



The Initial Valuation For
City of Bates City
as of January 31, 2020



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March 18, 2020

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

This report was prepared at the request of the political subdivision and is intended for use by the political subdivision and those designated or approved by the political subdivision. This report may be provided to parties other than the political subdivision only in its entirety and only with the permission of the political subdivision. GRS is not responsible for unauthorized use of this report.

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, 2019.

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. This valuation assumed the ability of the plan sponsor to make the contributions necessary to fund this plan. A determination regarding whether or not the plan sponsor is actually able to do so is outside our expertise and not performed. 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 January 31, 2020. The valuation was based on data furnished from your records concerning individual employees (see Appendix V).

This report includes risk commentary in Appendix VI, but does not include a more robust assessment of the risks of future experience not meeting the actuarial assumptions. Additional assessment of risks was outside the scope of this assignment.

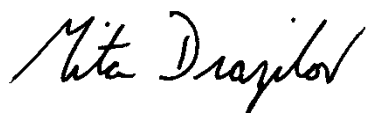
If you have any questions concerning this report or LAGERS in general, please contact the LAGERS office in Jefferson City.

This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. To the best of our knowledge the information contained in this report is accurate and fairly presents the actuarial position of the political subdivision as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices, with the actuarial standards of practice issued by the Actuarial Standards Board, and with applicable statutes.

Mita D. 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 contained herein.

The signing actuary is independent of the plan sponsor.

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 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.

City of Bates City

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	0.10%	3.70%	0.20%	4.00%
	Police	0.00	5.00	0.40	5.40
L-3	General	0.20	5.20	0.30	5.70
	Police	0.00	6.90	0.50	7.40
LT-4(65)	General	0.10	4.30	0.20	4.60
	Police	0.00	6.80	0.40	7.20
LT-5(65)	General	0.20	5.70	0.30	6.20
	Police	0.00	8.20	0.50	8.70
L-7	General	0.20	6.70	0.30	7.20
	Police	0.00	8.80	0.60	9.40
LT-8(65)	General	0.20	7.10	0.30	7.60
	Police	0.00	9.70	0.60	10.30
L-12	General	0.30	8.30	0.40	9.00
	Police	0.00	10.80	0.70	11.50
LT-14(65)	General	0.30	8.40	0.40	9.10
	Police	0.00	11.20	0.70	11.90
L-6	General	0.30	9.80	0.50	10.60
	Police	0.00	12.70	0.80	13.50

* Assumes that credit is granted for 100% of service rendered prior to the membership date for employees working in a covered position on the membership date and employed continuously in a covered position for one year with this employer. If the governing body wishes to elect one of the lesser percents allowed by law -- 75%, 50%, or 25% -- the prior service cost will be reduced. An additional actuarial valuation will need to be performed to determine the employer contribution rate.

City of Bates City

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			Total Employer Contribution Rate
		Prior Service Cost *	Current Cost	Disability Cost	
L-1	General	0.10%	3.90%	0.20%	4.20%
	Police	0.00	5.30	0.40	5.70
L-3	General	0.20	5.50	0.30	6.00
	Police	0.00	7.30	0.50	7.80
LT-4(65)	General	0.20	4.60	0.20	5.00
	Police	0.00	7.10	0.40	7.50
LT-5(65)	General	0.20	6.00	0.30	6.50
	Police	0.00	8.60	0.50	9.10
L-7	General	0.20	7.00	0.30	7.50
	Police	0.00	9.30	0.60	9.90
LT-8(65)	General	0.20	7.40	0.30	7.90
	Police	0.00	10.20	0.60	10.80
L-12	General	0.30	8.60	0.40	9.30
	Police	0.00	11.20	0.70	11.90
LT-14(65)	General	0.30	8.80	0.40	9.50
	Police	0.00	11.70	0.70	12.40
L-6	General	0.30	10.20	0.50	11.00
	Police	0.00	13.20	0.80	14.00

* Assumes that credit is granted for 100% of service rendered prior to the membership date for employees working in a covered position on the membership date and employed continuously in a covered position for one year with this employer. If the governing body wishes to elect one of the lesser percents allowed by law -- 75%, 50%, or 25% -- the prior service cost will be reduced. An additional actuarial valuation will need to be performed to determine the employer contribution rate.

City of Bates City

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	0.20%	7.20%	0.20%	7.60%
	Police	0.00	8.60	0.40	9.00
L-3	General	0.20	8.80	0.30	9.30
	Police	0.00	10.60	0.50	11.10
LT-4(65)	General	0.20	7.90	0.20	8.30
	Police	0.00	10.40	0.40	10.80
LT-5(65)	General	0.20	9.30	0.30	9.80
	Police	0.00	11.90	0.50	12.40
L-7	General	0.30	10.40	0.30	11.00
	Police	0.00	12.50	0.60	13.10
LT-8(65)	General	0.30	10.70	0.30	11.30
	Police	0.00	13.40	0.60	14.00
L-12	General	0.30	11.90	0.40	12.60
	Police	0.00	14.50	0.70	15.20
LT-14(65)	General	0.30	12.10	0.40	12.80
	Police	0.00	14.90	0.70	15.60
L-6	General	0.40	13.50	0.50	14.40
	Police	0.00	16.40	0.80	17.20

* Assumes that credit is granted for 100% of service rendered prior to the membership date for employees working in a covered position on the membership date and employed continuously in a covered position for one year with this employer. If the governing body wishes to elect one of the lesser percents allowed by law -- 75%, 50%, or 25% -- the prior service cost will be reduced. An additional actuarial valuation will need to be performed to determine the employer contribution rate.

City of Bates City

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	0.20%	7.40%	0.20%	7.80%
	Police	0.00	8.90	0.40	9.30
L-3	General	0.20	9.10	0.30	9.60
	Police	0.00	10.90	0.50	11.40
LT-4(65)	General	0.20	8.10	0.20	8.50
	Police	0.00	10.80	0.40	11.20
LT-5(65)	General	0.20	9.60	0.30	10.10
	Police	0.00	12.30	0.50	12.80
L-7	General	0.30	10.70	0.30	11.30
	Police	0.00	12.90	0.60	13.50
LT-8(65)	General	0.30	11.10	0.30	11.70
	Police	0.00	13.90	0.60	14.50
L-12	General	0.30	12.30	0.40	13.00
	Police	0.00	15.00	0.70	15.70
LT-14(65)	General	0.30	12.50	0.40	13.20
	Police	0.00	15.40	0.70	16.10
L-6	General	0.40	14.00	0.50	14.90
	Police	0.00	17.00	0.80	17.80

* Assumes that credit is granted for 100% of service rendered prior to the membership date for employees working in a covered position on the membership date and employed continuously in a covered position for one year with this employer. If the governing body wishes to elect one of the lesser percents allowed by law -- 75%, 50%, or 25% -- the prior service cost will be reduced. An additional actuarial valuation will need to be performed to determine the employer contribution rate.

City of Bates City

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	0.10%	3.80%	0.20%	4.10%
	Police	0.00	5.00	0.40	5.40
L-3	General	0.20	5.40	0.30	5.90
	Police	0.00	6.90	0.50	7.40
LT-4(65)	General	0.20	4.60	0.20	5.00
	Police	0.00	6.80	0.40	7.20
LT-5(65)	General	0.20	6.00	0.30	6.50
	Police	0.00	8.20	0.50	8.70
L-7	General	0.20	6.90	0.30	7.40
	Police	0.00	8.80	0.60	9.40
LT-8(65)	General	0.20	7.30	0.30	7.80
	Police	0.00	9.70	0.60	10.30
L-12	General	0.30	8.50	0.40	9.20
	Police	0.00	10.80	0.70	11.50
LT-14(65)	General	0.30	8.70	0.40	9.40
	Police	0.00	11.20	0.70	11.90
L-6	General	0.30	10.00	0.50	10.80
	Police	0.00	12.70	0.80	13.50

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.

* Assumes that credit is granted for 100% of service rendered prior to the membership date for employees working in a covered position on the membership date and employed continuously in a covered position for one year with this employer. If the governing body wishes to elect one of the lesser percents allowed by law -- 75%, 50%, or 25% -- the prior service cost will be reduced. An additional actuarial valuation will need to be performed to determine the employer contribution rate.

City of Bates City

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	0.10%	4.00%	0.20%	4.30%
	Police	0.00	5.30	0.40	5.70
L-3	General	0.20	5.60	0.30	6.10
	Police	0.00	7.30	0.50	7.80
LT-4(65)	General	0.20	4.90	0.20	5.30
	Police	0.00	7.10	0.40	7.50
LT-5(65)	General	0.20	6.30	0.30	6.80
	Police	0.00	8.60	0.50	9.10
L-7	General	0.20	7.20	0.30	7.70
	Police	0.00	9.30	0.60	9.90
LT-8(65)	General	0.30	7.70	0.30	8.30
	Police	0.00	10.20	0.60	10.80
L-12	General	0.30	8.90	0.40	9.60
	Police	0.00	11.20	0.70	11.90
LT-14(65)	General	0.30	9.10	0.40	9.80
	Police	0.00	11.70	0.70	12.40
L-6	General	0.30	10.50	0.50	11.30
	Police	0.00	13.20	0.80	14.00

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.

* Assumes that credit is granted for 100% of service rendered prior to the membership date for employees working in a covered position on the membership date and employed continuously in a covered position for one year with this employer. If the governing body wishes to elect one of the lesser percents allowed by law -- 75%, 50%, or 25% -- the prior service cost will be reduced. An additional actuarial valuation will need to be performed to determine the employer contribution rate.

City of Bates City

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	0.20%	7.30%	0.20%	7.70%
	Police	0.00	8.60	0.40	9.00
L-3	General	0.20	9.00	0.30	9.50
	Police	0.00	10.60	0.50	11.10
LT-4(65)	General	0.20	8.20	0.20	8.60
	Police	0.00	10.40	0.40	10.80
LT-5(65)	General	0.30	9.60	0.30	10.20
	Police	0.00	11.90	0.50	12.40
L-7	General	0.30	10.60	0.30	11.20
	Police	0.00	12.50	0.60	13.10
LT-8(65)	General	0.30	11.00	0.30	11.60
	Police	0.00	13.40	0.60	14.00
L-12	General	0.30	12.20	0.40	12.90
	Police	0.00	14.50	0.70	15.20
LT-14(65)	General	0.30	12.40	0.40	13.10
	Police	0.00	14.90	0.70	15.60
L-6	General	0.40	13.80	0.50	14.70
	Police	0.00	16.40	0.80	17.20

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.

* Assumes that credit is granted for 100% of service rendered prior to the membership date for employees working in a covered position on the membership date and employed continuously in a covered position for one year with this employer. If the governing body wishes to elect one of the lesser percents allowed by law -- 75%, 50%, or 25% -- the prior service cost will be reduced. An additional actuarial valuation will need to be performed to determine the employer contribution rate.

City of Bates City

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	0.20%	7.60%	0.20%	8.00%
	Police	0.00	8.90	0.40	9.30
L-3	General	0.20	9.20	0.30	9.70
	Police	0.00	10.90	0.50	11.40
LT-4(65)	General	0.20	8.50	0.20	8.90
	Police	0.00	10.80	0.40	11.20
LT-5(65)	General	0.30	9.90	0.30	10.50
	Police	0.00	12.30	0.50	12.80
L-7	General	0.30	10.90	0.30	11.50
	Police	0.00	12.90	0.60	13.50
LT-8(65)	General	0.30	11.30	0.30	11.90
	Police	0.00	13.90	0.60	14.50
L-12	General	0.30	12.60	0.40	13.30
	Police	0.00	15.00	0.70	15.70
LT-14(65)	General	0.30	12.80	0.40	13.50
	Police	0.00	15.40	0.70	16.10
L-6	General	0.40	14.20	0.50	15.10
	Police	0.00	17.00	0.80	17.80

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.

* Assumes that credit is granted for 100% of service rendered prior to the membership date for employees working in a covered position on the membership date and employed continuously in a covered position for one year with this employer. If the governing body wishes to elect one of the lesser percents allowed by law -- 75%, 50%, or 25% -- the prior service cost will be reduced. An additional actuarial valuation will need to be performed to determine the employer contribution rate.

City of Bates City

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

5 Year FAS		
Benefit Program	General	Police
L-1	\$ 2,400	\$ 2,134
L-3	3,420	2,924
LT-4(65)	2,760	2,845
LT-5(65)	3,720	3,438
L-7	4,321	3,715
LT-8(65)	4,561	4,071
L-12	5,401	4,545
LT-14(65)	5,461	4,703
L-6	6,361	5,335

3 Year FAS		
Benefit Program	General	Police
L-1	\$ 2,520	\$ 2,253
L-3	3,600	3,083
LT-4(65)	3,000	2,964
LT-5(65)	3,901	3,596
L-7	4,501	3,912
LT-8(65)	4,741	4,268
L-12	5,581	4,703
LT-14(65)	5,701	4,900
L-6	6,601	5,533

Non-Contributory Plan

5 Year FAS		
Benefit Program	General	Police
L-1	\$ 4,561	\$ 3,557
L-3	5,581	4,387
LT-4(65)	4,981	4,268
LT-5(65)	5,881	4,900
L-7	6,601	5,177
LT-8(65)	6,781	5,533
L-12	7,561	6,007
LT-14(65)	7,681	6,165
L-6	8,641	6,797

3 Year FAS		
Benefit Program	General	Police
L-1	\$ 4,681	\$ 3,675
L-3	5,761	4,505
LT-4(65)	5,101	4,426
LT-5(65)	6,061	5,059
L-7	6,781	5,335
LT-8(65)	7,021	5,730
L-12	7,801	6,205
LT-14(65)	7,921	6,363
L-6	8,941	7,035

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.

City of Bates City

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

5 Year FAS		
Benefit Program	General	Police
L-1	\$ 2,460	\$ 2,134
L-3	3,540	2,924
LT-4(65)	3,000	2,845
LT-5(65)	3,901	3,438
L-7	4,441	3,715
LT-8(65)	4,681	4,071
L-12	5,521	4,545
LT-14(65)	5,641	4,703
L-6	6,481	5,335

3 Year FAS		
Benefit Program	General	Police
L-1	\$ 2,580	\$ 2,253
L-3	3,660	3,083
LT-4(65)	3,180	2,964
LT-5(65)	4,081	3,596
L-7	4,621	3,912
LT-8(65)	4,981	4,268
L-12	5,761	4,703
LT-14(65)	5,881	4,900
L-6	6,781	5,533

Non-Contributory Plan

5 Year FAS		
Benefit Program	General	Police
L-1	\$ 4,621	\$ 3,557
L-3	5,701	4,387
LT-4(65)	5,161	4,268
LT-5(65)	6,121	4,900
L-7	6,721	5,177
LT-8(65)	6,961	5,533
L-12	7,741	6,007
LT-14(65)	7,861	6,165
L-6	8,821	6,797

3 Year FAS		
Benefit Program	General	Police
L-1	\$ 4,801	\$ 3,675
L-3	5,821	4,505
LT-4(65)	5,341	4,426
LT-5(65)	6,301	5,059
L-7	6,901	5,335
LT-8(65)	7,141	5,730
L-12	7,981	6,205
LT-14(65)	8,101	6,363
L-6	9,061	7,035

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.

City of Bates City

Employees and Payroll Included in the Valuation

	General	Police
Number of Employees	2	1
Annual Payroll	\$ 60,008	\$ 39,520

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

APPENDIX I

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:

City of Bates City

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	\$ 1,315	\$ 1,388	\$ 1,871	\$ 1,933
	Police	6	2	1	-
L-3	General	1,768	1,868	2,344	2,411
	Police	-	-	3	-
LT-4(65)	General	1,524	1,595	2,068	2,143
	Police	8	6	-	-
LT-5(65)	General	1,915	2,026	2,483	2,560
	Police	-	-	-	-
L-7	General	2,229	2,333	2,782	2,905
	Police	-	13	8	-
LT-8(65)	General	2,326	2,433	2,890	3,014
	Police	-	3	6	-
L-12	General	2,678	2,794	3,255	3,376
	Police	-	2	-	10
LT-14(65)	General	2,730	2,838	3,303	3,420
	Police	6	10	-	6
L-6	General	3,135	3,254	3,730	3,867
	Police	5	-	-	-

City of Bates City

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	\$ 1,420	\$ 1,496	\$ 1,963	\$ 2,029
	Police	6	2	1	-
L-3	General	1,886	1,982	2,446	2,520
	Police	-	-	3	-
LT-4(65)	General	1,737	1,825	2,275	2,358
	Police	8	6	-	-
LT-5(65)	General	2,126	2,238	2,683	2,773
	Police	-	-	-	-
L-7	General	2,372	2,473	2,934	3,048
	Police	-	13	8	-
LT-8(65)	General	2,526	2,648	3,097	3,222
	Police	-	3	6	-
L-12	General	2,824	2,956	3,414	3,550
	Police	-	2	-	10
LT-14(65)	General	2,910	3,032	3,504	3,636
	Police	6	10	-	6
L-6	General	3,313	3,448	3,927	4,057
	Police	5	-	-	-

APPENDIX II

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	
	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 III

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, 2019

(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, public safety 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 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

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 ¹)

Final Average Salary (FAS) ¹	LAGERS BENEFIT ³	Estimated Social Security ²	Estimated Monthly Total	
			\$	% of FAS
35 Years of Service:				
\$1,500	\$ 525	\$ 930	\$1,455	97%
2,000	700	1,076	1,776	89%
2,500	875	1,223	2,098	84%
3,000	1,050	1,370	2,420	81%
3,500	1,225	1,516	2,741	78%
4,000	1,400	1,662	3,062	77%
25 Years of Service:				
\$1,500	\$ 375	\$ 930	\$1,305	87%
2,000	500	1,076	1,576	79%
2,500	625	1,223	1,848	74%
3,000	750	1,370	2,120	71%
3,500	875	1,516	2,391	68%
4,000	1,000	1,662	2,662	67%
15 Years of Service:				
\$1,500	\$225	\$ 930	\$1,155	77%
2,000	300	1,076	1,376	69%
2,500	375	1,223	1,598	64%
3,000	450	1,370	1,820	61%
3,500	525	1,516	2,041	58%
4,000	600	1,662	2,262	57%

¹ "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.

² "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 2019 - it does not include any amounts which might be payable to an eligible spouse or children.

³ 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 ¹)

Final Average Salary (FAS) ¹	LAGERS BENEFIT ³	Estimated Social Security ²	Estimated Monthly Total	
			\$	% of FAS
35 Years of Service:				
\$1,500	\$ 656	\$ 930	\$1,586	106%
2,000	875	1,076	1,951	98%
2,500	1,094	1,223	2,317	93%
3,000	1,313	1,370	2,683	89%
3,500	1,531	1,516	3,047	87%
4,000	1,750	1,662	3,412	85%
25 Years of Service:				
\$1,500	\$ 469	\$ 930	\$1,399	93%
2,000	625	1,076	1,701	85%
2,500	781	1,223	2,004	80%
3,000	938	1,370	2,308	77%
3,500	1,094	1,516	2,610	75%
4,000	1,250	1,662	2,912	73%
15 Years of Service:				
\$1,500	\$281	\$ 930	\$1,211	81%
2,000	375	1,076	1,451	73%
2,500	469	1,223	1,692	68%
3,000	563	1,370	1,933	64%
3,500	656	1,516	2,172	62%
4,000	750	1,662	2,412	60%

¹ "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.

² "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 2019 - it does not include any amounts which might be payable to an eligible spouse or children.

³ 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 ¹)

Final Average Salary (FAS) ¹	LAGERS BENEFIT ³	Estimated Social Security ²	Estimated Monthly Total	
			\$	% of FAS
35 Years of Service:				
\$1,500	\$ 788	\$ 930	\$1,718	115%
2,000	1,050	1,076	2,126	106%
2,500	1,313	1,223	2,536	101%
3,000	1,575	1,370	2,945	98%
3,500	1,838	1,516	3,354	96%
4,000	2,100	1,662	3,762	94%
25 Years of Service:				
\$1,500	\$ 563	\$ 930	\$1,493	100%
2,000	750	1,076	1,826	91%
2,500	938	1,223	2,161	86%
3,000	1,125	1,370	2,495	83%
3,500	1,313	1,516	2,829	81%
4,000	1,500	1,662	3,162	79%
15 Years of Service:				
\$1,500	\$338	\$ 930	\$1,268	85%
2,000	450	1,076	1,526	76%
2,500	563	1,223	1,786	71%
3,000	675	1,370	2,045	68%
3,500	788	1,516	2,304	66%
4,000	900	1,662	2,562	64%

¹ "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.

² "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 2019 - it does not include any amounts which might be payable to an eligible spouse or children.

³ 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 ¹)

Final Average Salary (FAS) ¹	LAGERS BENEFIT ³	Estimated Social Security ²	Estimated Monthly Total	
			\$	% of FAS
35 Years of Service:				
\$1,500	\$ 919	\$ 930	\$1,849	123%
2,000	1,225	1,076	2,301	115%
2,500	1,531	1,223	2,754	110%
3,000	1,838	1,370	3,208	107%
3,500	2,144	1,516	3,660	105%
4,000	2,450	1,662	4,112	103%
25 Years of Service:				
\$1,500	\$ 656	\$ 930	\$1,586	106%
2,000	875	1,076	1,951	98%
2,500	1,094	1,223	2,317	93%
3,000	1,313	1,370	2,683	89%
3,500	1,531	1,516	3,047	87%
4,000	1,750	1,662	3,412	85%
15 Years of Service:				
\$1,500	\$ 394	\$ 930	\$1,324	88%
2,000	525	1,076	1,601	80%
2,500	656	1,223	1,879	75%
3,000	788	1,370	2,158	72%
3,500	919	1,516	2,435	70%
4,000	1,050	1,662	2,712	68%

¹ "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.

² "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 2019 - it does not include any amounts which might be payable to an eligible spouse or children.

³ 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 ¹)

Final Average Salary (FAS) ¹	LAGERS BENEFIT ³	Estimated Social Security ²	Estimated Monthly Total	
			\$	% of FAS
35 Years of Service:				
\$1,500	\$1,050	\$ 930	\$1,980	132%
2,000	1,400	1,076	2,476	124%
2,500	1,750	1,223	2,973	119%
3,000	2,100	1,370	3,470	116%
3,500	2,450	1,516	3,966	113%
4,000	2,800	1,662	4,462	112%
25 Years of Service:				
\$1,500	\$ 750	\$ 930	\$1,680	112%
2,000	1,000	1,076	2,076	104%
2,500	1,250	1,223	2,473	99%
3,000	1,500	1,370	2,870	96%
3,500	1,750	1,516	3,266	93%
4,000	2,000	1,662	3,662	92%
15 Years of Service:				
\$1,500	\$ 450	\$ 930	\$1,380	92%
2,000	600	1,076	1,676	84%
2,500	750	1,223	1,973	79%
3,000	900	1,370	2,270	76%
3,500	1,050	1,516	2,566	73%
4,000	1,200	1,662	2,862	72%

¹ "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.

² "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 2019 - it does not include any amounts which might be payable to an eligible spouse or children.

³ 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 ¹ to age 65)
1.00% of FAS ¹ at age 65)

Final Average Salary (FAS) ¹	LAGERS BENEFIT ³		Estimated Social Security ²	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	\$ 930	\$1,050	\$1,455	70%	97%
2,000	1,400	700	1,076	1,400	1,776	70%	89%
2,500	1,750	875	1,223	1,750	2,098	70%	84%
3,000	2,100	1,050	1,370	2,100	2,420	70%	81%
3,500	2,450	1,225	1,516	2,450	2,741	70%	78%
4,000	2,800	1,400	1,662	2,800	3,062	70%	77%
25 Years of Service:							
\$1,500	\$ 750	\$ 375	\$ 930	\$ 750	\$1,305	50%	87%
2,000	1,000	500	1,076	1,000	1,576	50%	79%
2,500	1,250	625	1,223	1,250	1,848	50%	74%
3,000	1,500	750	1,370	1,500	2,120	50%	71%
3,500	1,750	875	1,516	1,750	2,391	50%	68%
4,000	2,000	1,000	1,662	2,000	2,662	50%	67%
15 Years of Service:							
\$1,500	\$ 450	\$225	\$ 930	\$ 450	\$1,155	30%	77%
2,000	600	300	1,076	600	1,376	30%	69%
2,500	750	375	1,223	750	1,598	30%	64%
3,000	900	450	1,370	900	1,820	30%	61%
3,500	1,050	525	1,516	1,050	2,041	30%	58%
4,000	1,200	600	1,662	1,200	2,262	30%	57%

¹ "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.

² "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 2019 - it does not include any amounts which might be payable to an eligible spouse or children.

³ 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 ¹ to age 65) 1.25% of FAS ¹ at age 65)

Final Average Salary (FAS) ¹	LAGERS BENEFIT ³		Estimated Social Security ²	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	\$ 930	\$1,050	\$1,586	70%	106%
2,000	1,400	875	1,076	1,400	1,951	70%	98%
2,500	1,750	1,094	1,223	1,750	2,317	70%	93%
3,000	2,100	1,313	1,370	2,100	2,683	70%	89%
3,500	2,450	1,531	1,516	2,450	3,047	70%	87%
4,000	2,800	1,750	1,662	2,800	3,412	70%	85%
25 Years of Service:							
\$1,500	\$ 750	\$ 469	\$ 930	\$ 750	\$1,399	50%	93%
2,000	1,000	625	1,076	1,000	1,701	50%	85%
2,500	1,250	781	1,223	1,250	2,004	50%	80%
3,000	1,500	938	1,370	1,500	2,308	50%	77%
3,500	1,750	1,094	1,516	1,750	2,610	50%	75%
4,000	2,000	1,250	1,662	2,000	2,912	50%	73%
15 Years of Service:							
\$1,500	\$ 450	\$281	\$ 930	\$ 450	\$1,211	30%	81%
2,000	600	375	1,076	600	1,451	30%	73%
2,500	750	469	1,223	750	1,692	30%	68%
3,000	900	563	1,370	900	1,933	30%	64%
3,500	1,050	656	1,516	1,050	2,172	30%	62%
4,000	1,200	750	1,662	1,200	2,412	30%	60%

¹ "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.

² "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 2019 - it does not include any amounts which might be payable to an eligible spouse or children.

³ 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 ¹ to age 65)
1.50% of FAS ¹ at age 65)

Final Average Salary (FAS) ¹	LAGERS BENEFIT ³		Estimated Social Security ²	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	\$ 930	\$1,050	\$1,718	70%	115%
2,000	1,400	1,050	1,076	1,400	2,126	70%	106%
2,500	1,750	1,313	1,223	1,750	2,536	70%	101%
3,000	2,100	1,575	1,370	2,100	2,945	70%	98%
3,500	2,450	1,838	1,516	2,450	3,354	70%	96%
4,000	2,800	2,100	1,662	2,800	3,762	70%	94%
25 Years of Service:							
\$1,500	\$ 750	\$ 563	\$ 930	\$ 750	\$1,493	50%	100%
2,000	1,000	750	1,076	1,000	1,826	50%	91%
2,500	1,250	938	1,223	1,250	2,161	50%	86%
3,000	1,500	1,125	1,370	1,500	2,495	50%	83%
3,500	1,750	1,313	1,516	1,750	2,829	50%	81%
4,000	2,000	1,500	1,662	2,000	3,162	50%	79%
15 Years of Service:							
\$1,500	\$ 450	\$338	\$ 930	\$ 450	\$1,268	30%	85%
2,000	600	450	1,076	600	1,526	30%	76%
2,500	750	563	1,223	750	1,786	30%	71%
3,000	900	675	1,370	900	2,045	30%	68%
3,500	1,050	788	1,516	1,050	2,304	30%	66%
4,000	1,200	900	1,662	1,200	2,562	30%	64%

¹ "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.

² "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 2019 - it does not include any amounts which might be payable to an eligible spouse or children.

³ 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 ¹ to age 65)
1.75% of FAS ¹ at age 65)

Final Average Salary (FAS) ¹	LAGERS BENEFIT ³		Estimated Social Security ²	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	\$ 930	\$1,050	\$1,849	70%	123%
2,000	1,400	1,225	1,076	1,400	2,301	70%	115%
2,500	1,750	1,531	1,223	1,750	2,754	70%	110%
3,000	2,100	1,838	1,370	2,100	3,208	70%	107%
3,500	2,450	2,144	1,516	2,450	3,660	70%	105%
4,000	2,800	2,450	1,662	2,800	4,112	70%	103%
25 Years of Service:							
\$1,500	\$ 750	\$ 656	\$ 930	\$ 750	\$1,586	50%	106%
2,000	1,000	875	1,076	1,000	1,951	50%	98%
2,500	1,250	1,094	1,223	1,250	2,317	50%	93%
3,000	1,500	1,313	1,370	1,500	2,683	50%	89%
3,500	1,750	1,531	1,516	1,750	3,047	50%	87%
4,000	2,000	1,750	1,662	2,000	3,412	50%	85%
15 Years of Service:							
\$1,500	\$ 450	\$ 394	\$ 930	\$ 450	\$1,324	30%	88%
2,000	600	525	1,076	600	1,601	30%	80%
2,500	750	656	1,223	750	1,879	30%	75%
3,000	900	788	1,370	900	2,158	30%	72%
3,500	1,050	919	1,516	1,050	2,435	30%	70%
4,000	1,200	1,050	1,662	1,200	2,712	30%	68%

¹ "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.

² "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 2019 - it does not include any amounts which might be payable to an eligible spouse or children.

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

APPENDIX V

AGE AND SERVICE CHARACTERISTICS OF EMPLOYEES

City of Bates City - General

January 31, 2020

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	2							2	\$ 60,008
40-44									
45-49									
50-54									
55-59									
60-64									
65-69									
70 & Over									
Totals	2							2	\$ 60,008

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

Age: 37.5 years.

Benefit Service: 0.6 years.

Annual Pay: \$ 30,004.

City of Bates City - Police

January 31, 2020

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	1							1	\$ 39,520
40-44									
45-49									
50-54									
55-59									
60-64									
65-69									
70 & Over									
Totals	1							1	\$ 39,520

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

Age: 35.5 years.

Benefit Service: 0.0 years.

Annual Pay: \$ 39,520.

APPENDIX VI

RISK COMMENTARY

Risk Commentary

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

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

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

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

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

The computed contribution rates shown on pages 4 thru 11 may be considered as a minimum contribution rate for the selected benefit provisions that complies with the Board's funding policy. The timely receipt of the actuarially determined contributions is critical to support the financial health of the plan. Users of this report should be aware that contributions made at the actuarially determined rate do not necessarily guarantee benefit security.

Risk Commentary (Concluded)

PLAN MATURITY MEASURES

Risks facing a pension plan evolve over time. A young plan with virtually no investments and paying few benefits may experience little investment risk. An older plan with a large number of members in pay status and a significant trust may be much more exposed to investment risk. Generally accepted plan maturity measures are described below.

RATIO OF MARKET VALUE OF ASSETS TO PAYROLL

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

RATIO OF ACTUARIAL ACCRUED LIABILITY TO PAYROLL

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

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

RATIO OF NET CASH FLOW TO MARKET VALUE OF ASSETS

A positive net cash flow means contributions exceed benefits and expenses. A negative cash flow means existing funds are being used to make payments. A certain amount of negative net cash flow is generally expected to occur when benefits are prefunded through a qualified trust. Large negative net cash flows as a percent of assets may indicate a super-mature plan or a need for additional contributions.

DURATION OF ACTUARIAL ACCRUED LIABILITY

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

ADDITIONAL RISK ASSESSMENT

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



March 18, 2020 E-mail

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

Dear Bob:

Enclosed is the report of the January 31, 2020 Initial Actuarial Valuation of LAGERS benefits for the employees of

City of Bates City

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:wp

March 18, 2020

City of Bates City
Bates City, Missouri

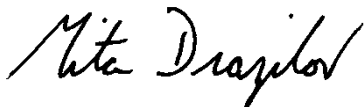
Ladies and Gentlemen:

This report contains projections needed to comply with Missouri state disclosure requirements (Section 105.660 of the RSMo) regarding the adoption of LAGERS benefits by a political subdivision. This report is intended to be a supplement to the January 31, 2020 Initial Valuation for the City of Bates City dated March 18, 2020.

The actuarial assumptions and methods used to determine the stated costs are described in Appendix II of the Initial Valuation 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, 2019.

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,



Mita D. Drazilov, ASA, FCA, MAAA

City of Bates City - General

Employer Contribution Rates (Contributory Plan - 5 Year FAS)

(4% member contributions are additional)

Regular Retirement Eligibility

Valuation Year	Estimated Projected Payroll	L-1 Benefit Program			L-3 Benefit Program			LT-4(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2020	\$ 60,008	4.0%	\$2,400	\$ 1,315	5.7%	\$3,420	\$ 1,768	4.6%	\$2,760	\$ 1,524
2021	61,958	4.0	2,478	1,333	5.7	3,532	1,792	4.6	2,850	1,545
2022	63,972	4.0	2,559	1,350	5.7	3,646	1,815	4.6	2,943	1,564
2023	66,051	4.0	2,642	1,365	5.7	3,765	1,836	4.6	3,038	1,582
2024	68,198	4.0	2,728	1,379	5.7	3,887	1,855	4.6	3,137	1,598
2025	70,414	4.0	2,817	1,391	5.7	4,014	1,871	4.6	3,239	1,612
2026	72,702	4.0	2,908	1,401	5.7	4,144	1,885	4.6	3,344	1,624
2027	75,065	4.0	3,003	1,409	5.7	4,279	1,896	4.6	3,453	1,633
2028	77,505	4.0	3,100	1,414	5.7	4,418	1,903	4.6	3,565	1,639
2029	80,024	4.0	3,201	1,417	5.7	4,561	1,907	4.6	3,681	1,642

Valuation Year	Estimated Projected Payroll	LT-5(65) Benefit Program			L-7 Benefit Program			LT-8(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2020	\$ 60,008	6.2%	\$3,720	\$ 1,915	7.2%	\$4,321	\$ 2,229	7.6%	\$4,561	\$ 2,326
2021	61,958	6.2	3,841	1,941	7.2	4,461	2,260	7.6	4,709	2,358
2022	63,972	6.2	3,966	1,965	7.2	4,606	2,288	7.6	4,862	2,388
2023	66,051	6.2	4,095	1,987	7.2	4,756	2,314	7.6	5,020	2,415
2024	68,198	6.2	4,228	2,007	7.2	4,910	2,338	7.6	5,183	2,440
2025	70,414	6.2	4,366	2,025	7.2	5,070	2,359	7.6	5,351	2,461
2026	72,702	6.2	4,508	2,040	7.2	5,235	2,376	7.6	5,525	2,479
2027	75,065	6.2	4,654	2,052	7.2	5,405	2,389	7.6	5,705	2,493
2028	77,505	6.2	4,805	2,060	7.2	5,580	2,398	7.6	5,890	2,503
2029	80,024	6.2	4,961	2,064	7.2	5,762	2,403	7.6	6,082	2,508

Valuation Year	Estimated Projected Payroll	L-12 Benefit Program			LT-14(65) Benefit Program			L-6 Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2020	\$ 60,008	9.0%	\$5,401	\$ 2,678	9.1%	\$5,461	\$ 2,730	10.6%	\$6,361	\$ 3,135
2021	61,958	9.0	5,576	2,715	9.1	5,638	2,767	10.6	6,568	3,178
2022	63,972	9.0	5,757	2,749	9.1	5,821	2,802	10.6	6,781	3,218
2023	66,051	9.0	5,945	2,780	9.1	6,011	2,834	10.6	7,001	3,255
2024	68,198	9.0	6,138	2,808	9.1	6,206	2,863	10.6	7,229	3,288
2025	70,414	9.0	6,337	2,833	9.1	6,408	2,888	10.6	7,464	3,317
2026	72,702	9.0	6,543	2,854	9.1	6,616	2,909	10.6	7,706	3,341
2027	75,065	9.0	6,756	2,870	9.1	6,831	2,925	10.6	7,957	3,360
2028	77,505	9.0	6,975	2,881	9.1	7,053	2,936	10.6	8,216	3,373
2029	80,024	9.0	7,202	2,887	9.1	7,282	2,942	10.6	8,483	3,379

Notes regarding the above projections:

- 1) The purpose of the above projections is to comply with the requirements of Section 105.660 of the Revised Statutes of Missouri (RSMo). The projection results may not be applicable for other purposes.
- 2) Estimated projected payroll is based upon the valuation payroll, increased each future year by 3.25%.
- 3) 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.
- 4) Differences between the date of the initial valuation and the actuarial valuation date of February 28th have not been incorporated in the above results.
- 5) The actual employer contribution rates for future valuation dates will be based upon actual data as of the future valuation date.

City of Bates City - General

Employer Contribution Rates (Contributory Plan - 3 Year FAS)

(4% member contributions are additional)

Regular Retirement Eligibility

Valuation Year	Estimated Projected Payroll	L-1 Benefit Program			L-3 Benefit Program			LT-4(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a %	Annual	Accrued	As a %	Annual	Accrued	As a %	Annual	Accrued
		of Payroll	Dollars	Liability	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability
2020	\$ 60,008	4.2%	\$2,520	\$ 1,388	6.0%	\$3,600	\$ 1,868	5.0%	\$3,000	\$ 1,595
2021	61,958	4.2	2,602	1,407	6.0	3,717	1,894	5.0	3,098	1,617
2022	63,972	4.2	2,687	1,425	6.0	3,838	1,918	5.0	3,199	1,637
2023	66,051	4.2	2,774	1,441	6.0	3,963	1,940	5.0	3,303	1,656
2024	68,198	4.2	2,864	1,456	6.0	4,092	1,960	5.0	3,410	1,673
2025	70,414	4.2	2,957	1,469	6.0	4,225	1,977	5.0	3,521	1,688
2026	72,702	4.2	3,053	1,480	6.0	4,362	1,991	5.0	3,635	1,700
2027	75,065	4.2	3,153	1,488	6.0	4,504	2,002	5.0	3,753	1,710
2028	77,505	4.2	3,255	1,494	6.0	4,650	2,010	5.0	3,875	1,717
2029	80,024	4.2	3,361	1,497	6.0	4,801	2,014	5.0	4,001	1,720

Valuation Year	Estimated Projected Payroll	LT-5(65) Benefit Program			L-7 Benefit Program			LT-8(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of	Annual	Accrued	As a % of	Annual	Accrued	As a % of	Annual	Accrued
		Payroll	Dollars	Liability	Payroll	Dollars	Liability	Payroll	Dollars	Liability
2020	\$ 60,008	6.5%	\$3,901	\$ 2,026	7.5%	\$4,501	\$ 2,333	7.9%	\$4,741	\$ 2,433
2021	61,958	6.5	4,027	2,054	7.5	4,647	2,365	7.9	4,895	2,466
2022	63,972	6.5	4,158	2,080	7.5	4,798	2,395	7.9	5,054	2,497
2023	66,051	6.5	4,293	2,104	7.5	4,954	2,422	7.9	5,218	2,526
2024	68,198	6.5	4,433	2,125	7.5	5,115	2,447	7.9	5,388	2,552
2025	70,414	6.5	4,577	2,144	7.5	5,281	2,468	7.9	5,563	2,574
2026	72,702	6.5	4,726	2,160	7.5	5,453	2,486	7.9	5,743	2,593
2027	75,065	6.5	4,879	2,172	7.5	5,630	2,500	7.9	5,930	2,608
2028	77,505	6.5	5,038	2,180	7.5	5,813	2,510	7.9	6,123	2,618
2029	80,024	6.5	5,202	2,184	7.5	6,002	2,515	7.9	6,322	2,623

Valuation Year	Estimated Projected Payroll	L-12 Benefit Program			LT-14(65) Benefit Program			L-6 Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of	Annual	Accrued	As a % of	Annual	Accrued	As a % of	Annual	Accrued
		Payroll	Dollars	Liability	Payroll	Dollars	Liability	Payroll	Dollars	Liability
2020	\$ 60,008	9.3%	\$5,581	\$ 2,794	9.5%	\$5,701	\$ 2,838	11.0%	\$6,601	\$ 3,254
2021	61,958	9.3	5,762	2,832	9.5	5,886	2,877	11.0	6,815	3,299
2022	63,972	9.3	5,949	2,868	9.5	6,077	2,913	11.0	7,037	3,341
2023	66,051	9.3	6,143	2,901	9.5	6,275	2,946	11.0	7,266	3,379
2024	68,198	9.3	6,342	2,930	9.5	6,479	2,976	11.0	7,502	3,413
2025	70,414	9.3	6,549	2,956	9.5	6,689	3,002	11.0	7,746	3,443
2026	72,702	9.3	6,761	2,978	9.5	6,907	3,024	11.0	7,997	3,468
2027	75,065	9.3	6,981	2,995	9.5	7,131	3,041	11.0	8,257	3,488
2028	77,505	9.3	7,208	3,007	9.5	7,363	3,053	11.0	8,526	3,501
2029	80,024	9.3	7,442	3,013	9.5	7,602	3,059	11.0	8,803	3,508

Notes regarding the above projections:

- 1) The purpose of the above projections is to comply with the requirements of Section 105.660 of the Revised Statutes of Missouri (RSMo). The projection results may not be applicable for other purposes.
- 2) Estimated projected payroll is based upon the valuation payroll, increased each future year by 3.25%.
- 3) 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.
- 4) Differences between the date of the initial valuation and the actuarial valuation date of February 28th have not been incorporated in the above results.
- 5) The actual employer contribution rates for future valuation dates will be based upon actual data as of the future valuation date.

City of Bates City - General

Employer Contribution Rates (Non-Contributory Plan - 5 Year FAS)

(0% member contributions are additional)

Regular Retirement Eligibility

Valuation Year	Estimated Projected Payroll	L-1 Benefit Program			L-3 Benefit Program			LT-4(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2020	\$ 60,008	7.6%	\$4,561	\$ 1,871	9.3%	\$5,581	\$ 2,344	8.3%	\$4,981	\$ 2,068
2021	61,958	7.6	4,709	1,897	9.3	5,762	2,376	8.3	5,143	2,096
2022	63,972	7.6	4,862	1,921	9.3	5,949	2,406	8.3	5,310	2,122
2023	66,051	7.6	5,020	1,943	9.3	6,143	2,434	8.3	5,482	2,146
2024	68,198	7.6	5,183	1,963	9.3	6,342	2,459	8.3	5,660	2,168
2025	70,414	7.6	5,351	1,980	9.3	6,549	2,481	8.3	5,844	2,187
2026	72,702	7.6	5,525	1,994	9.3	6,761	2,499	8.3	6,034	2,203
2027	75,065	7.6	5,705	2,005	9.3	6,981	2,513	8.3	6,230	2,215
2028	77,505	7.6	5,890	2,013	9.3	7,208	2,523	8.3	6,433	2,224
2029	80,024	7.6	6,082	2,017	9.3	7,442	2,528	8.3	6,642	2,228

Valuation Year	Estimated Projected Payroll	LT-5(65) Benefit Program			L-7 Benefit Program			LT-8(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2020	\$ 60,008	9.8%	\$5,881	\$ 2,483	11.0%	\$6,601	\$ 2,782	11.3%	\$6,781	\$ 2,890
2021	61,958	9.8	6,072	2,517	11.0	6,815	2,820	11.3	7,001	2,930
2022	63,972	9.8	6,269	2,549	11.0	7,037	2,856	11.3	7,229	2,967
2023	66,051	9.8	6,473	2,578	11.0	7,266	2,889	11.3	7,464	3,001
2024	68,198	9.8	6,683	2,604	11.0	7,502	2,918	11.3	7,706	3,031
2025	70,414	9.8	6,901	2,627	11.0	7,746	2,944	11.3	7,957	3,058
2026	72,702	9.8	7,125	2,646	11.0	7,997	2,965	11.3	8,215	3,080
2027	75,065	9.8	7,356	2,661	11.0	8,257	2,982	11.3	8,482	3,097
2028	77,505	9.8	7,595	2,671	11.0	8,526	2,994	11.3	8,758	3,109
2029	80,024	9.8	7,842	2,676	11.0	8,803	3,000	11.3	9,043	3,115

Valuation Year	Estimated Projected Payroll	L-12 Benefit Program			LT-14(65) Benefit Program			L-6 Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2020	\$ 60,008	12.6%	\$7,561	\$ 3,255	12.8%	\$7,681	\$ 3,303	14.4%	\$8,641	\$ 3,730
2021	61,958	12.6	7,807	3,300	12.8	7,931	3,348	14.4	8,922	3,781
2022	63,972	12.6	8,060	3,342	12.8	8,188	3,390	14.4	9,212	3,829
2023	66,051	12.6	8,322	3,380	12.8	8,455	3,429	14.4	9,511	3,873
2024	68,198	12.6	8,593	3,414	12.8	8,729	3,464	14.4	9,821	3,912
2025	70,414	12.6	8,872	3,444	12.8	9,013	3,494	14.4	10,140	3,946
2026	72,702	12.6	9,160	3,469	12.8	9,306	3,519	14.4	10,469	3,975
2027	75,065	12.6	9,458	3,489	12.8	9,608	3,539	14.4	10,809	3,997
2028	77,505	12.6	9,766	3,502	12.8	9,921	3,553	14.4	11,161	4,012
2029	80,024	12.6	10,083	3,509	12.8	10,243	3,560	14.4	11,523	4,020

Notes regarding the above projections:

- 1) The purpose of the above projections is to comply with the requirements of Section 105.660 of the Revised Statutes of Missouri (RSMo). The projection results may not be applicable for other purposes.
- 2) Estimated projected payroll is based upon the valuation payroll, increased each future year by 3.25%.
- 3) 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.
- 4) Differences between the date of the initial valuation and the actuarial valuation date of February 28th have not been incorporated in the above results.
- 5) The actual employer contribution rates for future valuation dates will be based upon actual data as of the future valuation date.

City of Bates City - General

Employer Contribution Rates (Non-Contributory Plan - 3 Year FAS)

(0% member contributions are additional)

Regular Retirement Eligibility

Valuation Year	Estimated Projected Payroll	L-1 Benefit Program			L-3 Benefit Program			LT-4(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2020	\$ 60,008	7.8%	\$4,681	\$ 1,933	9.6%	\$5,761	\$ 2,411	8.5%	\$5,101	\$ 2,143
2021	61,958	7.8	4,833	1,959	9.6	5,948	2,444	8.5	5,266	2,172
2022	63,972	7.8	4,990	1,984	9.6	6,141	2,475	8.5	5,438	2,199
2023	66,051	7.8	5,152	2,007	9.6	6,341	2,503	8.5	5,614	2,224
2024	68,198	7.8	5,319	2,027	9.6	6,547	2,528	8.5	5,797	2,247
2025	70,414	7.8	5,492	2,045	9.6	6,760	2,550	8.5	5,985	2,267
2026	72,702	7.8	5,671	2,060	9.6	6,979	2,569	8.5	6,180	2,284
2027	75,065	7.8	5,855	2,072	9.6	7,206	2,584	8.5	6,381	2,297
2028	77,505	7.8	6,045	2,080	9.6	7,440	2,594	8.5	6,588	2,306
2029	80,024	7.8	6,242	2,084	9.6	7,682	2,599	8.5	6,802	2,310

Valuation Year	Estimated Projected Payroll	LT-5(65) Benefit Program			L-7 Benefit Program			LT-8(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2020	\$ 60,008	10.1%	\$6,061	\$ 2,560	11.3%	\$6,781	\$ 2,905	11.7%	\$7,021	\$ 3,014
2021	61,958	10.1	6,258	2,595	11.3	7,001	2,945	11.7	7,249	3,055
2022	63,972	10.1	6,461	2,628	11.3	7,229	2,982	11.7	7,485	3,094
2023	66,051	10.1	6,671	2,658	11.3	7,464	3,016	11.7	7,728	3,129
2024	68,198	10.1	6,888	2,685	11.3	7,706	3,047	11.7	7,979	3,161
2025	70,414	10.1	7,112	2,709	11.3	7,957	3,074	11.7	8,238	3,189
2026	72,702	10.1	7,343	2,729	11.3	8,215	3,096	11.7	8,506	3,212
2027	75,065	10.1	7,582	2,744	11.3	8,482	3,113	11.7	8,783	3,230
2028	77,505	10.1	7,828	2,755	11.3	8,758	3,125	11.7	9,068	3,242
2029	80,024	10.1	8,082	2,760	11.3	9,043	3,131	11.7	9,363	3,248

Valuation Year	Estimated Projected Payroll	L-12 Benefit Program			LT-14(65) Benefit Program			L-6 Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2020	\$ 60,008	13.0%	\$7,801	\$ 3,376	13.2%	\$7,921	\$ 3,420	14.9%	\$8,941	\$ 3,867
2021	61,958	13.0	8,055	3,422	13.2	8,178	3,467	14.9	9,232	3,920
2022	63,972	13.0	8,316	3,465	13.2	8,444	3,511	14.9	9,532	3,969
2023	66,051	13.0	8,587	3,505	13.2	8,719	3,551	14.9	9,842	4,014
2024	68,198	13.0	8,866	3,541	13.2	9,002	3,587	14.9	10,162	4,055
2025	70,414	13.0	9,154	3,572	13.2	9,295	3,619	14.9	10,492	4,091
2026	72,702	13.0	9,451	3,598	13.2	9,597	3,645	14.9	10,833	4,121
2027	75,065	13.0	9,758	3,618	13.2	9,909	3,666	14.9	11,185	4,144
2028	77,505	13.0	10,076	3,632	13.2	10,231	3,680	14.9	11,548	4,160
2029	80,024	13.0	10,403	3,639	13.2	10,563	3,687	14.9	11,924	4,168

Notes regarding the above projections:

- 1) The purpose of the above projections is to comply with the requirements of Section 105.660 of the Revised Statutes of Missouri (RSMo). The projection results may not be applicable for other purposes.
- 2) Estimated projected payroll is based upon the valuation payroll, increased each future year by 3.25%.
- 3) 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.
- 4) Differences between the date of the initial valuation and the actuarial valuation date of February 28th have not been incorporated in the above results.
- 5) The actual employer contribution rates for future valuation dates will be based upon actual data as of the future valuation date.

City of Bates City - General

Employer Contribution Rates (Contributory Plan - 5 Year FAS)

(4% member contributions are additional)

Rule of 80 Retirement Eligibility

Valuation Year	Estimated Projected Payroll	L-1 Benefit Program			L-3 Benefit Program			LT-4(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a %	Annual	Accrued	As a %	Annual	Accrued	As a %	Annual	Accrued
		of Payroll	Dollars	Liability	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability
2020	\$ 60,008	4.1%	\$2,460	\$ 1,420	5.9%	\$3,540	\$ 1,886	5.0%	\$3,000	\$ 1,737
2021	61,958	4.1	2,540	1,439	5.9	3,656	1,912	5.0	3,098	1,761
2022	63,972	4.1	2,623	1,457	5.9	3,774	1,936	5.0	3,199	1,783
2023	66,051	4.1	2,708	1,474	5.9	3,897	1,958	5.0	3,303	1,803
2024	68,198	4.1	2,796	1,489	5.9	4,024	1,978	5.0	3,410	1,821
2025	70,414	4.1	2,887	1,502	5.9	4,154	1,995	5.0	3,521	1,837
2026	72,702	4.1	2,981	1,513	5.9	4,289	2,010	5.0	3,635	1,850
2027	75,065	4.1	3,078	1,522	5.9	4,429	2,021	5.0	3,753	1,860
2028	77,505	4.1	3,178	1,528	5.9	4,573	2,029	5.0	3,875	1,867
2029	80,024	4.1	3,281	1,531	5.9	4,721	2,033	5.0	4,001	1,871

Valuation Year	Estimated Projected Payroll	LT-5(65) Benefit Program			L-7 Benefit Program			LT-8(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of	Annual	Accrued	As a % of	Annual	Accrued	As a % of	Annual	Accrued
		Payroll	Dollars	Liability	Payroll	Dollars	Liability	Payroll	Dollars	Liability
2020	\$ 60,008	6.5%	\$3,901	\$ 2,126	7.4%	\$4,441	\$ 2,372	7.8%	\$4,681	\$ 2,526
2021	61,958	6.5	4,027	2,155	7.4	4,585	2,404	7.8	4,833	2,561
2022	63,972	6.5	4,158	2,182	7.4	4,734	2,434	7.8	4,990	2,593
2023	66,051	6.5	4,293	2,207	7.4	4,888	2,462	7.8	5,152	2,623
2024	68,198	6.5	4,433	2,229	7.4	5,047	2,487	7.8	5,319	2,650
2025	70,414	6.5	4,577	2,249	7.4	5,211	2,509	7.8	5,492	2,673
2026	72,702	6.5	4,726	2,265	7.4	5,380	2,527	7.8	5,671	2,692
2027	75,065	6.5	4,879	2,278	7.4	5,555	2,541	7.8	5,855	2,707
2028	77,505	6.5	5,038	2,287	7.4	5,735	2,551	7.8	6,045	2,717
2029	80,024	6.5	5,202	2,291	7.4	5,922	2,556	7.8	6,242	2,722

Valuation Year	Estimated Projected Payroll	L-12 Benefit Program			LT-14(65) Benefit Program			L-6 Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of	Annual	Accrued	As a % of	Annual	Accrued	As a % of	Annual	Accrued
		Payroll	Dollars	Liability	Payroll	Dollars	Liability	Payroll	Dollars	Liability
2020	\$ 60,008	9.2%	\$5,521	\$ 2,824	9.4%	\$5,641	\$ 2,910	10.8%	\$6,481	\$ 3,313
2021	61,958	9.2	5,700	2,863	9.4	5,824	2,950	10.8	6,691	3,358
2022	63,972	9.2	5,885	2,899	9.4	6,013	2,987	10.8	6,909	3,400
2023	66,051	9.2	6,077	2,932	9.4	6,209	3,021	10.8	7,134	3,439
2024	68,198	9.2	6,274	2,962	9.4	6,411	3,052	10.8	7,365	3,474
2025	70,414	9.2	6,478	2,988	9.4	6,619	3,079	10.8	7,605	3,505
2026	72,702	9.2	6,689	3,010	9.4	6,834	3,101	10.8	7,852	3,531
2027	75,065	9.2	6,906	3,027	9.4	7,056	3,119	10.8	8,107	3,551
2028	77,505	9.2	7,130	3,039	9.4	7,285	3,131	10.8	8,371	3,565
2029	80,024	9.2	7,362	3,045	9.4	7,522	3,137	10.8	8,643	3,572

Notes regarding the above projections:

- 1) The purpose of the above projections is to comply with the requirements of Section 105.660 of the Revised Statutes of Missouri (RSMo). The projection results may not be applicable for other purposes.
- 2) Estimated projected payroll is based upon the valuation payroll, increased each future year by 3.25%.
- 3) 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.
- 4) Differences between the date of the initial valuation and the actuarial valuation date of February 28th have not been incorporated in the above results.
- 5) The actual employer contribution rates for future valuation dates will be based upon actual data as of the future valuation date.

City of Bates City - General

Employer Contribution Rates (Contributory Plan - 3 Year FAS)

(4% member contributions are additional)

Rule of 80 Retirement Eligibility

Valuation Year	Estimated Projected Payroll	L-1 Benefit Program			L-3 Benefit Program			LT-4(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a %	Annual	Accrued	As a %	Annual	Accrued	As a %	Annual	Accrued
		of Payroll	Dollars	Liability	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability
2020	\$ 60,008	4.3%	\$2,580	\$ 1,496	6.1%	\$3,660	\$ 1,982	5.3%	\$3,180	\$ 1,825
2021	61,958	4.3	2,664	1,516	6.1	3,779	2,009	5.3	3,284	1,850
2022	63,972	4.3	2,751	1,535	6.1	3,902	2,034	5.3	3,391	1,873
2023	66,051	4.3	2,840	1,553	6.1	4,029	2,057	5.3	3,501	1,894
2024	68,198	4.3	2,933	1,569	6.1	4,160	2,078	5.3	3,614	1,913
2025	70,414	4.3	3,028	1,583	6.1	4,295	2,096	5.3	3,732	1,930
2026	72,702	4.3	3,126	1,595	6.1	4,435	2,111	5.3	3,853	1,944
2027	75,065	4.3	3,228	1,604	6.1	4,579	2,123	5.3	3,978	1,955
2028	77,505	4.3	3,333	1,610	6.1	4,728	2,131	5.3	4,108	1,963
2029	80,024	4.3	3,441	1,613	6.1	4,881	2,135	5.3	4,241	1,967

Valuation Year	Estimated Projected Payroll	LT-5(65) Benefit Program			L-7 Benefit Program			LT-8(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of	Annual	Accrued	As a % of	Annual	Accrued	As a % of	Annual	Accrued
		Payroll	Dollars	Liability	Payroll	Dollars	Liability	Payroll	Dollars	Liability
2020	\$ 60,008	6.8%	\$4,081	\$ 2,238	7.7%	\$4,621	\$ 2,473	8.3%	\$4,981	\$ 2,648
2021	61,958	6.8	4,213	2,269	7.7	4,771	2,507	8.3	5,143	2,684
2022	63,972	6.8	4,350	2,298	7.7	4,926	2,539	8.3	5,310	2,718
2023	66,051	6.8	4,491	2,324	7.7	5,086	2,568	8.3	5,482	2,749
2024	68,198	6.8	4,637	2,348	7.7	5,251	2,594	8.3	5,660	2,777
2025	70,414	6.8	4,788	2,369	7.7	5,422	2,617	8.3	5,844	2,801
2026	72,702	6.8	4,944	2,386	7.7	5,598	2,636	8.3	6,034	2,821
2027	75,065	6.8	5,104	2,399	7.7	5,780	2,651	8.3	6,230	2,837
2028	77,505	6.8	5,270	2,408	7.7	5,968	2,661	8.3	6,433	2,848
2029	80,024	6.8	5,442	2,413	7.7	6,162	2,666	8.3	6,642	2,853

Valuation Year	Estimated Projected Payroll	L-12 Benefit Program			LT-14(65) Benefit Program			L-6 Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of	Annual	Accrued	As a % of	Annual	Accrued	As a % of	Annual	Accrued
		Payroll	Dollars	Liability	Payroll	Dollars	Liability	Payroll	Dollars	Liability
2020	\$ 60,008	9.6%	\$5,761	\$ 2,956	9.8%	\$5,881	\$ 3,032	11.3%	\$6,781	\$ 3,448
2021	61,958	9.6	5,948	2,996	9.8	6,072	3,074	11.3	7,001	3,495
2022	63,972	9.6	6,141	3,034	9.8	6,269	3,113	11.3	7,229	3,539
2023	66,051	9.6	6,341	3,069	9.8	6,473	3,149	11.3	7,464	3,579
2024	68,198	9.6	6,547	3,100	9.8	6,683	3,181	11.3	7,706	3,615
2025	70,414	9.6	6,760	3,127	9.8	6,901	3,209	11.3	7,957	3,647
2026	72,702	9.6	6,979	3,150	9.8	7,125	3,232	11.3	8,215	3,674
2027	75,065	9.6	7,206	3,168	9.8	7,356	3,250	11.3	8,482	3,695
2028	77,505	9.6	7,440	3,180	9.8	7,595	3,263	11.3	8,758	3,709
2029	80,024	9.6	7,682	3,186	9.8	7,842	3,269	11.3	9,043	3,716

Notes regarding the above projections:

- 1) The purpose of the above projections is to comply with the requirements of Section 105.660 of the Revised Statutes of Missouri (RSMo). The projection results may not be applicable for other purposes.
- 2) Estimated projected payroll is based upon the valuation payroll, increased each future year by 3.25%.
- 3) 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.
- 4) Differences between the date of the initial valuation and the actuarial valuation date of February 28th have not been incorporated in the above results.
- 5) The actual employer contribution rates for future valuation dates will be based upon actual data as of the future valuation date.

City of Bates City - General

Employer Contribution Rates (Non-Contributory Plan - 5 Year FAS)

(0% member contributions are additional)

Rule of 80 Retirement Eligibility

Valuation Year	Estimated Projected Payroll	L-1 Benefit Program			L-3 Benefit Program			LT-4(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a %	Annual	Accrued	As a %	Annual	Accrued	As a %	Annual	Accrued
		of Payroll	Dollars	Liability	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability
2020	\$ 60,008	7.7%	\$4,621	\$ 1,963	9.5%	\$5,701	\$ 2,446	8.6%	\$5,161	\$ 2,275
2021	61,958	7.7	4,771	1,990	9.5	5,886	2,480	8.6	5,328	2,306
2022	63,972	7.7	4,926	2,015	9.5	6,077	2,511	8.6	5,502	2,335
2023	66,051	7.7	5,086	2,038	9.5	6,275	2,540	8.6	5,680	2,362
2024	68,198	7.7	5,251	2,059	9.5	6,479	2,566	8.6	5,865	2,386
2025	70,414	7.7	5,422	2,077	9.5	6,689	2,589	8.6	6,056	2,407
2026	72,702	7.7	5,598	2,092	9.5	6,907	2,608	8.6	6,252	2,425
2027	75,065	7.7	5,780	2,104	9.5	7,131	2,623	8.6	6,456	2,439
2028	77,505	7.7	5,968	2,112	9.5	7,363	2,633	8.6	6,665	2,448
2029	80,024	7.7	6,162	2,116	9.5	7,602	2,638	8.6	6,882	2,453

Valuation Year	Estimated Projected Payroll	LT-5(65) Benefit Program			L-7 Benefit Program			LT-8(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of	Annual	Accrued	As a % of	Annual	Accrued	As a % of	Annual	Accrued
		Payroll	Dollars	Liability	Payroll	Dollars	Liability	Payroll	Dollars	Liability
2020	\$ 60,008	10.2%	\$6,121	\$ 2,683	11.2%	\$6,721	\$ 2,934	11.6%	\$6,961	\$ 3,097
2021	61,958	10.2	6,320	2,720	11.2	6,939	2,974	11.6	7,187	3,139
2022	63,972	10.2	6,525	2,754	11.2	7,165	3,012	11.6	7,421	3,179
2023	66,051	10.2	6,737	2,785	11.2	7,398	3,046	11.6	7,662	3,215
2024	68,198	10.2	6,956	2,813	11.2	7,638	3,077	11.6	7,911	3,248
2025	70,414	10.2	7,182	2,838	11.2	7,886	3,104	11.6	8,168	3,277
2026	72,702	10.2	7,416	2,859	11.2	8,143	3,127	11.6	8,433	3,301
2027	75,065	10.2	7,657	2,875	11.2	8,407	3,145	11.6	8,708	3,320
2028	77,505	10.2	7,906	2,886	11.2	8,681	3,157	11.6	8,991	3,333
2029	80,024	10.2	8,162	2,892	11.2	8,963	3,163	11.6	9,283	3,339

Valuation Year	Estimated Projected Payroll	L-12 Benefit Program			LT-14(65) Benefit Program			L-6 Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of	Annual	Accrued	As a % of	Annual	Accrued	As a % of	Annual	Accrued
		Payroll	Dollars	Liability	Payroll	Dollars	Liability	Payroll	Dollars	Liability
2020	\$ 60,008	12.9%	\$7,741	\$ 3,414	13.1%	\$7,861	\$ 3,504	14.7%	\$8,821	\$ 3,927
2021	61,958	12.9	7,993	3,461	13.1	8,116	3,552	14.7	9,108	3,981
2022	63,972	12.9	8,252	3,505	13.1	8,380	3,597	14.7	9,404	4,031
2023	66,051	12.9	8,521	3,545	13.1	8,653	3,638	14.7	9,709	4,077
2024	68,198	12.9	8,798	3,581	13.1	8,934	3,675	14.7	10,025	4,118
2025	70,414	12.9	9,083	3,612	13.1	9,224	3,707	14.7	10,351	4,154
2026	72,702	12.9	9,379	3,638	13.1	9,524	3,734	14.7	10,687	4,184
2027	75,065	12.9	9,683	3,659	13.1	9,834	3,755	14.7	11,035	4,208
2028	77,505	12.9	9,998	3,673	13.1	10,153	3,770	14.7	11,393	4,224
2029	80,024	12.9	10,323	3,680	13.1	10,483	3,777	14.7	11,764	4,232

Notes regarding the above projections:

- 1) The purpose of the above projections is to comply with the requirements of Section 105.660 of the Revised Statutes of Missouri (RSMo). The projection results may not be applicable for other purposes.
- 2) Estimated projected payroll is based upon the valuation payroll, increased each future year by 3.25%.
- 3) 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.
- 4) Differences between the date of the initial valuation and the actuarial valuation date of February 28th have not been incorporated in the above results.
- 5) The actual employer contribution rates for future valuation dates will be based upon actual data as of the future valuation date.

City of Bates City - General

Employer Contribution Rates (Non-Contributory Plan - 3 Year FAS)

(0% member contributions are additional)

Rule of 80 Retirement Eligibility

Valuation Year	Estimated Projected Payroll	L-1 Benefit Program			L-3 Benefit Program			LT-4(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a %	Annual	Accrued	As a %	Annual	Accrued	As a %	Annual	Accrued
		of Payroll	Dollars	Liability	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability
2020	\$ 60,008	8.0%	\$4,801	\$ 2,029	9.7%	\$5,821	\$ 2,520	8.9%	\$5,341	\$ 2,358
2021	61,958	8.0	4,957	2,057	9.7	6,010	2,555	8.9	5,514	2,390
2022	63,972	8.0	5,118	2,083	9.7	6,205	2,587	8.9	5,694	2,420
2023	66,051	8.0	5,284	2,107	9.7	6,407	2,617	8.9	5,879	2,448
2024	68,198	8.0	5,456	2,128	9.7	6,615	2,644	8.9	6,070	2,473
2025	70,414	8.0	5,633	2,147	9.7	6,830	2,667	8.9	6,267	2,495
2026	72,702	8.0	5,816	2,163	9.7	7,052	2,686	8.9	6,470	2,513
2027	75,065	8.0	6,005	2,175	9.7	7,281	2,701	8.9	6,681	2,527
2028	77,505	8.0	6,200	2,183	9.7	7,518	2,711	8.9	6,898	2,537
2029	80,024	8.0	6,402	2,187	9.7	7,762	2,716	8.9	7,122	2,542

Valuation Year	Estimated Projected Payroll	LT-5(65) Benefit Program			L-7 Benefit Program			LT-8(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of	Annual	Accrued	As a % of	Annual	Accrued	As a % of	Annual	Accrued
		Payroll	Dollars	Liability	Payroll	Dollars	Liability	Payroll	Dollars	Liability
2020	\$ 60,008	10.5%	\$6,301	\$ 2,773	11.5%	\$6,901	\$ 3,048	11.9%	\$7,141	\$ 3,222
2021	61,958	10.5	6,506	2,811	11.5	7,125	3,090	11.9	7,373	3,266
2022	63,972	10.5	6,717	2,846	11.5	7,357	3,129	11.9	7,613	3,307
2023	66,051	10.5	6,935	2,879	11.5	7,596	3,165	11.9	7,860	3,345
2024	68,198	10.5	7,161	2,908	11.5	7,843	3,197	11.9	8,116	3,379
2025	70,414	10.5	7,393	2,934	11.5	8,098	3,225	11.9	8,379	3,409
2026	72,702	10.5	7,634	2,955	11.5	8,361	3,248	11.9	8,652	3,434
2027	75,065	10.5	7,882	2,972	11.5	8,632	3,266	11.9	8,933	3,453
2028	77,505	10.5	8,138	2,983	11.5	8,913	3,279	11.9	9,223	3,466
2029	80,024	10.5	8,403	2,989	11.5	9,203	3,285	11.9	9,523	3,473

Valuation Year	Estimated Projected Payroll	L-12 Benefit Program			LT-14(65) Benefit Program			L-6 Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of	Annual	Accrued	As a % of	Annual	Accrued	As a % of	Annual	Accrued
		Payroll	Dollars	Liability	Payroll	Dollars	Liability	Payroll	Dollars	Liability
2020	\$ 60,008	13.3%	\$7,981	\$ 3,550	13.5%	\$8,101	\$ 3,636	15.1%	\$9,061	\$ 4,057
2021	61,958	13.3	8,240	3,599	13.5	8,364	3,686	15.1	9,356	4,113
2022	63,972	13.3	8,508	3,644	13.5	8,636	3,732	15.1	9,660	4,165
2023	66,051	13.3	8,785	3,686	13.5	8,917	3,775	15.1	9,974	4,213
2024	68,198	13.3	9,070	3,723	13.5	9,207	3,813	15.1	10,298	4,256
2025	70,414	13.3	9,365	3,756	13.5	9,506	3,846	15.1	10,633	4,293
2026	72,702	13.3	9,669	3,783	13.5	9,815	3,874	15.1	10,978	4,324
2027	75,065	13.3	9,984	3,804	13.5	10,134	3,896	15.1	11,335	4,348
2028	77,505	13.3	10,308	3,819	13.5	10,463	3,911	15.1	11,703	4,365
2029	80,024	13.3	10,643	3,826	13.5	10,803	3,918	15.1	12,084	4,373

Notes regarding the above projections:

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- 2) Estimated projected payroll is based upon the valuation payroll, increased each future year by 3.25%.
- 3) 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.
- 4) Differences between the date of the initial valuation and the actuarial valuation date of February 28th have not been incorporated in the above results.
- 5) The actual employer contribution rates for future valuation dates will be based upon actual data as of the future valuation date.

City of Bates City - Police

Employer Contribution Rates (Contributory Plan - 5 Year FAS)

(4% member contributions are additional)

Regular Retirement Eligibility

Valuation Year	Estimated Projected Payroll	L-1 Benefit Program			L-3 Benefit Program			LT-4(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability
		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars	
2020	\$ 39,520	5.4%	\$2,134	\$ 6	7.4%	\$2,924	\$ -	7.2%	\$2,845	\$ 8
2021	40,804	5.4	2,203	6	7.4	3,019	-	7.2	2,938	8
2022	42,130	5.4	2,275	6	7.4	3,118	-	7.2	3,033	8
2023	43,499	5.4	2,349	6	7.4	3,219	-	7.2	3,132	8
2024	44,913	5.4	2,425	6	7.4	3,324	-	7.2	3,234	8
2025	46,373	5.4	2,504	6	7.4	3,432	-	7.2	3,339	8
2026	47,880	5.4	2,586	6	7.4	3,543	-	7.2	3,447	8
2027	49,436	5.4	2,670	6	7.4	3,658	-	7.2	3,559	8
2028	51,043	5.4	2,756	6	7.4	3,777	-	7.2	3,675	8
2029	52,702	5.4	2,846	6	7.4	3,900	-	7.2	3,795	8

Valuation Year	Estimated Projected Payroll	LT-5(65) Benefit Program			L-7 Benefit Program			LT-8(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability
		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars	
2020	\$ 39,520	8.7%	\$3,438	\$ -	9.4%	\$3,715	\$ -	10.3%	\$4,071	\$ -
2021	40,804	8.7	3,550	-	9.4	3,836	-	10.3	4,203	-
2022	42,130	8.7	3,665	-	9.4	3,960	-	10.3	4,339	-
2023	43,499	8.7	3,784	-	9.4	4,089	-	10.3	4,480	-
2024	44,913	8.7	3,907	-	9.4	4,222	-	10.3	4,626	-
2025	46,373	8.7	4,034	-	9.4	4,359	-	10.3	4,776	-
2026	47,880	8.7	4,166	-	9.4	4,501	-	10.3	4,932	-
2027	49,436	8.7	4,301	-	9.4	4,647	-	10.3	5,092	-
2028	51,043	8.7	4,441	-	9.4	4,798	-	10.3	5,257	-
2029	52,702	8.7	4,585	-	9.4	4,954	-	10.3	5,428	-

Valuation Year	Estimated Projected Payroll	L-12 Benefit Program			LT-14(65) Benefit Program			L-6 Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability
		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars	
2020	\$ 39,520	11.5%	\$4,545	\$ -	11.9%	\$4,703	\$ 6	13.5%	\$5,335	\$ 5
2021	40,804	11.5	4,692	-	11.9	4,856	6	13.5	5,509	5
2022	42,130	11.5	4,845	-	11.9	5,013	6	13.5	5,688	5
2023	43,499	11.5	5,002	-	11.9	5,176	6	13.5	5,872	5
2024	44,913	11.5	5,165	-	11.9	5,345	6	13.5	6,063	5
2025	46,373	11.5	5,333	-	11.9	5,518	6	13.5	6,260	5
2026	47,880	11.5	5,506	-	11.9	5,698	6	13.5	6,464	5
2027	49,436	11.5	5,685	-	11.9	5,883	6	13.5	6,674	5
2028	51,043	11.5	5,870	-	11.9	6,074	6	13.5	6,891	5
2029	52,702	11.5	6,061	-	11.9	6,272	6	13.5	7,115	5

Notes regarding the above projections:

- 1) The purpose of the above projections is to comply with the requirements of Section 105.660 of the Revised Statutes of Missouri (RSMo). The projection results may not be applicable for other purposes.
- 2) Estimated projected payroll is based upon the valuation payroll, increased each future year by 3.25%.
- 3) 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.
- 4) Differences between the date of the initial valuation and the actuarial valuation date of February 28th have not been incorporated in the above results.
- 5) The actual employer contribution rates for future valuation dates will be based upon actual data as of the future valuation date.

City of Bates City - Police

Employer Contribution Rates (Contributory Plan - 3 Year FAS)

(4% member contributions are additional)

Regular Retirement Eligibility

Valuation Year	Estimated Projected Payroll	L-1 Benefit Program			L-3 Benefit Program			LT-4(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability
		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars	
2020	\$ 39,520	5.7%	\$2,253	\$ 2	7.8%	\$3,083	\$ -	7.5%	\$2,964	\$ 6
2021	40,804	5.7	2,326	2	7.8	3,183	-	7.5	3,060	6
2022	42,130	5.7	2,401	2	7.8	3,286	-	7.5	3,160	6
2023	43,499	5.7	2,479	2	7.8	3,393	-	7.5	3,262	6
2024	44,913	5.7	2,560	2	7.8	3,503	-	7.5	3,368	6
2025	46,373	5.7	2,643	2	7.8	3,617	-	7.5	3,478	6
2026	47,880	5.7	2,729	2	7.8	3,735	-	7.5	3,591	6
2027	49,436	5.7	2,818	2	7.8	3,856	-	7.5	3,708	6
2028	51,043	5.7	2,909	2	7.8	3,981	-	7.5	3,828	6
2029	52,702	5.7	3,004	2	7.8	4,111	-	7.5	3,953	6

Valuation Year	Estimated Projected Payroll	LT-5(65) Benefit Program			L-7 Benefit Program			LT-8(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability
		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars	
2020	\$ 39,520	9.1%	\$3,596	\$ -	9.9%	\$3,912	\$ 13	10.8%	\$4,268	\$ 3
2021	40,804	9.1	3,713	-	9.9	4,040	13	10.8	4,407	3
2022	42,130	9.1	3,834	-	9.9	4,171	13	10.8	4,550	3
2023	43,499	9.1	3,958	-	9.9	4,306	13	10.8	4,698	3
2024	44,913	9.1	4,087	-	9.9	4,446	13	10.8	4,851	3
2025	46,373	9.1	4,220	-	9.9	4,591	13	10.8	5,008	3
2026	47,880	9.1	4,357	-	9.9	4,740	13	10.8	5,171	3
2027	49,436	9.1	4,499	-	9.9	4,894	13	10.8	5,339	3
2028	51,043	9.1	4,645	-	9.9	5,053	13	10.8	5,513	3
2029	52,702	9.1	4,796	-	9.9	5,217	13	10.8	5,692	3

Valuation Year	Estimated Projected Payroll	L-12 Benefit Program			LT-14(65) Benefit Program			L-6 Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability
		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars	
2020	\$ 39,520	11.9%	\$4,703	\$ 2	12.4%	\$4,900	\$ 10	14.0%	\$5,533	\$ -
2021	40,804	11.9	4,856	2	12.4	5,060	10	14.0	5,713	-
2022	42,130	11.9	5,013	2	12.4	5,224	10	14.0	5,898	-
2023	43,499	11.9	5,176	2	12.4	5,394	10	14.0	6,090	-
2024	44,913	11.9	5,345	2	12.4	5,569	10	14.0	6,288	-
2025	46,373	11.9	5,518	2	12.4	5,750	10	14.0	6,492	-
2026	47,880	11.9	5,698	2	12.4	5,937	10	14.0	6,703	-
2027	49,436	11.9	5,883	2	12.4	6,130	10	14.0	6,921	-
2028	51,043	11.9	6,074	2	12.4	6,329	10	14.0	7,146	-
2029	52,702	11.9	6,272	2	12.4	6,535	10	14.0	7,378	-

Notes regarding the above projections:

- 1) The purpose of the above projections is to comply with the requirements of Section 105.660 of the Revised Statutes of Missouri (RSMo). The projection results may not be applicable for other purposes.
- 2) Estimated projected payroll is based upon the valuation payroll, increased each future year by 3.25%.
- 3) 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.
- 4) Differences between the date of the initial valuation and the actuarial valuation date of February 28th have not been incorporated in the above results.
- 5) The actual employer contribution rates for future valuation dates will be based upon actual data as of the future valuation date.

City of Bates City - Police

Employer Contribution Rates (Non-Contributory Plan - 5 Year FAS)

(0% member contributions are additional)

Regular Retirement Eligibility

Valuation Year	Estimated Projected Payroll	L-1 Benefit Program			L-3 Benefit Program			LT-4(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability
		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars	
2020	\$ 39,520	9.0%	\$3,557	\$ 1	11.1%	\$4,387	\$ 3	10.8%	\$4,268	\$ -
2021	40,804	9.0	3,672	1	11.1	4,529	3	10.8	4,407	-
2022	42,130	9.0	3,792	1	11.1	4,676	3	10.8	4,550	-
2023	43,499	9.0	3,915	1	11.1	4,828	3	10.8	4,698	-
2024	44,913	9.0	4,042	1	11.1	4,985	3	10.8	4,851	-
2025	46,373	9.0	4,174	1	11.1	5,147	3	10.8	5,008	-
2026	47,880	9.0	4,309	1	11.1	5,315	3	10.8	5,171	-
2027	49,436	9.0	4,449	1	11.1	5,487	3	10.8	5,339	-
2028	51,043	9.0	4,594	1	11.1	5,666	3	10.8	5,513	-
2029	52,702	9.0	4,743	1	11.1	5,850	3	10.8	5,692	-

Valuation Year	Estimated Projected Payroll	LT-5(65) Benefit Program			L-7 Benefit Program			LT-8(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability
		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars	
2020	\$ 39,520	12.4%	\$4,900	\$ -	13.1%	\$5,177	\$ 8	14.0%	\$5,533	\$ 6
2021	40,804	12.4	5,060	-	13.1	5,345	8	14.0	5,713	6
2022	42,130	12.4	5,224	-	13.1	5,519	8	14.0	5,898	6
2023	43,499	12.4	5,394	-	13.1	5,698	8	14.0	6,090	6
2024	44,913	12.4	5,569	-	13.1	5,884	8	14.0	6,288	6
2025	46,373	12.4	5,750	-	13.1	6,075	8	14.0	6,492	6
2026	47,880	12.4	5,937	-	13.1	6,272	8	14.0	6,703	6
2027	49,436	12.4	6,130	-	13.1	6,476	8	14.0	6,921	6
2028	51,043	12.4	6,329	-	13.1	6,687	8	14.0	7,146	6
2029	52,702	12.4	6,535	-	13.1	6,904	8	14.0	7,378	6

Valuation Year	Estimated Projected Payroll	L-12 Benefit Program			LT-14(65) Benefit Program			L-6 Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability
		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars	
2020	\$ 39,520	15.2%	\$6,007	\$ -	15.6%	\$6,165	\$ -	17.2%	\$6,797	\$ -
2021	40,804	15.2	6,202	-	15.6	6,365	-	17.2	7,018	-
2022	42,130	15.2	6,404	-	15.6	6,572	-	17.2	7,246	-
2023	43,499	15.2	6,612	-	15.6	6,786	-	17.2	7,482	-
2024	44,913	15.2	6,827	-	15.6	7,006	-	17.2	7,725	-
2025	46,373	15.2	7,049	-	15.6	7,234	-	17.2	7,976	-
2026	47,880	15.2	7,278	-	15.6	7,469	-	17.2	8,235	-
2027	49,436	15.2	7,514	-	15.6	7,712	-	17.2	8,503	-
2028	51,043	15.2	7,759	-	15.6	7,963	-	17.2	8,779	-
2029	52,702	15.2	8,011	-	15.6	8,222	-	17.2	9,065	-

Notes regarding the above projections:

- 1) The purpose of the above projections is to comply with the requirements of Section 105.660 of the Revised Statutes of Missouri (RSMo). The projection results may not be applicable for other purposes.
- 2) Estimated projected payroll is based upon the valuation payroll, increased each future year by 3.25%.
- 3) 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.
- 4) Differences between the date of the initial valuation and the actuarial valuation date of February 28th have not been incorporated in the above results.
- 5) The actual employer contribution rates for future valuation dates will be based upon actual data as of the future valuation date.

City of Bates City - Police

Employer Contribution Rates (Non-Contributory Plan - 3 Year FAS)

(0% member contributions are additional)

Regular Retirement Eligibility

Valuation Year	Estimated Projected Payroll	L-1 Benefit Program			L-3 Benefit Program			LT-4(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2020	\$ 39,520	9.3%	\$3,675	\$ -	11.4%	\$4,505	\$ -	11.2%	\$4,426	\$ -
2021	40,804	9.3	3,795	-	11.4	4,652	-	11.2	4,570	-
2022	42,130	9.3	3,918	-	11.4	4,803	-	11.2	4,719	-
2023	43,499	9.3	4,045	-	11.4	4,959	-	11.2	4,872	-
2024	44,913	9.3	4,177	-	11.4	5,120	-	11.2	5,030	-
2025	46,373	9.3	4,313	-	11.4	5,287	-	11.2	5,194	-
2026	47,880	9.3	4,453	-	11.4	5,458	-	11.2	5,363	-
2027	49,436	9.3	4,598	-	11.4	5,636	-	11.2	5,537	-
2028	51,043	9.3	4,747	-	11.4	5,819	-	11.2	5,717	-
2029	52,702	9.3	4,901	-	11.4	6,008	-	11.2	5,903	-

Valuation Year	Estimated Projected Payroll	LT-5(65) Benefit Program			L-7 Benefit Program			LT-8(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2020	\$ 39,520	12.8%	\$5,059	\$ -	13.5%	\$5,335	\$ -	14.5%	\$5,730	\$ -
2021	40,804	12.8	5,223	-	13.5	5,509	-	14.5	5,917	-
2022	42,130	12.8	5,393	-	13.5	5,688	-	14.5	6,109	-
2023	43,499	12.8	5,568	-	13.5	5,872	-	14.5	6,307	-
2024	44,913	12.8	5,749	-	13.5	6,063	-	14.5	6,512	-
2025	46,373	12.8	5,936	-	13.5	6,260	-	14.5	6,724	-
2026	47,880	12.8	6,129	-	13.5	6,464	-	14.5	6,943	-
2027	49,436	12.8	6,328	-	13.5	6,674	-	14.5	7,168	-
2028	51,043	12.8	6,534	-	13.5	6,891	-	14.5	7,401	-
2029	52,702	12.8	6,746	-	13.5	7,115	-	14.5	7,642	-

Valuation Year	Estimated Projected Payroll	L-12 Benefit Program			LT-14(65) Benefit Program			L-6 Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2020	\$ 39,520	15.7%	\$6,205	\$ 10	16.1%	\$6,363	\$ 6	17.8%	\$7,035	\$ -
2021	40,804	15.7	6,406	10	16.1	6,569	6	17.8	7,263	-
2022	42,130	15.7	6,614	10	16.1	6,783	6	17.8	7,499	-
2023	43,499	15.7	6,829	10	16.1	7,003	6	17.8	7,743	-
2024	44,913	15.7	7,051	10	16.1	7,231	6	17.8	7,995	-
2025	46,373	15.7	7,281	10	16.1	7,466	6	17.8	8,254	-
2026	47,880	15.7	7,517	10	16.1	7,709	6	17.8	8,523	-
2027	49,436	15.7	7,761	10	16.1	7,959	6	17.8	8,800	-
2028	51,043	15.7	8,014	10	16.1	8,218	6	17.8	9,086	-
2029	52,702	15.7	8,274	10	16.1	8,485	6	17.8	9,381	-

Notes regarding the above projections:

- 1) The purpose of the above projections is to comply with the requirements of Section 105.660 of the Revised Statutes of Missouri (RSMo). The projection results may not be applicable for other purposes.
- 2) Estimated projected payroll is based upon the valuation payroll, increased each future year by 3.25%.
- 3) 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.
- 4) Differences between the date of the initial valuation and the actuarial valuation date of February 28th have not been incorporated in the above results.
- 5) The actual employer contribution rates for future valuation dates will be based upon actual data as of the future valuation date.

City of Bates City - Police

Employer Contribution Rates (Contributory Plan - 5 Year FAS)

(4% member contributions are additional)

Rule of 80 Retirement Eligibility

Valuation Year	Estimated Projected Payroll	L-1 Benefit Program			L-3 Benefit Program			LT-4(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability
		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars	
2020	\$ 39,520	5.4%	\$2,134	\$ 6	7.4%	\$2,924	\$ -	7.2%	\$2,845	\$ 8
2021	40,804	5.4	2,203	6	7.4	3,019	-	7.2	2,938	8
2022	42,130	5.4	2,275	6	7.4	3,118	-	7.2	3,033	8
2023	43,499	5.4	2,349	6	7.4	3,219	-	7.2	3,132	8
2024	44,913	5.4	2,425	6	7.4	3,324	-	7.2	3,234	8
2025	46,373	5.4	2,504	6	7.4	3,432	-	7.2	3,339	8
2026	47,880	5.4	2,586	6	7.4	3,543	-	7.2	3,447	8
2027	49,436	5.4	2,670	6	7.4	3,658	-	7.2	3,559	8
2028	51,043	5.4	2,756	6	7.4	3,777	-	7.2	3,675	8
2029	52,702	5.4	2,846	6	7.4	3,900	-	7.2	3,795	8

Valuation Year	Estimated Projected Payroll	LT-5(65) Benefit Program			L-7 Benefit Program			LT-8(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability
		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars	
2020	\$ 39,520	8.7%	\$3,438	\$ -	9.4%	\$3,715	\$ -	10.3%	\$4,071	\$ -
2021	40,804	8.7	3,550	-	9.4	3,836	-	10.3	4,203	-
2022	42,130	8.7	3,665	-	9.4	3,960	-	10.3	4,339	-
2023	43,499	8.7	3,784	-	9.4	4,089	-	10.3	4,480	-
2024	44,913	8.7	3,907	-	9.4	4,222	-	10.3	4,626	-
2025	46,373	8.7	4,034	-	9.4	4,359	-	10.3	4,776	-
2026	47,880	8.7	4,166	-	9.4	4,501	-	10.3	4,932	-
2027	49,436	8.7	4,301	-	9.4	4,647	-	10.3	5,092	-
2028	51,043	8.7	4,441	-	9.4	4,798	-	10.3	5,257	-
2029	52,702	8.7	4,585	-	9.4	4,954	-	10.3	5,428	-

Valuation Year	Estimated Projected Payroll	L-12 Benefit Program			LT-14(65) Benefit Program			L-6 Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability
		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars	
2020	\$ 39,520	11.5%	\$4,545	\$ -	11.9%	\$4,703	\$ 6	13.5%	\$5,335	\$ 5
2021	40,804	11.5	4,692	-	11.9	4,856	6	13.5	5,509	5
2022	42,130	11.5	4,845	-	11.9	5,013	6	13.5	5,688	5
2023	43,499	11.5	5,002	-	11.9	5,176	6	13.5	5,872	5
2024	44,913	11.5	5,165	-	11.9	5,345	6	13.5	6,063	5
2025	46,373	11.5	5,333	-	11.9	5,518	6	13.5	6,260	5
2026	47,880	11.5	5,506	-	11.9	5,698	6	13.5	6,464	5
2027	49,436	11.5	5,685	-	11.9	5,883	6	13.5	6,674	5
2028	51,043	11.5	5,870	-	11.9	6,074	6	13.5	6,891	5
2029	52,702	11.5	6,061	-	11.9	6,272	6	13.5	7,115	5

Notes regarding the above projections:

- 1) The purpose of the above projections is to comply with the requirements of Section 105.660 of the Revised Statutes of Missouri (RSMo). The projection results may not be applicable for other purposes.
- 2) Estimated projected payroll is based upon the valuation payroll, increased each future year by 3.25%.
- 3) 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.
- 4) Differences between the date of the initial valuation and the actuarial valuation date of February 28th have not been incorporated in the above results.
- 5) The actual employer contribution rates for future valuation dates will be based upon actual data as of the future valuation date.

City of Bates City - Police

Employer Contribution Rates (Contributory Plan - 3 Year FAS)

(4% member contributions are additional)

Rule of 80 Retirement Eligibility

Valuation Year	Estimated Projected Payroll	L-1 Benefit Program			L-3 Benefit Program			LT-4(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability
		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars	
2020	\$ 39,520	5.7%	\$2,253	\$ 2	7.8%	\$3,083	\$ -	7.5%	\$2,964	\$ 6
2021	40,804	5.7	2,326	2	7.8	3,183	-	7.5	3,060	6
2022	42,130	5.7	2,401	2	7.8	3,286	-	7.5	3,160	6
2023	43,499	5.7	2,479	2	7.8	3,393	-	7.5	3,262	6
2024	44,913	5.7	2,560	2	7.8	3,503	-	7.5	3,368	6
2025	46,373	5.7	2,643	2	7.8	3,617	-	7.5	3,478	6
2026	47,880	5.7	2,729	2	7.8	3,735	-	7.5	3,591	6
2027	49,436	5.7	2,818	2	7.8	3,856	-	7.5	3,708	6
2028	51,043	5.7	2,909	2	7.8	3,981	-	7.5	3,828	6
2029	52,702	5.7	3,004	2	7.8	4,111	-	7.5	3,953	6

Valuation Year	Estimated Projected Payroll	LT-5(65) Benefit Program			L-7 Benefit Program			LT-8(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability
		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars	
2020	\$ 39,520	9.1%	\$3,596	\$ -	9.9%	\$3,912	\$ 13	10.8%	\$4,268	\$ 3
2021	40,804	9.1	3,713	-	9.9	4,040	13	10.8	4,407	3
2022	42,130	9.1	3,834	-	9.9	4,171	13	10.8	4,550	3
2023	43,499	9.1	3,958	-	9.9	4,306	13	10.8	4,698	3
2024	44,913	9.1	4,087	-	9.9	4,446	13	10.8	4,851	3
2025	46,373	9.1	4,220	-	9.9	4,591	13	10.8	5,008	3
2026	47,880	9.1	4,357	-	9.9	4,740	13	10.8	5,171	3
2027	49,436	9.1	4,499	-	9.9	4,894	13	10.8	5,339	3
2028	51,043	9.1	4,645	-	9.9	5,053	13	10.8	5,513	3
2029	52,702	9.1	4,796	-	9.9	5,217	13	10.8	5,692	3

Valuation Year	Estimated Projected Payroll	L-12 Benefit Program			LT-14(65) Benefit Program			L-6 Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability
		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars	
2020	\$ 39,520	11.9%	\$4,703	\$ 2	12.4%	\$4,900	\$ 10	14.0%	\$5,533	\$ -
2021	40,804	11.9	4,856	2	12.4	5,060	10	14.0	5,713	-
2022	42,130	11.9	5,013	2	12.4	5,224	10	14.0	5,898	-
2023	43,499	11.9	5,176	2	12.4	5,394	10	14.0	6,090	-
2024	44,913	11.9	5,345	2	12.4	5,569	10	14.0	6,288	-
2025	46,373	11.9	5,518	2	12.4	5,750	10	14.0	6,492	-
2026	47,880	11.9	5,698	2	12.4	5,937	10	14.0	6,703	-
2027	49,436	11.9	5,883	2	12.4	6,130	10	14.0	6,921	-
2028	51,043	11.9	6,074	2	12.4	6,329	10	14.0	7,146	-
2029	52,702	11.9	6,272	2	12.4	6,535	10	14.0	7,378	-

Notes regarding the above projections:

- 1) The purpose of the above projections is to comply with the requirements of Section 105.660 of the Revised Statutes of Missouri (RSMo). The projection results may not be applicable for other purposes.
- 2) Estimated projected payroll is based upon the valuation payroll, increased each future year by 3.25%.
- 3) 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.
- 4) Differences between the date of the initial valuation and the actuarial valuation date of February 28th have not been incorporated in the above results.
- 5) The actual employer contribution rates for future valuation dates will be based upon actual data as of the future valuation date.

City of Bates City - Police

Employer Contribution Rates (Non-Contributory Plan - 5 Year FAS)

(0% member contributions are additional)

Rule of 80 Retirement Eligibility

Valuation Year	Estimated Projected Payroll	L-1 Benefit Program			L-3 Benefit Program			LT-4(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a %	Annual	Accrued	As a %	Annual	Accrued	As a %	Annual	Accrued
		of Payroll	Dollars	Liability	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability
2020	\$ 39,520	9.0%	\$3,557	\$ 1	11.1%	\$4,387	\$ 3	10.8%	\$4,268	\$ -
2021	40,804	9.0	3,672	1	11.1	4,529	3	10.8	4,407	-
2022	42,130	9.0	3,792	1	11.1	4,676	3	10.8	4,550	-
2023	43,499	9.0	3,915	1	11.1	4,828	3	10.8	4,698	-
2024	44,913	9.0	4,042	1	11.1	4,985	3	10.8	4,851	-
2025	46,373	9.0	4,174	1	11.1	5,147	3	10.8	5,008	-
2026	47,880	9.0	4,309	1	11.1	5,315	3	10.8	5,171	-
2027	49,436	9.0	4,449	1	11.1	5,487	3	10.8	5,339	-
2028	51,043	9.0	4,594	1	11.1	5,666	3	10.8	5,513	-
2029	52,702	9.0	4,743	1	11.1	5,850	3	10.8	5,692	-

Valuation Year	Estimated Projected Payroll	LT-5(65) Benefit Program			L-7 Benefit Program			LT-8(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of	Annual	Accrued	As a % of	Annual	Accrued	As a % of	Annual	Accrued
		Payroll	Dollars	Liability	Payroll	Dollars	Liability	Payroll	Dollars	Liability
2020	\$ 39,520	12.4%	\$4,900	\$ -	13.1%	\$5,177	\$ 3	14.0%	\$5,533	\$ 6
2021	40,804	12.4	5,060	-	13.1	5,345	3	14.0	5,713	6
2022	42,130	12.4	5,224	-	13.1	5,519	3	14.0	5,898	6
2023	43,499	12.4	5,394	-	13.1	5,698	3	14.0	6,090	6
2024	44,913	12.4	5,569	-	13.1	5,884	3	14.0	6,288	6
2025	46,373	12.4	5,750	-	13.1	6,075	3	14.0	6,492	6
2026	47,880	12.4	5,937	-	13.1	6,272	3	14.0	6,703	6
2027	49,436	12.4	6,130	-	13.1	6,476	3	14.0	6,921	6
2028	51,043	12.4	6,329	-	13.1	6,687	3	14.0	7,146	6
2029	52,702	12.4	6,535	-	13.1	6,904	3	14.0	7,378	6

Valuation Year	Estimated Projected Payroll	L-12 Benefit Program			LT-14(65) Benefit Program			L-6 Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of	Annual	Accrued	As a % of	Annual	Accrued	As a % of	Annual	Accrued
		Payroll	Dollars	Liability	Payroll	Dollars	Liability	Payroll	Dollars	Liability
2020	\$ 39,520	15.2%	\$6,007	\$ -	15.6%	\$6,165	\$ -	17.2%	\$6,797	\$ -
2021	40,804	15.2	6,202	-	15.6	6,365	-	17.2	7,018	-
2022	42,130	15.2	6,404	-	15.6	6,572	-	17.2	7,246	-
2023	43,499	15.2	6,612	-	15.6	6,786	-	17.2	7,482	-
2024	44,913	15.2	6,827	-	15.6	7,006	-	17.2	7,725	-
2025	46,373	15.2	7,049	-	15.6	7,234	-	17.2	7,976	-
2026	47,880	15.2	7,278	-	15.6	7,469	-	17.2	8,235	-
2027	49,436	15.2	7,514	-	15.6	7,712	-	17.2	8,503	-
2028	51,043	15.2	7,759	-	15.6	7,963	-	17.2	8,779	-
2029	52,702	15.2	8,011	-	15.6	8,222	-	17.2	9,065	-

Notes regarding the above projections:

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- 2) Estimated projected payroll is based upon the valuation payroll, increased each future year by 3.25%.
- 3) 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.
- 4) Differences between the date of the initial valuation and the actuarial valuation date of February 28th have not been incorporated in the above results.
- 5) The actual employer contribution rates for future valuation dates will be based upon actual data as of the future valuation date.

City of Bates City - Police

Employer Contribution Rates (Non-Contributory Plan - 3 Year FAS)

(0% member contributions are additional)

Rule of 80 Retirement Eligibility

Valuation Year	Estimated Projected Payroll	L-1 Benefit Program			L-3 Benefit Program			LT-4(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability
		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars	
2020	\$ 39,520	9.3%	\$3,675	\$ -	11.4%	\$4,505	\$ -	11.2%	\$4,426	\$ -
2021	40,804	9.3	3,795	-	11.4	4,652	-	11.2	4,570	-
2022	42,130	9.3	3,918	-	11.4	4,803	-	11.2	4,719	-
2023	43,499	9.3	4,045	-	11.4	4,959	-	11.2	4,872	-
2024	44,913	9.3	4,177	-	11.4	5,120	-	11.2	5,030	-
2025	46,373	9.3	4,313	-	11.4	5,287	-	11.2	5,194	-
2026	47,880	9.3	4,453	-	11.4	5,458	-	11.2	5,363	-
2027	49,436	9.3	4,598	-	11.4	5,636	-	11.2	5,537	-
2028	51,043	9.3	4,747	-	11.4	5,819	-	11.2	5,717	-
2029	52,702	9.3	4,901	-	11.4	6,008	-	11.2	5,903	-

Valuation Year	Estimated Projected Payroll	LT-5(65) Benefit Program			L-7 Benefit Program			LT-8(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability
		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars	
2020	\$ 39,520	12.8%	\$5,059	\$ -	13.5%	\$5,335	\$ -	14.5%	\$5,730	\$ -
2021	40,804	12.8	5,223	-	13.5	5,509	-	14.5	5,917	-
2022	42,130	12.8	5,393	-	13.5	5,688	-	14.5	6,109	-
2023	43,499	12.8	5,568	-	13.5	5,872	-	14.5	6,307	-
2024	44,913	12.8	5,749	-	13.5	6,063	-	14.5	6,512	-
2025	46,373	12.8	5,936	-	13.5	6,260	-	14.5	6,724	-
2026	47,880	12.8	6,129	-	13.5	6,464	-	14.5	6,943	-
2027	49,436	12.8	6,328	-	13.5	6,674	-	14.5	7,168	-
2028	51,043	12.8	6,534	-	13.5	6,891	-	14.5	7,401	-
2029	52,702	12.8	6,746	-	13.5	7,115	-	14.5	7,642	-

Valuation Year	Estimated Projected Payroll	L-12 Benefit Program			LT-14(65) Benefit Program			L-6 Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability
		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars	
2020	\$ 39,520	15.7%	\$6,205	\$ 10	16.1%	\$6,363	\$ 6	17.8%	\$7,035	\$ -
2021	40,804	15.7	6,406	10	16.1	6,569	6	17.8	7,263	-
2022	42,130	15.7	6,614	10	16.1	6,783	6	17.8	7,499	-
2023	43,499	15.7	6,829	10	16.1	7,003	6	17.8	7,743	-
2024	44,913	15.7	7,051	10	16.1	7,231	6	17.8	7,995	-
2025	46,373	15.7	7,281	10	16.1	7,466	6	17.8	8,254	-
2026	47,880	15.7	7,517	10	16.1	7,709	6	17.8	8,523	-
2027	49,436	15.7	7,761	10	16.1	7,959	6	17.8	8,800	-
2028	51,043	15.7	8,014	10	16.1	8,218	6	17.8	9,086	-
2029	52,702	15.7	8,274	10	16.1	8,485	6	17.8	9,381	-

Notes regarding the above projections:

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