	Total Employer Contribution Rate
L-1	General	1.30%	7.80%	0.20%	9.30%
	Fire	1.20	8.30	0.60	10.10
L-3	General	1.60	9.50	0.30	11.40
	Fire	1.50	10.10	0.70	12.30
LT-4(65)	General	1.50	8.90	0.20	10.60
	Fire	1.60	10.80	0.60	13.00
LT-5(65)	General	1.80	10.30	0.30	12.40
	Fire	1.80	12.00	0.70	14.50
L-7	General	1.90	11.20	0.30	13.40
	Fire	1.80	12.00	0.80	14.60
LT-8(65)	General	2.00	11.80	0.30	14.10
	Fire	2.00	13.20	0.80	16.00
L-12	General	2.20	12.90	0.40	15.50
	Fire	2.10	13.80	0.90	16.80
LT-14(65)	General	2.30	13.20	0.40	15.90
	Fire	2.20	14.40	0.90	17.50
L-6	General	2.50	14.60	0.50	17.60
	Fire	2.40	15.60	1.00	19.00

# The cost for the Rule of 80 provision is very dependent upon the age at hire of the employees. If hiring practices in the future differ from those of the past, the cost for this provision could increase or decrease. The cost shown is based on the age and service characteristics of the present group.

\* Prior service credit was given for vesting purposes only.

# Rock Community Fire Protection District

## Employer Contribution Rates (Non-Contributory Plan - 3 Year FAS) (No member contributions)

### Rule of 80 Retirement Eligibility#

Benefit Program	Employee Groups	Percents of Active Member Payroll			
		Prior Service Cost *	Current Cost	Disability Cost	Total Employer Contribution Rate
L-1	General	1.30%	8.00%	0.20%	9.50%
	Fire	1.20	8.50	0.60	10.30
L-3	General	1.60	9.80	0.30	11.70
	Fire	1.50	10.50	0.70	12.70
LT-4(65)	General	1.50	9.20	0.20	10.90
	Fire	1.70	11.20	0.60	13.50
LT-5(65)	General	1.80	10.70	0.30	12.80
	Fire	1.90	12.40	0.70	15.00
L-7	General	2.00	11.60	0.30	13.90
	Fire	1.80	12.40	0.80	15.00
LT-8(65)	General	2.10	12.20	0.30	14.60
	Fire	2.10	13.70	0.80	16.60
L-12	General	2.30	13.40	0.40	16.10
	Fire	2.10	14.30	0.90	17.30
LT-14(65)	General	2.30	13.60	0.40	16.30
	Fire	2.20	14.90	0.90	18.00
L-6	General	2.60	15.10	0.50	18.20
	Fire	2.40	16.20	1.00	19.60

# The cost for the Rule of 80 provision is very dependent upon the age at hire of the employees. If hiring practices in the future differ from those of the past, the cost for this provision could increase or decrease. The cost shown is based on the age and service characteristics of the present group.

\* Prior service credit was given for vesting purposes only.

# Rock Community Fire Protection District

## Employer Contribution Dollars Regular Retirement Eligibility

Employer contributions are payable monthly, and each month's actual dollar contribution will be the contribution percent multiplied by the payroll during the month. If payroll during your first year of LAGERS participation equals the annual payroll reported for this valuation, the approximate employer dollar contribution for the year would be as follows:

### Contributory Plan

3 Year FAS		
Benefit Program	General	Fire
L-1	\$ 9,353	\$ 298,518
L-3	12,991	407,975
LT-4(65)	10,912	407,975
LT-5(65)	14,203	487,580
L-7	16,455	517,432
LT-8(65)	17,321	572,160
L-12	20,266	621,913
LT-14(65)	20,612	651,765
L-6	23,903	736,345

### Non-Contributory Plan

3 Year FAS		
Benefit Program	General	Fire
L-1	\$ 15,935	\$ 492,555
L-3	19,746	602,012
LT-4(65)	17,668	602,012
LT-5(65)	20,959	681,617
L-7	23,210	711,469
LT-8(65)	24,076	766,197
L-12	27,021	815,950
LT-14(65)	27,367	845,802
L-6	30,658	930,382

PLEASE NOTE THAT THE ABOVE INFORMATION IS BASED ON THE PERSONNEL AND PAYROLL DATA SUBMITTED FOR THE ACTUARIAL VALUATION. IN BUDGETING AMOUNTS FOR LAGERS CONTRIBUTIONS YOU SHOULD CONSIDER ANY CHANGES WHICH HAVE BEEN MADE SINCE DATA WAS SUBMITTED FOR THE VALUATION AND ANY CHANGES ANTICIPATED TO BE MADE BEFORE THE END OF THE PERIOD FOR WHICH YOU ARE PREPARING THE BUDGET.

# Rock Community Fire Protection District

## **Employer Contribution Dollars** **Rule of 80 Retirement Eligibility**

Employer contributions are payable monthly, and each month's actual dollar contribution will be the contribution percent multiplied by the payroll during the month. If payroll during your first year of LAGERS participation equals the annual payroll reported for this valuation, the approximate employer dollar contribution for the year would be as follows:

### **Contributory Plan**

<b>3 Year FAS</b>		
<b>Benefit Program</b>	<b>General</b>	<b>Fire</b>
L-1	\$ 10,046	\$ 323,395
L-3	13,510	437,827
LT-4(65)	12,298	477,629
LT-5(65)	15,416	552,259
L-7	17,321	552,259
LT-8(65)	18,534	631,864
L-12	21,132	666,691
LT-14(65)	21,478	701,518
L-6	24,769	781,123

### **Non-Contributory Plan**

<b>3 Year FAS</b>		
<b>Benefit Program</b>	<b>General</b>	<b>Fire</b>
L-1	\$ 16,455	\$ 512,456
L-3	20,266	631,864
LT-4(65)	18,880	671,666
LT-5(65)	22,171	746,296
L-7	24,076	746,296
LT-8(65)	25,289	825,901
L-12	27,887	860,728
LT-14(65)	28,233	895,555
L-6	31,524	975,160

PLEASE NOTE THAT THE ABOVE INFORMATION IS BASED ON THE PERSONNEL AND PAYROLL DATA SUBMITTED FOR THE ACTUARIAL VALUATION. IN BUDGETING AMOUNTS FOR LAGERS CONTRIBUTIONS YOU SHOULD CONSIDER ANY CHANGES WHICH HAVE BEEN MADE SINCE DATA WAS SUBMITTED FOR THE VALUATION AND ANY CHANGES ANTICIPATED TO BE MADE BEFORE THE END OF THE PERIOD FOR WHICH YOU ARE PREPARING THE BUDGET.

# Rock Community Fire Protection District

## Employees and Payroll Included in the Valuation

	General	Fire
Number of Employees	3	68
Annual Payroll	\$ 173,211	\$ 4,975,306

Information regarding the age and service characteristics of the employees is contained in Appendix V.



## APPENDIX I

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### UNFUNDED ACTUARIAL ACCRUED LIABILITY

## Unfunded Actuarial Accrued Liability (UAAL)

If the decision is made to join LAGERS the governing body also must decide how much credit to grant employees for their service before the membership date. The options are to cover 25%, 50%, 75% or 100% of prior service. The granting of prior service credit results in the establishment of an actuarial accrued liability. Because your political subdivision will not have established an asset balance with the System as of the membership date, the value established for prior service is an unfunded actuarial accrued liability.

The policy of the LAGERS Board of Trustees provides that unfunded liabilities are to be paid for by level percent of payroll contributions over a period of 30 years. The contribution rates shown on pages 4 through 11 as the "Prior Service Cost" are designed to pay for the applicable unfunded actuarial accrued liability. This procedure will allow your political subdivision to retire the unfunded actuarial accrued liability in an orderly fashion over a period of years without the need for an immediate large payment upon joining the System.

Should the governing body elect to grant credit for 100% of the employees' prior service, the unfunded actuarial accrued liability as of the date of this valuation would be as follows:

### Rock Community Fire Protection District

#### Regular Retirement Eligibility

Benefit Group	Employee Group	Contributory		Non-Contributory	
		UAAL (5 Year FAS)	UAAL (3 Year FAS)	UAAL (5 Year FAS)	UAAL (3 Year FAS)
L-1	General	\$ 34,738	\$ 36,183	\$ 39,731	\$ 40,992
	Fire	1,040,835	1,078,879	1,093,827	1,125,911
L-3	General	45,659	47,411	49,668	51,247
	Fire	1,342,287	1,389,016	1,367,463	1,407,418
LT-4(65)	General	38,500	40,075	43,466	44,858
	Fire	1,300,296	1,347,275	1,351,791	1,392,664
LT-5(65)	General	48,470	50,329	52,462	54,137
	Fire	1,536,906	1,590,364	1,560,851	1,607,411
L-7	General	56,456	58,566	59,596	61,508
	Fire	1,640,772	1,695,898	1,640,842	1,688,858
LT-8(65)	General	58,344	60,508	61,457	63,438
	Fire	1,770,562	1,830,166	1,769,759	1,822,203
L-12	General	67,184	69,595	69,524	71,742
	Fire	1,937,122	2,000,715	1,914,306	1,970,335
LT-14(65)	General	68,125	70,564	70,474	72,705
	Fire	2,002,006	2,067,813	1,978,785	2,036,994
L-6	General	77,823	80,556	79,476	81,985
	Fire	2,232,109	2,304,307	2,187,919	2,251,844

# Rock Community Fire Protection District

## Unfunded Actuarial Accrued Liability (UAAL)

### Rule of 80 Retirement Eligibility

Benefit Group	Employee Group	Contributory		Non-Contributory	
		UAAL (5 Year FAS)	UAAL (3 Year FAS)	UAAL (5 Year FAS)	UAAL (3 Year FAS)
L-1	General	\$ 33,931	\$ 35,338	\$ 38,554	\$ 39,821
	Fire	984,121	1,021,473	1,033,804	1,065,974
L-3	General	44,446	46,182	48,207	49,779
	Fire	1,265,919	1,311,753	1,292,280	1,332,514
LT-4(65)	General	40,995	42,644	45,574	47,078
	Fire	1,369,534	1,420,595	1,417,321	1,463,292
LT-5(65)	General	49,727	51,657	53,460	55,223
	Fire	1,554,944	1,611,071	1,579,950	1,630,478
L-7	General	54,871	56,940	57,843	59,734
	Fire	1,545,127	1,599,254	1,550,614	1,599,099
LT-8(65)	General	58,397	60,591	61,339	63,367
	Fire	1,737,759	1,798,809	1,742,424	1,797,761
L-12	General	65,217	67,597	67,476	69,692
	Fire	1,822,101	1,884,875	1,809,094	1,865,597
LT-14(65)	General	66,981	69,416	69,243	71,506
	Fire	1,918,520	1,984,636	1,904,994	1,964,800
L-6	General	75,484	78,207	77,145	79,643
	Fire	2,098,277	2,169,470	2,067,663	2,132,073

## **APPENDIX II**

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### **SUMMARY OF FINANCIAL ASSUMPTIONS**

# Summary of Assumptions Used in Actuarial Valuations

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

1. The investment return rate used in making the valuations was 7.25% per year, net of investment expenses, compounded annually. This rate of return is not the assumed real rate of return. The real rate of return is the rate of investment return in excess of the inflation rate. The price inflation rate used in making the valuations was 2.50% and the wage inflation rate used in making the valuations was 3.25%. The investment return rate translates to an assumed real rate of return over price inflation of 4.75% and over wage inflation of 4.00%. Adopted 2011 and 2016.
2. The healthy retiree mortality tables, for post-retirement mortality, used in evaluating allowances to be paid were the RP-2014 Healthy Annuitant mortality table for males and females, adjusted for mortality improvement back to the observation period base year of 2006. The disabled retiree mortality tables, for post-retirement mortality, used in evaluating allowances to be paid were the RP-2014 disabled mortality table for males and females, adjusted for mortality improvement back to the observation period base year of 2006. The pre-retirement mortality tables used were the RP-2014 employees mortality table for males and females, adjusted for mortality improvement back to the observation period base year of 2006. For both the post-retirement and pre-retirement tables, the base year for males was then established to be 2017. Mortality rates for a particular calendar year are determined by applying the MP-2015 mortality improvement scale to the above described tables. Adopted 2016.
3. The probabilities of withdrawal and disability from service, together with individual pay increase assumptions, are shown in Schedule 1. Adopted 2016.
4. The probabilities of retirement with an age and service allowance are shown in Schedule 2. Adopted 2016.
5. Post-retirement cost of living allowances are assumed to be 2.50% per year. Adopted 2016.
6. Total active member payroll is assumed to increase a year, which is the portion of the individual pay increase assumptions attributable to wage inflation. In effect, this assumes no change in the number of active members per employer. Adopted 2016.
7. An individual entry-age actuarial cost method of valuation was used in determining age and service allowance actuarial liabilities and normal cost. Adopted 1986.
8. The data about persons now covered was furnished by the political subdivision. Although examined for general reasonableness, the data was not audited by us.

## Schedule 1.

### Separations From Active Employment (Not Including Death-In-Service) Before Age & Service Retirement and Individual Pay Increase Assumptions

		Percent of Active Members Separating Within Next Year							
Sample Ages	Years of Service	General Members				Police		Fire	
		Men		Women		Disability	Withdrawal	Disability	Withdrawal
		Disability	Withdrawal	Disability	Withdrawal				
All	0		19.00%		22.00%		18.00%		10.00%
	1		17.00		20.00		17.00		8.00
	2		15.00		17.00		16.00		7.00
	3		13.00		14.00		13.00		6.00
	4		11.00		13.00		12.00		6.00
25	5 & Over	0.09%	7.30	0.02%	10.80	0.10%	9.80	0.06%	5.00
30		0.12	6.50	0.03	8.90	0.11	7.80	0.10	4.00
35		0.15	5.00	0.06	7.40	0.16	6.10	0.23	2.80
40		0.21	3.70	0.10	5.70	0.22	4.40	0.35	2.20
45		0.30	3.00	0.16	4.20	0.34	3.20	0.56	1.80
50		0.44	2.40	0.24	3.30	0.53	1.80	0.85	1.00
55		0.68	1.80	0.34	2.50	0.88	1.00	1.31	0.50
60		1.02	1.00	0.48	1.20		0.00		0.00
65			0.00		0.00		0.00		0.00

Sample Ages	Percent Increase in Individual's Pay During Next Year	
	General & Police	
	Fire	
25	6.55%	7.15%
30	5.75	6.05
35	5.25	5.15
40	4.75	4.45
45	4.25	4.15
50	3.85	3.85
55	3.65	3.65
60	3.55	3.25
65	3.25	3.25

## Schedule 2.

### Percent of Eligible Active Members Retiring Within Next Year Without Rule of 80 Eligibility

#### Early Retirement

Retirement	General Members		Retirement		
Ages	Men	Women	Ages	Police	Fire
55	3.00%	3.00%	50	2.50%	2.50%
56	3.00%	3.00%	51	2.50%	2.50%
57	3.00%	3.00%	52	2.50%	2.50%
58	3.00%	3.00%	53	2.50%	2.50%
59	3.00%	3.00%	54	2.50%	2.50%

#### Normal Retirement

Retirement	General Members		Retirement		
Ages	Men	Women	Ages	Police	Fire
60	10%	10%	55	10%	13%
61	10	10	56	10	13
62	25	15	57	10	13
63	20	15	58	10	13
64	20	15	59	10	13
65	25	25	60	10	15
66	25	25	61	10	15
67	20	25	62	25	20
68	20	25	63	20	20
69	20	20	64	20	20
70	100	100	65	100	100

## Schedule 2. (Continued)

### Percent of Eligible Active Members Retiring Within Next Year With Rule of 80 Eligibility

Retirement Ages	General Members		Police	Fire
	Men	Women		
50	15%	15%	25%	25%
51	15	15	25	20
52	15	15	15	20
53	15	15	15	20
54	15	15	15	20
55	15	15	15	20
56	15	15	15	20
57	15	15	15	25
58	15	15	15	25
59	15	15	15	25
60	15	15	15	35
61	15	15	25	35
62	30	15	30	45
63	30	15	30	45
64	30	20	30	45
65	30	25	100	100
66	30	25		
67	30	25		
68	30	25		
69	30	25		
70	100	100		



## **APPENDIX III**

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### **SUMMARY OF LAGERS PROVISIONS**

# Missouri Local Government Employees Retirement System

## Brief Summary of LAGERS

### Benefits and Conditions Evaluated and/or Considered as of February 28, 2018

#### (Section references are to RSMo)

**Voluntary Retirement.** Sections 70.645 & 70.600. A member may retire with an age & service allowance after both (i) completing 5 years of credited service, and (ii) attaining the minimum service retirement age.

The minimum service retirement age is age 60 for a general employee and age 55 for a police or fire employee. Optionally, employers may also elect to provide for unreduced benefits for employees whose combination of years of age and years of service equals 80 or more.

**Final Average Salary.** Section 70.600. The average of a member's monthly compensation during the period of 60 consecutive months (or optionally, 36 consecutive months) of credited service producing the highest monthly average, which period is contained within the 120 consecutive months of credited service immediately preceding retirement.

**Age & Service Allowance.** Section 70.655. The allowance, payable monthly for life, equals a specified percent of a member's final average salary multiplied by the number of years of credited service. Each employer elects the percent applicable to its members, from the following programs:

L-1 Benefit Program:	1.00% for life
L-3 Benefit Program:	1.25% for life
L-7 Benefit Program:	1.50% for life
L-12 Benefit Program:	1.75% for life
L-6 Benefit Program:	2.00% for life
LT-4(65) Benefit Program:	1.00% for life, plus 1.00% to age 65
LT-5(65) Benefit Program:	1.25% for life, plus 0.75% to age 65
LT-8(65) Benefit Program:	1.50% for life, plus 0.50% to age 65
LT-14(65) Benefit Program:	1.75% for life, plus 0.25% to age 65

The only LT benefit programs available for adoption after August 1, 1994 are the LT(65) programs.

Benefit programs L-9 and LT-10(65) are unavailable for adoption after August 1, 2005.

Benefit program L-11, available only to groups not covered by social security, provides for 2.5% for life.

Subsequent to joining the System the governing body can elect to change benefit programs for the employees, but not more often than once every 2 years.

**Early Allowance.** Section 70.670. A member may retire with an early allowance after both (i) completing 5 years of credited service, and (ii) attaining age 55 if a general employee or age 50 if a police or fire employee.

The early allowance amount, payable monthly for life, is computed in the same manner as an age & service allowance, based upon the service and earnings record to time of early retirement, but reduced to reflect the fact that the age when payments begin is younger than the minimum service retirement age. The amount of the reduction is  $\frac{1}{2}$  of 1% (.005) for each month the age at retirement is younger than the minimum service retirement age.

**Deferred Allowance.** Section 70.675. If a member leaves LAGERS-covered employment (i) before attaining the early retirement age, and (ii) after completing 5 years of credited service, the member becomes eligible for a deferred allowance; provided the former member lives to the minimum service retirement age and does not withdraw the accumulated contributions.

The deferred allowance amount, payable monthly for life from the minimum service retirement age, is computed in the same manner as an age & service allowance, based upon the service and earnings record to time of leaving LAGERS coverage.

Deferred allowances are also payable any time after reaching the early retirement age, with the reduction for early retirement noted on the previous page.

**Non-Duty Disability Allowance.** Section 70.680. A member with 5 or more years of credited service who becomes totally and permanently disabled from other than duty-connected causes becomes eligible to receive a non-duty disability allowance computed in the same manner as an age & service allowance, based upon the service & earnings record to time of disability.

**Duty Disability Allowance.** Section 70.680. A member regardless of credited service who becomes totally and permanently disabled from duty-connected causes becomes eligible to receive a duty disability allowance computed in the same manner as an age & service allowance, based upon the earnings record to time of disability but based upon the years of credited service the member would have completed had the member continued in LAGERS-covered employment to age 60.

**Death-in-Service.** Section 70.661. Upon the death of a member who had completed 5 years of credited service, the eligible surviving dependents receive the following benefits:

- (a) The surviving spouse receives an allowance equal to the Option A allowance (joint and 75% survivor benefit) computed based upon the deceased members' service & earnings record to time of death.
- (b) When no spouse benefit is payable, the dependent children under age 18 (age 23 if they are full time students) each receive an equal share of 60% of an age & service allowance computed based upon the deceased member's service & earnings record to time of death.
- (c) If the death is determined to be duty related, the 5 year service requirement is waived and the benefit is based on years of credited service the member would have completed had the member continued in LAGERS-covered employment to age 60.

**Benefit Changes After Retirement.** Section 70.655. For retirements effective after September 28, 1975, there is an annual redetermination of monthly benefit amount, beginning the October first following 12 months of retirement. As of each October first the amount of each eligible benefit is redetermined as follows:

- (a) Subject to the maximum in (b), the redetermined amount is the amount other-wise payable multiplied by: 100% plus up to 4%, as determined by the LAGERS Board of Trustees, for each full year of retirement.
- (b) The redetermined amount may not exceed the amount otherwise payable multiplied by the ratio of the Consumer Price Index for the immediately preceding month of June to the Consumer Price Index for the month of June immediately preceding retirement.

**Member Contributions.** Sections 70.690 & 70.705. Each member contributes 4% of compensation beginning after completion of sufficient employment for 6 months of credited service.

If a member leaves LAGERS-covered employment before an allowance is payable, the accumulated contributions are refunded to the member. If the member dies, his accumulated contributions are refunded to a designated beneficiary.

The law governing LAGERS also has a provision for the adoption of a non-contributory plan in which the full cost of LAGERS participation is paid by the employer. Adoption of the non-contributory provisions may be done at the time of membership or a later date; however, a change from contributory to non-contributory or vice-versa may not be made more frequently than every 2 years. Under the non-contributory provisions there is no individual account maintained for each employee and no refund of contributions if an employee terminates before being eligible for a benefit.

**Employer Contributions.** Section 70.730. Each employer contributes the remainder amounts necessary to finance the employees' participation in LAGERS. Contributions to LAGERS are determined based upon level-percent-of-payroll principles, so that contribution rates do not have to increase over decades of time.

## APPENDIX IV

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### BENEFIT ILLUSTRATIONS

# Missouri LAGERS

## Illustrations of Age and Service Allowance Amounts

### For Sample Combinations of Service & Salary

(L-1 Benefit Program is Years of Credited Service  
times: 1.00% of FAS <sup>1</sup> )

Final Average Salary (FAS) <sup>1</sup>	LAGERS BENEFIT <sup>3</sup>	Estimated Social Security <sup>2</sup>	Estimated	
			Monthly Total	
			\$	% of FAS
35 Years of Service:				
\$1,500	\$ 525	\$ 889	\$1,414	94%
2,000	700	1,032	1,732	87%
2,500	875	1,175	2,050	82%
3,000	1,050	1,318	2,368	79%
3,500	1,225	1,462	2,687	77%
4,000	1,400	1,604	3,004	75%
25 Years of Service:				
\$1,500	\$ 375	\$ 889	\$1,264	84%
2,000	500	1,032	1,532	77%
2,500	625	1,175	1,800	72%
3,000	750	1,318	2,068	69%
3,500	875	1,462	2,337	67%
4,000	1,000	1,604	2,604	65%
15 Years of Service:				
\$1,500	\$225	\$ 889	\$1,114	74%
2,000	300	1,032	1,332	67%
2,500	375	1,175	1,550	62%
3,000	450	1,318	1,768	59%
3,500	525	1,462	1,987	57%
4,000	600	1,604	2,204	55%

<sup>1</sup> "Final Average Salary" means the monthly average of an employee's compensation during the period of 60 consecutive months (or optionally, 36 consecutive months) when they were highest, contained within the last 120 months of Credited Service.

<sup>2</sup> "Estimated Social Security" means, for an employee covered by Social Security, an employee's estimated OASDI retirement benefit and is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 65 in 2018 - it does not include any amounts which might be payable to an eligible spouse or children.

<sup>3</sup> Amounts are shown to nearest \$1, for simplicity; actual amounts are to nearest 1¢.

# Missouri LAGERS

## Illustrations of Age and Service Allowance Amounts

### For Sample Combinations of Service & Salary

(L-3 Benefit Program is Years of Credited Service  
times: 1.25% of FAS <sup>1</sup> )

Final Average Salary (FAS) <sup>1</sup>	LAGERS BENEFIT <sup>3</sup>	Estimated Social Security <sup>2</sup>	Estimated Monthly Total	
			\$	% of FAS
35 Years of Service:				
\$1,500	\$ 656	\$ 889	\$1,545	103%
2,000	875	1,032	1,907	95%
2,500	1,094	1,175	2,269	91%
3,000	1,313	1,318	2,631	88%
3,500	1,531	1,462	2,993	86%
4,000	1,750	1,604	3,354	84%
25 Years of Service:				
\$1,500	\$ 469	\$ 889	\$1,358	91%
2,000	625	1,032	1,657	83%
2,500	781	1,175	1,956	78%
3,000	938	1,318	2,256	75%
3,500	1,094	1,462	2,556	73%
4,000	1,250	1,604	2,854	71%
15 Years of Service:				
\$1,500	\$281	\$ 889	\$1,170	78%
2,000	375	1,032	1,407	70%
2,500	469	1,175	1,644	66%
3,000	563	1,318	1,881	63%
3,500	656	1,462	2,118	61%
4,000	750	1,604	2,354	59%

<sup>1</sup> "Final Average Salary" means the monthly average of an employee's compensation during the period of 60 consecutive months (or optionally, 36 consecutive months) when they were highest, contained within the last 120 months of Credited Service.

<sup>2</sup> "Estimated Social Security" means, for an employee covered by Social Security, an employee's estimated OASDI retirement benefit and is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 65 in 2018 - it does not include any amounts which might be payable to an eligible spouse or children.

<sup>3</sup> Amounts are shown to nearest \$1, for simplicity; actual amounts are to nearest 1¢.

# Missouri LAGERS

## Illustrations of Age and Service Allowance Amounts

### For Sample Combinations of Service & Salary

(L-7 Benefit Program is Years of Credited Service  
times: 1.50% of FAS <sup>1</sup> )

Final Average Salary (FAS) <sup>1</sup>	LAGERS BENEFIT <sup>3</sup>	Estimated Social Security <sup>2</sup>	Estimated Monthly Total	
			\$	% of FAS
35 Years of Service:				
\$1,500	\$ 788	\$ 889	\$1,677	112%
2,000	1,050	1,032	2,082	104%
2,500	1,313	1,175	2,488	100%
3,000	1,575	1,318	2,893	96%
3,500	1,838	1,462	3,300	94%
4,000	2,100	1,604	3,704	93%
25 Years of Service:				
\$1,500	\$ 563	\$ 889	\$1,452	97%
2,000	750	1,032	1,782	89%
2,500	938	1,175	2,113	85%
3,000	1,125	1,318	2,443	81%
3,500	1,313	1,462	2,775	79%
4,000	1,500	1,604	3,104	78%
15 Years of Service:				
\$1,500	\$338	\$ 889	\$1,227	82%
2,000	450	1,032	1,482	74%
2,500	563	1,175	1,738	70%
3,000	675	1,318	1,993	66%
3,500	788	1,462	2,250	64%
4,000	900	1,604	2,504	63%

<sup>1</sup> "Final Average Salary" means the monthly average of an employee's compensation during the period of 60 consecutive months (or optionally, 36 consecutive months) when they were highest, contained within the last 120 months of Credited Service.

<sup>2</sup> "Estimated Social Security" means, for an employee covered by Social Security, an employee's estimated OASDI retirement benefit and is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 65 in 2018 - it does not include any amounts which might be payable to an eligible spouse or children.

<sup>3</sup> Amounts are shown to nearest \$1, for simplicity; actual amounts are to nearest 1¢.



# Missouri LAGERS

## Illustrations of Age and Service Allowance Amounts

### For Sample Combinations of Service & Salary

(L-12 Benefit Program is Years of Credited Service  
times: 1.75% of FAS <sup>1</sup> )

Final Average Salary (FAS) <sup>1</sup>	LAGERS BENEFIT <sup>3</sup>	Estimated Social Security <sup>2</sup>	Estimated Monthly Total	
			\$	% of FAS
35 Years of Service:				
\$1,500	\$ 919	\$ 889	\$1,808	121%
2,000	1,225	1,032	2,257	113%
2,500	1,531	1,175	2,706	108%
3,000	1,838	1,318	3,156	105%
3,500	2,144	1,462	3,606	103%
4,000	2,450	1,604	4,054	101%
25 Years of Service:				
\$1,500	\$ 656	\$ 889	\$1,545	103%
2,000	875	1,032	1,907	95%
2,500	1,094	1,175	2,269	91%
3,000	1,313	1,318	2,631	88%
3,500	1,531	1,462	2,993	86%
4,000	1,750	1,604	3,354	84%
15 Years of Service:				
\$1,500	\$ 394	\$ 889	\$1,283	86%
2,000	525	1,032	1,557	78%
2,500	656	1,175	1,831	73%
3,000	788	1,318	2,106	70%
3,500	919	1,462	2,381	68%
4,000	1,050	1,604	2,654	66%

<sup>1</sup> "Final Average Salary" means the monthly average of an employee's compensation during the period of 60 consecutive months (or optionally, 36 consecutive months) when they were highest, contained within the last 120 months of Credited Service.

<sup>2</sup> "Estimated Social Security" means, for an employee covered by Social Security, an employee's estimated OASDI retirement benefit and is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 65 in 2018 - it does not include any amounts which might be payable to an eligible spouse or children.

<sup>3</sup> Amounts are shown to nearest \$1, for simplicity; actual amounts are to nearest 1¢.

# Missouri LAGERS

## Illustrations of Age and Service Allowance Amounts

### For Sample Combinations of Service & Salary

(L-6 Benefit Program is Years of Credited Service  
times: 2.00% of FAS <sup>1</sup> )

Final Average Salary (FAS) <sup>1</sup>	LAGERS BENEFIT <sup>3</sup>	Estimated Social Security <sup>2</sup>	Estimated	
			Monthly Total	
			\$	% of FAS
35 Years of Service:				
\$1,500	\$1,050	\$ 889	\$1,939	129%
2,000	1,400	1,032	2,432	122%
2,500	1,750	1,175	2,925	117%
3,000	2,100	1,318	3,418	114%
3,500	2,450	1,462	3,912	112%
4,000	2,800	1,604	4,404	110%
25 Years of Service:				
\$1,500	\$ 750	\$ 889	\$1,639	109%
2,000	1,000	1,032	2,032	102%
2,500	1,250	1,175	2,425	97%
3,000	1,500	1,318	2,818	94%
3,500	1,750	1,462	3,212	92%
4,000	2,000	1,604	3,604	90%
15 Years of Service:				
\$1,500	\$ 450	\$ 889	\$1,339	89%
2,000	600	1,032	1,632	82%
2,500	750	1,175	1,925	77%
3,000	900	1,318	2,218	74%
3,500	1,050	1,462	2,512	72%
4,000	1,200	1,604	2,804	70%

<sup>1</sup> "Final Average Salary" means the monthly average of an employee's compensation during the period of 60 consecutive months (or optionally, 36 consecutive months) when they were highest, contained within the last 120 months of Credited Service.

<sup>2</sup> "Estimated Social Security" means, for an employee covered by Social Security, an employee's estimated OASDI retirement benefit and is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 65 in 2018 - it does not include any amounts which might be payable to an eligible spouse or children.

<sup>3</sup> Amounts are shown to nearest \$1, for simplicity; actual amounts are to nearest 1¢.

# Missouri LAGERS

## Illustrations of Age and Service Allowance Amounts

### For Sample Combinations of Service & Salary

(LT-4(65) Benefit Program is Years of Credited Service  
times: 2.00% of FAS <sup>1</sup> to age 65)  
1.00% of FAS <sup>1</sup> at age 65)

Final Average Salary (FAS) <sup>1</sup>	LAGERS BENEFIT <sup>3</sup>		Estimated Social Security <sup>2</sup>	Estimated Monthly Total		Percent of FAS	
	To 65	At 65		To 65	At 65	To 65	At 65
35 Years of Service:							
\$1,500	\$1,050	\$ 525	\$ 889	\$1,050	\$1,414	70%	94%
2,000	1,400	700	1,032	1,400	1,732	70%	87%
2,500	1,750	875	1,175	1,750	2,050	70%	82%
3,000	2,100	1,050	1,318	2,100	2,368	70%	79%
3,500	2,450	1,225	1,462	2,450	2,687	70%	77%
4,000	2,800	1,400	1,604	2,800	3,004	70%	75%
25 Years of Service:							
\$1,500	\$ 750	\$ 375	\$ 889	\$ 750	\$1,264	50%	84%
2,000	1,000	500	1,032	1,000	1,532	50%	77%
2,500	1,250	625	1,175	1,250	1,800	50%	72%
3,000	1,500	750	1,318	1,500	2,068	50%	69%
3,500	1,750	875	1,462	1,750	2,337	50%	67%
4,000	2,000	1,000	1,604	2,000	2,604	50%	65%
15 Years of Service:							
\$1,500	\$ 450	\$225	\$ 889	\$ 450	\$1,114	30%	74%
2,000	600	300	1,032	600	1,332	30%	67%
2,500	750	375	1,175	750	1,550	30%	62%
3,000	900	450	1,318	900	1,768	30%	59%
3,500	1,050	525	1,462	1,050	1,987	30%	57%
4,000	1,200	600	1,604	1,200	2,204	30%	55%

<sup>1</sup> "Final Average Salary" means the monthly average of an employee's compensation during the period of 60 consecutive months (or optionally, 36 consecutive months) when they were highest, contained within the last 120 months of Credited Service.

<sup>2</sup> "Estimated Social Security" means, for an employee covered by Social Security, an employee's estimated OASDI retirement benefit and is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 65 in 2018 - it does not include any amounts which might be payable to an eligible spouse or children.

<sup>3</sup> Amounts are shown to nearest \$1, for simplicity; actual amounts are to nearest 1¢.

# Missouri LAGERS

## Illustrations of Age and Service Allowance Amounts

### For Sample Combinations of Service & Salary

(LT-5(65) Benefit Program is Years of Credited Service  
times: 2.00% of FAS <sup>1</sup> to age 65)  
1.25% of FAS <sup>1</sup> at age 65)

Final Average Salary (FAS) <sup>1</sup>	LAGERS BENEFIT <sup>3</sup>		Estimated Social Security <sup>2</sup>	Estimated Monthly Total		Percent of FAS	
	To 65	At 65		To 65	At 65	To 65	At 65
35 Years of Service:							
\$1,500	\$1,050	\$ 656	\$ 889	\$1,050	\$1,545	70%	103%
2,000	1,400	875	1,032	1,400	1,907	70%	95%
2,500	1,750	1,094	1,175	1,750	2,269	70%	91%
3,000	2,100	1,313	1,318	2,100	2,631	70%	88%
3,500	2,450	1,531	1,462	2,450	2,993	70%	86%
4,000	2,800	1,750	1,604	2,800	3,354	70%	84%

25 Years of Service:

\$1,500	\$ 750	\$ 469	\$ 889	\$ 750	\$1,358	50%	91%
2,000	1,000	625	1,032	1,000	1,657	50%	83%
2,500	1,250	781	1,175	1,250	1,956	50%	78%
3,000	1,500	938	1,318	1,500	2,256	50%	75%
3,500	1,750	1,094	1,462	1,750	2,556	50%	73%
4,000	2,000	1,250	1,604	2,000	2,854	50%	71%

15 Years of Service:

\$1,500	\$ 450	\$281	\$ 889	\$ 450	\$1,170	30%	78%
2,000	600	375	1,032	600	1,407	30%	70%
2,500	750	469	1,175	750	1,644	30%	66%
3,000	900	563	1,318	900	1,881	30%	63%
3,500	1,050	656	1,462	1,050	2,118	30%	61%
4,000	1,200	750	1,604	1,200	2,354	30%	59%

<sup>1</sup> "Final Average Salary" means the monthly average of an employee's compensation during the period of 60 consecutive months (or optionally, 36 consecutive months) when they were highest, contained within the last 120 months of Credited Service.

<sup>2</sup> "Estimated Social Security" means, for an employee covered by Social Security, an employee's estimated OASDI retirement benefit and is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 65 in 2018 - it does not include any amounts which might be payable to an eligible spouse or children.

<sup>3</sup> Amounts are shown to nearest \$1, for simplicity; actual amounts are to nearest 1¢.

# Missouri LAGERS

## Illustrations of Age and Service Allowance Amounts

### For Sample Combinations of Service & Salary

(LT-8(65) Benefit Program is Years of Credited Service  
times: 2.00% of FAS <sup>1</sup> to age 65)  
1.50% of FAS <sup>1</sup> at age 65)

Final Average Salary (FAS) <sup>1</sup>	LAGERS BENEFIT <sup>3</sup>		Estimated Social Security <sup>2</sup>	Estimated Monthly Total		Percent of FAS	
	To 65	At 65		To 65	At 65	To 65	At 65
35 Years of Service:							
\$1,500	\$1,050	\$ 788	\$ 889	\$1,050	\$1,677	70%	112%
2,000	1,400	1,050	1,032	1,400	2,082	70%	104%
2,500	1,750	1,313	1,175	1,750	2,488	70%	100%
3,000	2,100	1,575	1,318	2,100	2,893	70%	96%
3,500	2,450	1,838	1,462	2,450	3,300	70%	94%
4,000	2,800	2,100	1,604	2,800	3,704	70%	93%
25 Years of Service:							
\$1,500	\$ 750	\$ 563	\$ 889	\$ 750	\$1,452	50%	97%
2,000	1,000	750	1,032	1,000	1,782	50%	89%
2,500	1,250	938	1,175	1,250	2,113	50%	85%
3,000	1,500	1,125	1,318	1,500	2,443	50%	81%
3,500	1,750	1,313	1,462	1,750	2,775	50%	79%
4,000	2,000	1,500	1,604	2,000	3,104	50%	78%
15 Years of Service:							
\$1,500	\$ 450	\$338	\$ 889	\$ 450	\$1,227	30%	82%
2,000	600	450	1,032	600	1,482	30%	74%
2,500	750	563	1,175	750	1,738	30%	70%
3,000	900	675	1,318	900	1,993	30%	66%
3,500	1,050	788	1,462	1,050	2,250	30%	64%
4,000	1,200	900	1,604	1,200	2,504	30%	63%

<sup>1</sup> "Final Average Salary" means the monthly average of an employee's compensation during the period of 60 consecutive months (or optionally, 36 consecutive months) when they were highest, contained within the last 120 months of Credited Service.

<sup>2</sup> "Estimated Social Security" means, for an employee covered by Social Security, an employee's estimated OASDI retirement benefit and is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 65 in 2018 - it does not include any amounts which might be payable to an eligible spouse or children.

<sup>3</sup> Amounts are shown to nearest \$1, for simplicity; actual amounts are to nearest 1¢.

# Missouri LAGERS

## Illustrations of Age and Service Allowance Amounts

### For Sample Combinations of Service & Salary

(LT-14(65) Benefit Program is Years of Credited Service  
times: 2.00% of FAS <sup>1</sup> to age 65)  
1.75% of FAS <sup>1</sup> at age 65)

Final Average Salary (FAS) <sup>1</sup>	LAGERS BENEFIT <sup>3</sup>		Estimated Social Security <sup>2</sup>	Estimated Monthly Total		Percent of FAS	
	To 65	At 65		To 65	At 65	To 65	At 65
35 Years of Service:							
\$1,500	\$1,050	\$ 919	\$ 889	\$1,050	\$1,808	70%	121%
2,000	1,400	1,225	1,032	1,400	2,257	70%	113%
2,500	1,750	1,531	1,175	1,750	2,706	70%	108%
3,000	2,100	1,838	1,318	2,100	3,156	70%	105%
3,500	2,450	2,144	1,462	2,450	3,606	70%	103%
4,000	2,800	2,450	1,604	2,800	4,054	70%	101%

25 Years of Service:

\$1,500	\$ 750	\$ 656	\$ 889	\$ 750	\$1,545	50%	103%
2,000	1,000	875	1,032	1,000	1,907	50%	95%
2,500	1,250	1,094	1,175	1,250	2,269	50%	91%
3,000	1,500	1,313	1,318	1,500	2,631	50%	88%
3,500	1,750	1,531	1,462	1,750	2,993	50%	86%
4,000	2,000	1,750	1,604	2,000	3,354	50%	84%

15 Years of Service:

\$1,500	\$ 450	\$ 394	\$ 889	\$ 450	\$1,283	30%	86%
2,000	600	525	1,032	600	1,557	30%	78%
2,500	750	656	1,175	750	1,831	30%	73%
3,000	900	788	1,318	900	2,106	30%	70%
3,500	1,050	919	1,462	1,050	2,381	30%	68%
4,000	1,200	1,050	1,604	1,200	2,654	30%	66%

<sup>1</sup> "Final Average Salary" means the monthly average of an employee's compensation during the period of 60 consecutive months (or optionally, 36 consecutive months) when they were highest, contained within the last 120 months of Credited Service.

<sup>2</sup> "Estimated Social Security" means, for an employee covered by Social Security, an employee's estimated OASDI retirement benefit and is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 65 in 2018 - it does not include any amounts which might be payable to an eligible spouse or children.

<sup>3</sup> Amounts are shown to nearest \$1, for simplicity; actual amounts are to nearest 1¢.

## **APPENDIX V**

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### **AGE AND SERVICE CHARACTERISTICS OF EMPLOYEES**

# Rock Community Fire Protection District - General

October 31, 2018

## By Attained Age and Years of Service

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
Under 20									
20-24									
25-29									
30-34									
35-39									
40-44									
45-49	1			1				2	\$ 119,641
50-54									
55-59				1				1	\$ 53,570
60-64									
65-69									
70 & Over									
<b>Totals</b>	<b>1</b>			<b>2</b>				<b>3</b>	<b>\$ 173,211</b>

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 52.4 years.

Benefit Service: 0.0 years.

Annual Pay: \$ 57,737.



# Rock Community Fire Protection District - Fire

October 31, 2018

## By Attained Age and Years of Service

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
<b>Under 20</b>									
20-24	2							2	\$ 109,905
25-29	7							7	\$ 378,081
30-34		2	2					4	\$ 273,332
35-39	1		8	1				10	\$ 682,655
40-44			1	5	3			9	\$ 670,424
45-49			1	6	3	1		11	\$ 820,104
50-54	1		1	5	4	2	4	17	\$ 1,412,667
55-59			2		1	1	2	6	\$ 478,740
60-64				1			1	2	\$ 149,398
65-69									
<b>70 &amp; Over</b>									
<b>Totals</b>	<b>11</b>	<b>2</b>	<b>15</b>	<b>18</b>	<b>11</b>	<b>4</b>	<b>7</b>	<b>68</b>	<b>\$ 4,975,306</b>

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 44.2 years.

Benefit Service: 0.0 years.

Annual Pay: \$ 73,166.

December 3, 2018 E-mail

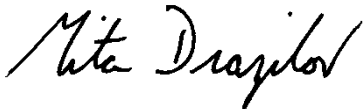
Mr. Robert Wilson, Executive Secretary  
Missouri Local Government  
Employees Retirement System  
P.O. Box 1665  
Jefferson City, Missouri 65102

Dear Bob:

Enclosed is the report of the October 31, 2018 Initial Actuarial Valuation of LAGERS benefits for the employees of

Rock Community Fire Protection District

Sincerely,



Mita D. Drazilov, ASA, FCA, MAAA

MDD:wp