



# The City of Blue Springs

Supplemental Actuarial Valuation of Alternate  
LAGERS Benefits  
February 28, 2018



# Table of Contents

	<b>Page</b>
Actuary's Certification Letter.....	1
Alternate Plan Employer Contribution Rates.....	3
Appendix I	
Summary of Financial Assumptions	
Appendix II	
Summary of LAGERS Provisions	
Appendix III	
Benefit Illustrations	

May 29, 2019

The City of Blue Springs  
Blue Springs, Missouri

Ladies and Gentlemen:

Submitted in this report are the results of an actuarial valuation prepared to determine the employer contribution rates required to support, for your employees, certain 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 changes in LAGERS benefits by a political subdivision (Sections 105.660 - 105.685 RSMo).

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

The contribution requirement to pay for benefits likely to result from service rendered by your employees prior to the valuation date, the liability for which is not covered by present employer account balances, is described in this report as the prior service cost. The prior service cost is the rate of contribution designed to pay for any unfunded actuarial accrued liability.

Section 70.730 of the Revised Statutes of Missouri requires participating employers to contribute the current cost, disability cost, and prior service cost for the benefit plan in effect. These contributions are mandatory.

The actuarial assumptions and methods used to determine the stated costs are described in Appendix I 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. Annual actuarial valuation results for the political subdivision and information pertaining to those results may be found in the political subdivision's annual actuarial valuation report as of February 28, 2018.

The computed contribution rates 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 II and III.

In accordance with 105.675 RSMo, 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 adopt an alternate benefit plan. 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. The statement of cost must also be provided to the Joint Committee on Public Employee Retirement. The statement can be mailed to the State Capitol, Room 219-A, Jefferson City, MO 65101 or e-mailed to [JCPER@senate.mo.gov](mailto:JCPER@senate.mo.gov).

The valuation was based on the same data as was used in your February 28, 2018 annual actuarial valuation. If you have any questions concerning this report or LAGERS in general, please contact the LAGERS office in Jefferson City.

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

Respectfully submitted,



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 that 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 II of this report.

# The City of Blue Springs

## Computed Employer Contribution Rates - General Employees

### As of February 28, 2018

<u>Benefit Plans</u>	<u>Present</u>	<u>Alternate</u>
# Benefit Program:	L-7	L-6
Final Average Salary:	3 year	3 year
Member Contributions:	Non-Contributory	Non-Contributory
Retirement Eligibility:	Regular	Regular

<u>Present Plan</u>	<u>Rates</u>
Current Service Cost	9.0%
Disability Cost	0.3
Prior Service Cost	<u>(3.5)</u>
Total	5.8%
 <u>Alternate Plan</u> 	
Current Service Cost	11.8%
Disability Cost	0.5
Prior Service Cost*	<u>1.2</u>
Total	13.5%
 <b>Increase In Contribution Rate For Alternate Plan</b>	 <u>7.7%</u>

Employer contribution rates shown above are for the fiscal year beginning in 2019. If the alternate plan is adopted prior to the fiscal year beginning in 2019, 7.7% would be added to the employer contribution rate currently in effect.

# Change in provisions from present plan.

\* Adoption of the alternate plan would increase the actuarial accrued liability by \$4,977,112 which was amortized over a 20 year period to compute the increase in the Prior Service Cost.

# The City of Blue Springs

## Projected Estimated Employer Contribution Rates - General Employees

### As of February 28, 2018

Valuation Date Feb. 28	Estimated Projected Payroll	Present Plan			Alternate Plan			Change Due to Proposed Provisions		
		Estimated Employer Contribution		Estimated Difference	Estimated Employer Contribution		Estimated Difference	Estimated Employer Contribution		Estimated Difference
		As a % of Payroll	Annual Dollars	Between AAL and AVA	As a % of Payroll	Annual Dollars	Between AAL and AVA	As a % of Payroll	Annual Dollars	Between AAL and AVA
2018	\$7,652,661	5.8%	\$443,854	\$(2,983,640)	13.5%	\$1,033,109	\$1,993,472	7.7%	\$589,255	\$4,977,112
2019	7,901,372	6.0	474,082	(2,925,314)	13.7	1,082,488	2,038,715	7.7	608,406	4,964,029
2020	8,158,167	6.2	505,806	(2,868,129)	13.9	1,133,985	2,069,717	7.7	628,179	4,937,846
2021	8,423,307	6.3	530,668	(2,812,061)	14.0	1,179,263	2,085,156	7.7	648,595	4,897,217
2022	8,697,064	6.5	565,309	(2,757,090)	14.2	1,234,983	2,083,596	7.7	669,674	4,840,686
2023	8,979,719	6.6	592,661	(2,703,193)	14.3	1,284,100	2,063,488	7.7	691,439	4,766,681
2024	9,271,560	6.8	630,466	(2,650,350)	14.5	1,344,376	2,023,150	7.7	713,910	4,673,500
2025	9,572,886	6.9	660,529	(2,598,540)	14.6	1,397,641	1,960,763	7.7	737,112	4,559,303
2026	9,884,005	7.0	691,880	(2,547,743)	14.7	1,452,949	1,874,361	7.7	761,069	4,422,104
2027	10,205,235	7.1	724,572	(2,497,939)	14.8	1,510,375	1,761,816	7.7	785,803	4,259,755

AAL = Actuarial Accrued Liability  
 AVA = Actuarial Value of Assets

Notes regarding the above projections:

- 1) The purpose of the above projections is to comply with the requirements of Section 105.665 of the Revised Statutes of Missouri (RSMo). The projection results may not be applicable for other purposes.
- 2) For purposes of the above projections, it was assumed that all actuarial assumptions would be realized. In particular, it was assumed that the actuarial value of assets would earn 7.25% in each year.
- 3) Estimated projected payroll is based upon the valuation payroll, increased each future year by 3.25%.
- 4) Due to the estimated nature of the above projections, certain but not all aspects of the Missouri LAGERS funding policy have been incorporated in the above projections.
- 5) Differences between fiscal end dates of the employer and the actuarial valuation date of February 28<sup>th</sup> have not been incorporated in the above results.
- 6) The actual employer contribution rates for future valuation dates will be based upon actual data as of the future valuation date.

Other disclosures required by Section 105.665 of the Revised Statutes of Missouri (RSMo):

- 1) As of February 28, 2018, the actuarial value of assets is \$21,554,501; the estimated market value of assets is \$22,429,241; the actuarial accrued liability is \$18,570,861; and the funded ratio is 116.1%. These results are based on the assets and liabilities associated with the Employer Accumulation Fund and the Member Deposit Fund for this division.
- 2) Under Section 70.730 of the Revised Statutes of Missouri, the computed employer contribution rate shall not exceed the contribution rate for the immediately preceding fiscal year by more than one percent (not including the effects of any benefit changes). As of February 28, 2018, there is no difference between the capped and uncapped employer contribution rate.

# The City of Blue Springs

## Computed Employer Contribution Rates - Police Employees

### As of February 28, 2018

<u>Benefit Plans</u>	<u>Present</u>	<u>Alternate</u>
# Benefit Program:	L-7	L-6
Final Average Salary:	3 year	3 year
Member Contributions:	Non-Contributory	Non-Contributory
Retirement Eligibility:	Regular	Regular

<u>Present Plan</u>	<u>Rates</u>
Current Service Cost	9.2%
Disability Cost	0.6
Prior Service Cost	<u>(2.6)</u>
Total	7.2%
 <u>Alternate Plan</u> 	
Current Service Cost	12.2%
Disability Cost	0.8
Prior Service Cost*	<u>3.3</u>
Total	16.3%
 <b>Increase In Contribution Rate For Alternate Plan</b>	 <u><b>9.1%</b></u>

Employer contribution rates shown above are for the fiscal year beginning in 2019. If the alternate plan is adopted prior to the fiscal year beginning in 2019, 9.1% would be added to the employer contribution rate currently in effect.

# Change in provisions from present plan.

\* Adoption of the alternate plan would increase the actuarial accrued liability by \$4,699,977 which was amortized over a 20 year period to compute the increase in the Prior Service Cost.



# The City of Blue Springs

## Projected Estimated Employer Contribution Rates - Police Employees

### As of February 28, 2018

Valuation Date Feb. 28	Estimated Projected Payroll	Present Plan			Alternate Plan			Change Due to Proposed Provisions		
		Estimated Employer Contribution		Estimated Difference Between AAL and AVA	Estimated Employer Contribution		Estimated Difference Between AAL and AVA	Estimated Employer Contribution		Estimated Difference Between AAL and AVA
		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars	
2018	\$5,779,939	7.2%	\$416,156	\$(1,723,327)	16.3%	\$942,130	\$2,976,650	9.1%	\$525,974	\$4,699,977
2019	5,967,787	7.3	435,648	(1,689,639)	16.4	978,717	2,997,984	9.1	543,069	4,687,623
2020	6,161,740	7.4	455,969	(1,656,609)	16.5	1,016,687	3,006,288	9.1	560,718	4,662,897
2021	6,361,997	7.5	477,150	(1,624,225)	16.6	1,056,092	3,000,305	9.1	578,942	4,624,530
2022	6,568,762	7.6	499,226	(1,592,474)	16.7	1,096,983	2,978,674	9.1	597,757	4,571,148
2023	6,782,247	7.8	529,015	(1,561,344)	16.9	1,146,200	2,939,920	9.1	617,185	4,501,264
2024	7,002,670	7.9	553,211	(1,530,822)	17.0	1,190,454	2,882,449	9.1	637,243	4,413,271
2025	7,230,257	8.0	578,421	(1,500,897)	17.1	1,236,374	2,804,536	9.1	657,953	4,305,433
2026	7,465,240	8.0	597,219	(1,471,557)	17.1	1,276,556	2,704,316	9.1	679,337	4,175,873
2027	7,707,860	8.1	624,337	(1,442,790)	17.2	1,325,752	2,579,774	9.1	701,415	4,022,564

AAL = Actuarial Accrued Liability  
 AVA = Actuarial Value of Assets

Notes regarding the above projections:

- 1) The purpose of the above projections is to comply with the requirements of Section 105.665 of the Revised Statutes of Missouri (RSMo). The projection results may not be applicable for other purposes.
- 2) For purposes of the above projections, it was assumed that all actuarial assumptions would be realized. In particular, it was assumed that the actuarial value of assets would earn 7.25% in each year.
- 3) Estimated projected payroll is based upon the valuation payroll, increased each future year by 3.25%.
- 4) Due to the estimated nature of the above projections, certain but not all aspects of the Missouri LAGERS funding policy have been incorporated in the above projections.
- 5) Differences between fiscal end dates of the employer and the actuarial valuation date of February 28<sup>th</sup> have not been incorporated in the above results.
- 6) The actual employer contribution rates for future valuation dates will be based upon actual data as of the future valuation date.

Other disclosures required by Section 105.665 of the Revised Statutes of Missouri (RSMo):

- 1) As of February 28, 2018, the actuarial value of assets is \$17,181,653; the estimated market value of assets is \$17,878,931; the actuarial accrued liability is \$15,458,326; and the funded ratio is 111.1%. These results are based on the assets and liabilities associated with the Employer Accumulation Fund and the Member Deposit Fund for this division.
- 2) Under Section 70.730 of the Revised Statutes of Missouri, the computed employer contribution rate shall not exceed the contribution rate for the immediately preceding fiscal year by more than one percent (not including the effects of any benefit changes). As of February 28, 2018, there is no difference between the capped and uncapped employer contribution rate.

# The City of Blue Springs

## Computed Employer Contribution Rates - General Employees

### As of February 28, 2018

<u>Benefit Plans</u>	<u>Present</u>	<u>Alternate</u>
# Benefit Program:	L-7	L-6
Final Average Salary:	3 year	3 year
# Member Contributions:	Non-Contributory	Contributory
Retirement Eligibility:	Regular	Regular

<u>Present Plan</u>	<u>Rates</u>
Current Service Cost	9.0%
Disability Cost	0.3
Prior Service Cost	<u>(3.5)</u>
Total	5.8%
 <u>Alternate Plan</u> 	
Current Service Cost	8.3%
Disability Cost	0.5
Prior Service Cost*	<u>0.8</u>
Total	9.6%
 <b>Increase In Contribution Rate For Alternate Plan</b>	 <u><b>3.8%</b></u>

Employer contribution rates shown above are for the fiscal year beginning in 2019. If the alternate plan is adopted prior to the fiscal year beginning in 2019, 3.8% would be added to the employer contribution rate currently in effect.

# Change in provisions from present plan.

\* Adoption of the alternate plan would increase the actuarial accrued liability by \$4,555,346 which was amortized over a 20 year period to compute the increase in the Prior Service Cost.

# The City of Blue Springs

## Projected Estimated Employer Contribution Rates - General Employees

### As of February 28, 2018

Valuation Date Feb. 28	Estimated Projected Payroll	Present Plan			Alternate Plan			Change Due to Proposed Provisions		
		Estimated Employer Contribution		Estimated Difference	Estimated Employer Contribution		Estimated Difference	Estimated Employer Contribution		Estimated Difference
		As a % of Payroll	Annual Dollars	Between AAL and AVA	As a % of Payroll	Annual Dollars	Between AAL and AVA	As a % of Payroll	Annual Dollars	Between AAL and AVA
2018	\$7,652,661	5.8%	\$443,854	\$(2,983,640)	9.6%	\$734,655	\$1,571,706	3.8%	\$290,801	\$4,555,346
2019	7,901,372	6.0	474,082	(2,925,314)	9.8	774,334	1,618,058	3.8	300,252	4,543,372
2020	8,158,167	6.2	505,806	(2,868,129)	10.0	815,817	1,651,278	3.8	310,011	4,519,407
2021	8,423,307	6.3	530,668	(2,812,061)	10.1	850,754	1,670,160	3.8	320,086	4,482,221
2022	8,697,064	6.5	565,309	(2,757,090)	10.3	895,798	1,673,391	3.8	330,489	4,430,481
2023	8,979,719	6.6	592,661	(2,703,193)	10.4	933,891	1,659,555	3.8	341,230	4,362,748
2024	9,271,560	6.8	630,466	(2,650,350)	10.6	982,785	1,627,112	3.8	352,319	4,277,462
2025	9,572,886	6.9	660,529	(2,598,540)	10.7	1,024,299	1,574,403	3.8	363,770	4,172,943
2026	9,884,005	7.0	691,880	(2,547,743)	10.8	1,067,473	1,499,627	3.8	375,593	4,047,370
2027	10,205,235	7.1	724,572	(2,497,939)	10.9	1,112,371	1,400,840	3.8	387,799	3,898,779

AAL = Actuarial Accrued Liability  
 AVA = Actuarial Value of Assets

Notes regarding the above projections:

- 1) The purpose of the above projections is to comply with the requirements of Section 105.665 of the Revised Statutes of Missouri (RSMo). The projection results may not be applicable for other purposes.
- 2) For purposes of the above projections, it was assumed that all actuarial assumptions would be realized. In particular, it was assumed that the actuarial value of assets would earn 7.25% in each year.
- 3) Estimated projected payroll is based upon the valuation payroll, increased each future year by 3.25%.
- 4) Due to the estimated nature of the above projections, certain but not all aspects of the Missouri LAGERS funding policy have been incorporated in the above projections.
- 5) Differences between fiscal end dates of the employer and the actuarial valuation date of February 28<sup>th</sup> have not been incorporated in the above results.
- 6) The actual employer contribution rates for future valuation dates will be based upon actual data as of the future valuation date.

Other disclosures required by Section 105.665 of the Revised Statutes of Missouri (RSMo):

- 1) As of February 28, 2018, the actuarial value of assets is \$21,554,501; the estimated market value of assets is \$22,429,241; the actuarial accrued liability is \$18,570,861; and the funded ratio is 116.1%. These results are based on the assets and liabilities associated with the Employer Accumulation Fund and the Member Deposit Fund for this division.
- 2) Under Section 70.730 of the Revised Statutes of Missouri, the computed employer contribution rate shall not exceed the contribution rate for the immediately preceding fiscal year by more than one percent (not including the effects of any benefit changes). As of February 28, 2018, there is no difference between the capped and uncapped employer contribution rate.

# The City of Blue Springs

## Computed Employer Contribution Rates - Police Employees

### As of February 28, 2018

<u>Benefit Plans</u>	<u>Present</u>	<u>Alternate</u>
# Benefit Program:	L-7	L-6
Final Average Salary:	3 year	3 year
# Member Contributions:	Non-Contributory	Contributory
Retirement Eligibility:	Regular	Regular

<u>Present Plan</u>	<u>Rates</u>
Current Service Cost	9.2%
Disability Cost	0.6
Prior Service Cost	<u>(2.6)</u>
Total	7.2%
 <u>Alternate Plan</u> 	
Current Service Cost	8.8%
Disability Cost	0.8
Prior Service Cost*	<u>2.8</u>
Total	12.4%
 <b>Increase In Contribution Rate For Alternate Plan</b>	 <u>5.2%</u>

Employer contribution rates shown above are for the fiscal year beginning in 2019. If the alternate plan is adopted prior to the fiscal year beginning in 2019, 5.2% would be added to the employer contribution rate currently in effect.

# Change in provisions from present plan.

\* Adoption of the alternate plan would increase the actuarial accrued liability by \$4,271,185 which was amortized over a 20 year period to compute the increase in the Prior Service Cost.

# The City of Blue Springs

## Projected Estimated Employer Contribution Rates - Police Employees

### As of February 28, 2018

Valuation Date Feb. 28	Estimated Projected Payroll	Present Plan			Alternate Plan			Change Due to Proposed Provisions		
		Estimated Employer Contribution		Estimated Difference Between AAL and AVA	Estimated Employer Contribution		Estimated Difference Between AAL and AVA	Estimated Employer Contribution		Estimated Difference Between AAL and AVA
		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars	
2018	\$5,779,939	7.2%	\$416,156	\$(1,723,327)	12.4%	\$716,712	\$2,547,858	5.2%	\$300,556	\$4,271,185
2019	5,967,787	7.3	435,648	(1,689,639)	12.5	745,973	2,570,319	5.2	310,325	4,259,958
2020	6,161,740	7.4	455,969	(1,656,609)	12.6	776,379	2,580,879	5.2	320,410	4,237,488
2021	6,361,997	7.5	477,150	(1,624,225)	12.7	807,974	2,578,396	5.2	330,824	4,202,621
2022	6,568,762	7.6	499,226	(1,592,474)	12.8	840,802	2,561,635	5.2	341,576	4,154,109
2023	6,782,247	7.8	529,015	(1,561,344)	13.0	881,692	2,529,257	5.2	352,677	4,090,601
2024	7,002,670	7.9	553,211	(1,530,822)	13.1	917,350	2,479,814	5.2	364,139	4,010,636
2025	7,230,257	8.0	578,421	(1,500,897)	13.2	954,394	2,411,739	5.2	375,973	3,912,636
2026	7,465,240	8.0	597,219	(1,471,557)	13.2	985,412	2,323,339	5.2	388,193	3,794,896
2027	7,707,860	8.1	624,337	(1,442,790)	13.3	1,025,145	2,212,785	5.2	400,808	3,655,575

AAL = Actuarial Accrued Liability  
 AVA = Actuarial Value of Assets

Notes regarding the above projections:

- 1) The purpose of the above projections is to comply with the requirements of Section 105.665 of the Revised Statutes of Missouri (RSMo). The projection results may not be applicable for other purposes.
- 2) For purposes of the above projections, it was assumed that all actuarial assumptions would be realized. In particular, it was assumed that the actuarial value of assets would earn 7.25% in each year.
- 3) Estimated projected payroll is based upon the valuation payroll, increased each future year by 3.25%.
- 4) Due to the estimated nature of the above projections, certain but not all aspects of the Missouri LAGERS funding policy have been incorporated in the above projections.
- 5) Differences between fiscal end dates of the employer and the actuarial valuation date of February 28<sup>th</sup> have not been incorporated in the above results.
- 6) The actual employer contribution rates for future valuation dates will be based upon actual data as of the future valuation date.

Other disclosures required by Section 105.665 of the Revised Statutes of Missouri (RSMo):

- 1) As of February 28, 2018, the actuarial value of assets is \$17,181,653; the estimated market value of assets is \$17,878,931; the actuarial accrued liability is \$15,458,326; and the funded ratio is 111.1%. These results are based on the assets and liabilities associated with the Employer Accumulation Fund and the Member Deposit Fund for this division.
- 2) Under Section 70.730 of the Revised Statutes of Missouri, the computed employer contribution rate shall not exceed the contribution rate for the immediately preceding fiscal year by more than one percent (not including the effects of any benefit changes). As of February 28, 2018, there is no difference between the capped and uncapped employer contribution rate.

## **APPENDIX I**

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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 7.25% 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 3.25% 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
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

Percent Increase in Individual's Pay During Next Year		
Sample Ages	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 Ages	General Members		Retirement Ages	Police	Fire
	Men	Women			
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 Ages	General Members		Retirement Ages	Police	Fire
	Men	Women			
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 II**

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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-9 Benefit Program:	1.60% 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-10(65) Benefit Program:	1.60% for life, plus 0.40% 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 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 otherwise 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 III**

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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. The benefit 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. The benefit 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. The benefit 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-9 Benefit Program is Years of Credited Service times: 1.60% 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	\$ 840	\$ 889	\$1,729	115%
2,000	1,120	1,032	2,152	108%
2,500	1,400	1,175	2,575	103%
3,000	1,680	1,318	2,998	100%
3,500	1,960	1,462	3,422	98%
4,000	2,240	1,604	3,844	96%
25 Years of Service:				
\$1,500	\$ 600	\$ 889	\$1,489	99%
2,000	800	1,032	1,832	92%
2,500	1,000	1,175	2,175	87%
3,000	1,200	1,318	2,518	84%
3,500	1,400	1,462	2,862	82%
4,000	1,600	1,604	3,204	80%
15 Years of Service:				
\$1,500	\$360	\$ 889	\$1,249	83%
2,000	480	1,032	1,512	76%
2,500	600	1,175	1,775	71%
3,000	720	1,318	2,038	68%
3,500	840	1,462	2,302	66%
4,000	960	1,604	2,564	64%

<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. The benefit 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. The benefit 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
<b>35 Years of Service:</b>				
\$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%
<b>25 Years of Service:</b>				
\$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%
<b>15 Years of Service:</b>				
\$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. The benefit 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-11 Benefit Program is Years of Credited Service  
times: 2.50% 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	\$1,313		\$1,313	88%
2,000	1,750		1,750	88%
2,500	2,188		2,188	88%
3,000	2,625		2,625	88%
3,500	3,063		3,063	88%
4,000	3,500		3,500	88%
25 Years of Service:				
\$1,500	\$ 938		\$ 938	63%
2,000	1,250		1,250	63%
2,500	1,563		1,563	63%
3,000	1,875		1,875	63%
3,500	2,188		2,188	63%
4,000	2,500		2,500	63%
15 Years of Service:				
\$1,500	\$ 563		\$ 563	38%
2,000	750		750	38%
2,500	938		938	38%
3,000	1,125		1,125	38%
3,500	1,313		1,313	38%
4,000	1,500		1,500	38%

<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. The benefit 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(62) Benefit Program is Years of Credited Service times: 2.00% of FAS<sup>1</sup> to age 62) 1.00% of FAS<sup>1</sup> at age 62)

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 62	At 62		To 62	At 62	To 62	At 62
35 Years of Service:							
\$1,500	\$1,050	\$ 525	\$ 737	\$1,050	\$1,262	70%	84%
2,000	1,400	700	855	1,400	1,555	70%	78%
2,500	1,750	875	973	1,750	1,848	70%	74%
3,000	2,100	1,050	1,091	2,100	2,141	70%	71%
3,500	2,450	1,225	1,209	2,450	2,434	70%	70%
4,000	2,800	1,400	1,327	2,800	2,727	70%	68%
25 Years of Service:							
\$1,500	\$ 750	\$ 375	\$ 737	\$ 750	\$1,112	50%	74%
2,000	1,000	500	855	1,000	1,355	50%	68%
2,500	1,250	625	973	1,250	1,598	50%	64%
3,000	1,500	750	1,091	1,500	1,841	50%	61%
3,500	1,750	875	1,209	1,750	2,084	50%	60%
4,000	2,000	1,000	1,327	2,000	2,327	50%	58%
15 Years of Service:							
\$1,500	\$ 450	\$225	\$ 737	\$ 450	\$ 962	30%	64%
2,000	600	300	855	600	1,155	30%	58%
2,500	750	375	973	750	1,348	30%	54%
3,000	900	450	1,091	900	1,541	30%	51%
3,500	1,050	525	1,209	1,050	1,734	30%	50%
4,000	1,200	600	1,327	1,200	1,927	30%	48%

<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. The benefit is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 62 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. The benefit 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(62) Benefit Program is Years of Credited Service**  
**times: 2.00% of FAS <sup>1</sup> to age 62)**  
**1.25% of FAS <sup>1</sup> at age 62)**

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 62	At 62		To 62	At 62	To 62	At 62
35 Years of Service:							
\$1,500	\$1,050	\$ 656	\$ 737	\$1,050	\$1,393	70%	93%
2,000	1,400	875	855	1,400	1,730	70%	87%
2,500	1,750	1,094	973	1,750	2,067	70%	83%
3,000	2,100	1,313	1,091	2,100	2,404	70%	80%
3,500	2,450	1,531	1,209	2,450	2,740	70%	78%
4,000	2,800	1,750	1,327	2,800	3,077	70%	77%
25 Years of Service:							
\$1,500	\$ 750	\$ 469	\$ 737	\$ 750	\$1,206	50%	80%
2,000	1,000	625	855	1,000	1,480	50%	74%
2,500	1,250	781	973	1,250	1,754	50%	70%
3,000	1,500	938	1,091	1,500	2,029	50%	68%
3,500	1,750	1,094	1,209	1,750	2,303	50%	66%
4,000	2,000	1,250	1,327	2,000	2,577	50%	64%
15 Years of Service:							
\$1,500	\$ 450	\$281	\$ 737	\$ 450	\$1,018	30%	68%
2,000	600	375	855	600	1,230	30%	62%
2,500	750	469	973	750	1,442	30%	58%
3,000	900	563	1,091	900	1,654	30%	55%
3,500	1,050	656	1,209	1,050	1,865	30%	53%
4,000	1,200	750	1,327	1,200	2,077	30%	52%

<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. The benefit is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 62 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. The benefit 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(62) Benefit Program is Years of Credited Service  
times: 2.00% of FAS <sup>1</sup> to age 62)  
1.50% of FAS <sup>1</sup> at age 62)

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 62	At 62		To 62	At 62	To 62	At 62
35 Years of Service:							
\$1,500	\$1,050	\$ 788	\$ 737	\$1,050	\$1,525	70%	102%
2,000	1,400	1,050	855	1,400	1,905	70%	95%
2,500	1,750	1,313	973	1,750	2,286	70%	91%
3,000	2,100	1,575	1,091	2,100	2,666	70%	89%
3,500	2,450	1,838	1,209	2,450	3,047	70%	87%
4,000	2,800	2,100	1,327	2,800	3,427	70%	86%
25 Years of Service:							
\$1,500	\$ 750	\$ 563	\$ 737	\$ 750	\$1,300	50%	87%
2,000	1,000	750	855	1,000	1,605	50%	80%
2,500	1,250	938	973	1,250	1,911	50%	76%
3,000	1,500	1,125	1,091	1,500	2,216	50%	74%
3,500	1,750	1,313	1,209	1,750	2,522	50%	72%
4,000	2,000	1,500	1,327	2,000	2,827	50%	71%
15 Years of Service:							
\$1,500	\$ 450	\$338	\$ 737	\$ 450	\$1,075	30%	72%
2,000	600	450	855	600	1,305	30%	65%
2,500	750	563	973	750	1,536	30%	61%
3,000	900	675	1,091	900	1,766	30%	59%
3,500	1,050	788	1,209	1,050	1,997	30%	57%
4,000	1,200	900	1,327	1,200	2,227	30%	56%

<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. The benefit is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 62 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. The benefit 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-10(65) Benefit Program is Years of Credited Service**  
**times: 2.00% of FAS<sup>1</sup> to age 65)**  
**1.60% 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	\$ 840	\$ 889	\$1,050	\$1,729	70%	115%
2,000	1,400	1,120	1,032	1,400	2,152	70%	108%
2,500	1,750	1,400	1,175	1,750	2,575	70%	103%
3,000	2,100	1,680	1,318	2,100	2,998	70%	100%
3,500	2,450	1,960	1,462	2,450	3,422	70%	98%
4,000	2,800	2,240	1,604	2,800	3,844	70%	96%
25 Years of Service:							
\$1,500	\$750	\$ 600	\$ 889	\$ 750	\$1,489	50%	99%
2,000	1,000	800	1,032	1,000	1,832	50%	92%
2,500	1,250	1,000	1,175	1,250	2,175	50%	87%
3,000	1,500	1,200	1,318	1,500	2,518	50%	84%
3,500	1,750	1,400	1,462	1,750	2,862	50%	82%
4,000	2,000	1,600	1,604	2,000	3,204	50%	80%
15 Years of Service:							
\$1,500	\$ 450	\$360	\$ 889	\$ 450	\$1,249	30%	83%
2,000	600	480	1,032	600	1,512	30%	76%
2,500	750	600	1,175	750	1,775	30%	71%
3,000	900	720	1,318	900	2,038	30%	68%
3,500	1,050	840	1,462	1,050	2,302	30%	66%
4,000	1,200	960	1,604	1,200	2,564	30%	64%

<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. The benefit 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. The benefit 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¢.



May 29, 2019 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 February 28, 2018 Supplemental Actuarial Valuation of LAGERS benefits for the employees of:

The City of Blue Springs

Sincerely,

A handwritten signature in black ink that reads "Mita Drazilov". The signature is written in a cursive, flowing style.

Mita D. Drazilov, ASA, FCA, MAAA

MDD:rmg

Enclosure