



The Initial Valuation For

**Barton, Dade, Cedar and Jasper
PWSD #1**

as of March 31, 2019



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May 29, 2019

Barton, Dade, Cedar and Jasper PWSD #1
Lamar, 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, 2018.

The computed contributions required for LAGERS participation will permit the System to continue to operate in accordance with the actuarial principles of level cost financing and the State law which governs LAGERS. 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 March 31, 2019. 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.

Barton, Dade, Cedar and Jasper PWSD #1

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	9.60%	2.40%	0.20%	12.20%
L-3	General	12.10	3.50	0.30	15.90
LT-4(65)	General	10.70	3.00	0.20	13.90
LT-5(65)	General	12.90	4.00	0.30	17.20
L-7	General	14.60	4.70	0.30	19.60
LT-8(65)	General	15.10	5.00	0.30	20.40
L-12	General	17.10	5.90	0.40	23.40
LT-14(65)	General	17.30	6.10	0.40	23.80
L-6	General	19.60	7.10	0.50	27.20

* 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.

Barton, Dade, Cedar and Jasper PWSD #1

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

Regular Retirement Eligibility

Benefit Program	Employee Groups	Percents of Active Member Payroll			
		Prior Service Cost *	Current Cost	Disability Cost	Total Employer Contribution Rate
L-1	General	10.00%	2.60%	0.20%	12.80%
L-3	General	12.50	3.80	0.30	16.60
LT-4(65)	General	11.00	3.20	0.20	14.40
LT-5(65)	General	13.30	4.20	0.30	17.80
L-7	General	15.10	5.00	0.30	20.40
LT-8(65)	General	15.60	5.30	0.30	21.20
L-12	General	17.70	6.20	0.40	24.30
LT-14(65)	General	17.90	6.40	0.40	24.70
L-6	General	20.20	7.50	0.50	28.20

* 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.

Barton, Dade, Cedar and Jasper PWSD #1

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	9.90%	5.90%	0.20%	16.00%
L-3	General	12.30	7.10	0.30	19.70
LT-4(65)	General	10.90	6.50	0.20	17.60
LT-5(65)	General	13.10	7.60	0.30	21.00
L-7	General	14.80	8.40	0.30	23.50
LT-8(65)	General	15.30	8.70	0.30	24.30
L-12	General	17.30	9.60	0.40	27.30
LT-14(65)	General	17.50	9.80	0.40	27.70
L-6	General	19.70	10.90	0.50	31.10

* 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.

Barton, Dade, Cedar and Jasper PWSD #1

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	10.20%	6.10%	0.20%	16.50%
L-3	General	12.80	7.40	0.30	20.50
LT-4(65)	General	11.30	6.70	0.20	18.20
LT-5(65)	General	13.50	7.80	0.30	21.60
L-7	General	15.30	8.70	0.30	24.30
LT-8(65)	General	15.80	9.00	0.30	25.10
L-12	General	17.90	9.90	0.40	28.20
LT-14(65)	General	18.10	10.10	0.40	28.60
L-6	General	20.40	11.20	0.50	32.10

* 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.

Barton, Dade, Cedar and Jasper PWSD #1

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	10.90%	3.10%	0.20%	14.20%
L-3	General	13.70	4.40	0.30	18.40
LT-4(65)	General	13.40	4.40	0.20	18.00
LT-5(65)	General	15.60	5.40	0.30	21.30
L-7	General	16.50	5.70	0.30	22.50
LT-8(65)	General	17.70	6.30	0.30	24.30
L-12	General	19.30	7.00	0.40	26.70
LT-14(65)	General	19.90	7.40	0.40	27.70
L-6	General	22.10	8.40	0.50	31.00

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.

Barton, Dade, Cedar and Jasper PWSD #1

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			Total Employer Contribution Rate
		Prior Service Cost *	Current Cost	Disability Cost	
L-1	General	11.30%	3.20%	0.20%	14.70%
L-3	General	14.20	4.60	0.30	19.10
LT-4(65)	General	13.90	4.70	0.20	18.80
LT-5(65)	General	16.10	5.60	0.30	22.00
L-7	General	17.10	6.00	0.30	23.40
LT-8(65)	General	18.40	6.70	0.30	25.40
L-12	General	20.00	7.30	0.40	27.70
LT-14(65)	General	20.60	7.80	0.40	28.80
L-6	General	22.90	8.80	0.50	32.20

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.

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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	11.10%	6.50%	0.20%	17.80%
L-3	General	13.90	7.90	0.30	22.10
LT-4(65)	General	13.60	7.90	0.20	21.70
LT-5(65)	General	15.70	8.90	0.30	24.90
L-7	General	16.70	9.30	0.30	26.30
LT-8(65)	General	17.90	10.00	0.30	28.20
L-12	General	19.50	10.70	0.40	30.60
LT-14(65)	General	20.10	11.10	0.40	31.60
L-6	General	22.20	12.20	0.50	34.90

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.

Barton, Dade, Cedar and Jasper PWSD #1

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	11.50%	6.70%	0.20%	18.40%
L-3	General	14.40	8.20	0.30	22.90
LT-4(65)	General	14.00	8.10	0.20	22.30
LT-5(65)	General	16.30	9.20	0.30	25.80
L-7	General	17.30	9.70	0.30	27.30
LT-8(65)	General	18.50	10.40	0.30	29.20
L-12	General	20.10	11.10	0.40	31.60
LT-14(65)	General	20.80	11.50	0.40	32.70
L-6	General	23.00	12.60	0.50	36.10

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

* 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.

Barton, Dade, Cedar and Jasper PWSD #1

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
L-1	\$ 43,720
L-3	56,980
LT-4(65)	49,812
LT-5(65)	61,638
L-7	70,239
LT-8(65)	73,106
L-12	83,857
LT-14(65)	85,290
L-6	97,474

3 Year FAS	
Benefit Program	General
L-1	\$ 45,870
L-3	59,488
LT-4(65)	51,604
LT-5(65)	63,788
L-7	73,106
LT-8(65)	75,973
L-12	87,082
LT-14(65)	88,515
L-6	101,058

Non-Contributory Plan

5 Year FAS	
Benefit Program	General
L-1	\$ 57,338
L-3	70,597
LT-4(65)	63,072
LT-5(65)	75,256
L-7	84,215
LT-8(65)	87,082
L-12	97,833
LT-14(65)	99,266
L-6	111,451

3 Year FAS	
Benefit Program	General
L-1	\$ 59,130
L-3	73,464
LT-4(65)	65,222
LT-5(65)	77,406
L-7	87,082
LT-8(65)	89,949
L-12	101,058
LT-14(65)	102,492
L-6	115,034

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.

Barton, Dade, Cedar and Jasper PWSD #1

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
L-1	\$ 50,887
L-3	65,939
LT-4(65)	64,505
LT-5(65)	76,331
L-7	80,631
LT-8(65)	87,082
L-12	95,683
LT-14(65)	99,266
L-6	111,092

3 Year FAS	
Benefit Program	General
L-1	\$ 52,679
L-3	68,447
LT-4(65)	67,372
LT-5(65)	78,840
L-7	83,857
LT-8(65)	91,024
L-12	99,266
LT-14(65)	103,208
L-6	115,393

Non-Contributory Plan

5 Year FAS	
Benefit Program	General
L-1	\$ 63,788
L-3	79,198
LT-4(65)	77,765
LT-5(65)	89,232
L-7	94,249
LT-8(65)	101,058
L-12	109,659
LT-14(65)	113,242
L-6	125,068

3 Year FAS	
Benefit Program	General
L-1	\$ 65,939
L-3	82,065
LT-4(65)	79,915
LT-5(65)	92,457
L-7	97,833
LT-8(65)	104,642
L-12	113,242
LT-14(65)	117,184
L-6	129,369

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.

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Employees and Payroll Included in the Valuation

	General
Number of Employees	8
Annual Payroll	\$ 358,362

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:

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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	\$ 608,495	\$ 629,779	\$ 623,382	\$ 644,388
L-3	General	765,599	792,141	779,230	805,470
LT-4(65)	General	672,726	696,284	687,247	710,505
LT-5(65)	General	813,763	842,020	827,128	855,048
L-7	General	922,460	954,266	935,058	966,572
LT-8(65)	General	954,602	987,500	966,995	999,665
L-12	General	1,079,094	1,116,109	1,090,893	1,127,694
LT-14(65)	General	1,095,178	1,132,737	1,106,863	1,144,218
L-6	General	1,235,585	1,277,826	1,246,759	1,288,822

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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	\$ 690,200	\$ 714,673	\$ 701,752	\$ 726,069
L-3	General	866,624	897,177	877,222	907,577
LT-4(65)	General	845,170	875,251	856,165	886,039
LT-5(65)	General	982,854	1,017,606	993,022	1,027,548
L-7	General	1,042,916	1,079,510	1,052,654	1,089,132
LT-8(65)	General	1,120,384	1,159,808	1,129,862	1,169,081
L-12	General	1,218,978	1,261,664	1,228,116	1,270,607
LT-14(65)	General	1,257,738	1,301,800	1,266,707	1,310,592
L-6	General	1,394,906	1,443,761	1,403,529	1,452,153

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

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

Schedule 2.

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

Early Retirement

Retirement 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, 2018

(Section references are to RSMo)

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

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

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

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

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

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

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

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

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

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

The early allowance amount, payable monthly for life, is computed in the same manner as an age & service allowance, based upon the service and earnings record to time of early retirement, but reduced to reflect the fact that the age when payments begin is younger than the minimum service retirement age. The amount of the reduction is 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	\$ 889	\$1,414	94%
2,000	700	1,032	1,732	87%
2,500	875	1,175	2,050	82%
3,000	1,050	1,318	2,368	79%
3,500	1,225	1,462	2,687	77%
4,000	1,400	1,604	3,004	75%
25 Years of Service:				
\$1,500	\$ 375	\$ 889	\$1,264	84%
2,000	500	1,032	1,532	77%
2,500	625	1,175	1,800	72%
3,000	750	1,318	2,068	69%
3,500	875	1,462	2,337	67%
4,000	1,000	1,604	2,604	65%
15 Years of Service:				
\$1,500	\$225	\$ 889	\$1,114	74%
2,000	300	1,032	1,332	67%
2,500	375	1,175	1,550	62%
3,000	450	1,318	1,768	59%
3,500	525	1,462	1,987	57%
4,000	600	1,604	2,204	55%

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 2018 - 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	\$ 889	\$1,545	103%
2,000	875	1,032	1,907	95%
2,500	1,094	1,175	2,269	91%
3,000	1,313	1,318	2,631	88%
3,500	1,531	1,462	2,993	86%
4,000	1,750	1,604	3,354	84%
25 Years of Service:				
\$1,500	\$ 469	\$ 889	\$1,358	91%
2,000	625	1,032	1,657	83%
2,500	781	1,175	1,956	78%
3,000	938	1,318	2,256	75%
3,500	1,094	1,462	2,556	73%
4,000	1,250	1,604	2,854	71%
15 Years of Service:				
\$1,500	\$281	\$ 889	\$1,170	78%
2,000	375	1,032	1,407	70%
2,500	469	1,175	1,644	66%
3,000	563	1,318	1,881	63%
3,500	656	1,462	2,118	61%
4,000	750	1,604	2,354	59%

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 2018 - 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	\$ 889	\$1,677	112%
2,000	1,050	1,032	2,082	104%
2,500	1,313	1,175	2,488	100%
3,000	1,575	1,318	2,893	96%
3,500	1,838	1,462	3,300	94%
4,000	2,100	1,604	3,704	93%
25 Years of Service:				
\$1,500	\$ 563	\$ 889	\$1,452	97%
2,000	750	1,032	1,782	89%
2,500	938	1,175	2,113	85%
3,000	1,125	1,318	2,443	81%
3,500	1,313	1,462	2,775	79%
4,000	1,500	1,604	3,104	78%
15 Years of Service:				
\$1,500	\$338	\$ 889	\$1,227	82%
2,000	450	1,032	1,482	74%
2,500	563	1,175	1,738	70%
3,000	675	1,318	1,993	66%
3,500	788	1,462	2,250	64%
4,000	900	1,604	2,504	63%

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 2018 - 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	\$ 889	\$1,808	121%
2,000	1,225	1,032	2,257	113%
2,500	1,531	1,175	2,706	108%
3,000	1,838	1,318	3,156	105%
3,500	2,144	1,462	3,606	103%
4,000	2,450	1,604	4,054	101%
25 Years of Service:				
\$1,500	\$ 656	\$ 889	\$1,545	103%
2,000	875	1,032	1,907	95%
2,500	1,094	1,175	2,269	91%
3,000	1,313	1,318	2,631	88%
3,500	1,531	1,462	2,993	86%
4,000	1,750	1,604	3,354	84%
15 Years of Service:				
\$1,500	\$ 394	\$ 889	\$1,283	86%
2,000	525	1,032	1,557	78%
2,500	656	1,175	1,831	73%
3,000	788	1,318	2,106	70%
3,500	919	1,462	2,381	68%
4,000	1,050	1,604	2,654	66%

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 2018 - 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	\$ 889	\$1,939	129%
2,000	1,400	1,032	2,432	122%
2,500	1,750	1,175	2,925	117%
3,000	2,100	1,318	3,418	114%
3,500	2,450	1,462	3,912	112%
4,000	2,800	1,604	4,404	110%
25 Years of Service:				
\$1,500	\$ 750	\$ 889	\$1,639	109%
2,000	1,000	1,032	2,032	102%
2,500	1,250	1,175	2,425	97%
3,000	1,500	1,318	2,818	94%
3,500	1,750	1,462	3,212	92%
4,000	2,000	1,604	3,604	90%
15 Years of Service:				
\$1,500	\$ 450	\$ 889	\$1,339	89%
2,000	600	1,032	1,632	82%
2,500	750	1,175	1,925	77%
3,000	900	1,318	2,218	74%
3,500	1,050	1,462	2,512	72%
4,000	1,200	1,604	2,804	70%

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 2018 - 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	\$ 889	\$1,050	\$1,414	70%	94%
2,000	1,400	700	1,032	1,400	1,732	70%	87%
2,500	1,750	875	1,175	1,750	2,050	70%	82%
3,000	2,100	1,050	1,318	2,100	2,368	70%	79%
3,500	2,450	1,225	1,462	2,450	2,687	70%	77%
4,000	2,800	1,400	1,604	2,800	3,004	70%	75%
25 Years of Service:							
\$1,500	\$ 750	\$ 375	\$ 889	\$ 750	\$1,264	50%	84%
2,000	1,000	500	1,032	1,000	1,532	50%	77%
2,500	1,250	625	1,175	1,250	1,800	50%	72%
3,000	1,500	750	1,318	1,500	2,068	50%	69%
3,500	1,750	875	1,462	1,750	2,337	50%	67%
4,000	2,000	1,000	1,604	2,000	2,604	50%	65%
15 Years of Service:							
\$1,500	\$ 450	\$225	\$ 889	\$ 450	\$1,114	30%	74%
2,000	600	300	1,032	600	1,332	30%	67%
2,500	750	375	1,175	750	1,550	30%	62%
3,000	900	450	1,318	900	1,768	30%	59%
3,500	1,050	525	1,462	1,050	1,987	30%	57%
4,000	1,200	600	1,604	1,200	2,204	30%	55%

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 2018 - 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	\$ 889	\$1,050	\$1,545	70%	103%
2,000	1,400	875	1,032	1,400	1,907	70%	95%
2,500	1,750	1,094	1,175	1,750	2,269	70%	91%
3,000	2,100	1,313	1,318	2,100	2,631	70%	88%
3,500	2,450	1,531	1,462	2,450	2,993	70%	86%
4,000	2,800	1,750	1,604	2,800	3,354	70%	84%
25 Years of Service:							
\$1,500	\$ 750	\$ 469	\$ 889	\$ 750	\$1,358	50%	91%
2,000	1,000	625	1,032	1,000	1,657	50%	83%
2,500	1,250	781	1,175	1,250	1,956	50%	78%
3,000	1,500	938	1,318	1,500	2,256	50%	75%
3,500	1,750	1,094	1,462	1,750	2,556	50%	73%
4,000	2,000	1,250	1,604	2,000	2,854	50%	71%
15 Years of Service:							
\$1,500	\$ 450	\$281	\$ 889	\$ 450	\$1,170	30%	78%
2,000	600	375	1,032	600	1,407	30%	70%
2,500	750	469	1,175	750	1,644	30%	66%
3,000	900	563	1,318	900	1,881	30%	63%
3,500	1,050	656	1,462	1,050	2,118	30%	61%
4,000	1,200	750	1,604	1,200	2,354	30%	59%

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 2018 - 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	\$ 889	\$1,050	\$1,677	70%	112%
2,000	1,400	1,050	1,032	1,400	2,082	70%	104%
2,500	1,750	1,313	1,175	1,750	2,488	70%	100%
3,000	2,100	1,575	1,318	2,100	2,893	70%	96%
3,500	2,450	1,838	1,462	2,450	3,300	70%	94%
4,000	2,800	2,100	1,604	2,800	3,704	70%	93%
25 Years of Service:							
\$1,500	\$ 750	\$ 563	\$ 889	\$ 750	\$1,452	50%	97%
2,000	1,000	750	1,032	1,000	1,782	50%	89%
2,500	1,250	938	1,175	1,250	2,113	50%	85%
3,000	1,500	1,125	1,318	1,500	2,443	50%	81%
3,500	1,750	1,313	1,462	1,750	2,775	50%	79%
4,000	2,000	1,500	1,604	2,000	3,104	50%	78%
15 Years of Service:							
\$1,500	\$ 450	\$338	\$ 889	\$ 450	\$1,227	30%	82%
2,000	600	450	1,032	600	1,482	30%	74%
2,500	750	563	1,175	750	1,738	30%	70%
3,000	900	675	1,318	900	1,993	30%	66%
3,500	1,050	788	1,462	1,050	2,250	30%	64%
4,000	1,200	900	1,604	1,200	2,504	30%	63%

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 2018 - 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	\$ 889	\$1,050	\$1,808	70%	121%
2,000	1,400	1,225	1,032	1,400	2,257	70%	113%
2,500	1,750	1,531	1,175	1,750	2,706	70%	108%
3,000	2,100	1,838	1,318	2,100	3,156	70%	105%
3,500	2,450	2,144	1,462	2,450	3,606	70%	103%
4,000	2,800	2,450	1,604	2,800	4,054	70%	101%
25 Years of Service:							
\$1,500	\$ 750	\$ 656	\$ 889	\$ 750	\$1,545	50%	103%
2,000	1,000	875	1,032	1,000	1,907	50%	95%
2,500	1,250	1,094	1,175	1,250	2,269	50%	91%
3,000	1,500	1,313	1,318	1,500	2,631	50%	88%
3,500	1,750	1,531	1,462	1,750	2,993	50%	86%
4,000	2,000	1,750	1,604	2,000	3,354	50%	84%
15 Years of Service:							
\$1,500	\$ 450	\$ 394	\$ 889	\$ 450	\$1,283	30%	86%
2,000	600	525	1,032	600	1,557	30%	78%
2,500	750	656	1,175	750	1,831	30%	73%
3,000	900	788	1,318	900	2,106	30%	70%
3,500	1,050	919	1,462	1,050	2,381	30%	68%
4,000	1,200	1,050	1,604	1,200	2,654	30%	66%

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 2018 - 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

Barton, Dade, Cedar and Jasper PWSD #1

March 31, 2019

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	1							1	\$ 33,981
25-29									
30-34	1							1	\$ 30,464
35-39	2							2	\$ 57,703
40-44									
45-49									
50-54			1	1		1		3	\$ 183,871
55-59									
60-64							1	1	\$ 52,343
65-69									
70 & Over									
Totals	4		1	1		1	1	8	\$ 358,362

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

Age: 43.8 years.

Benefit Service: 13.1 years.

Annual Pay: \$44,795.

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.



May 29, 2019 E-mail

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

Dear Bob:

Enclosed is the report of the March 31, 2019 Initial Actuarial Valuation of LAGERS benefits for the employees of

Barton, Dade, Cedar and Jasper PWSD #1

Sincerely,

A handwritten signature in black ink that reads "Mita Drazilov". The signature is written in a cursive style with a large initial "M".

Mita D. Drazilov, ASA, FCA, MAAA

MDD:wp

May 29, 2019

Barton, Dade, Cedar and Jasper PWSD #1
Lamar, 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 March 31, 2019 Initial Valuation for the Barton, Dade, Cedar and Jasper PWSD #1 dated May 29, 2019.

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, 2018.

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

Barton, Dade, Cedar and Jasper PWSD #1 - 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
2019	\$ 358,362	12.2%	\$43,720	\$ 608,495	15.9%	\$56,980	\$ 765,599	13.9%	\$49,812	\$ 672,726
2020	370,009	12.2	45,141	616,831	15.9	58,831	776,088	13.9	51,431	681,942
2021	382,034	12.2	46,608	624,609	15.9	60,743	785,874	13.9	53,103	690,541
2022	394,450	12.2	48,123	631,750	15.9	62,718	794,859	13.9	54,829	698,436
2023	407,270	12.2	49,687	638,169	15.9	64,756	802,935	13.9	56,611	705,533
2024	420,506	12.2	51,302	643,774	15.9	66,860	809,987	13.9	58,450	711,729
2025	434,172	12.2	52,969	648,463	15.9	69,033	815,887	13.9	60,350	716,913
2026	448,283	12.2	54,691	652,128	15.9	71,277	820,498	13.9	62,311	720,965
2027	462,852	12.2	56,468	654,650	15.9	73,593	823,671	13.9	64,336	723,753
2028	477,895	12.2	58,303	655,900	15.9	75,985	825,244	13.9	66,427	725,135

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
2019	\$ 358,362	17.2%	\$61,638	\$ 813,763	19.6%	\$70,239	\$ 922,460	20.4%	\$73,106	\$ 954,602
2020	370,009	17.2	63,642	824,911	19.6	72,522	935,098	20.4	75,482	967,680
2021	382,034	17.2	65,710	835,313	19.6	74,879	946,889	20.4	77,935	979,882
2022	394,450	17.2	67,845	844,863	19.6	77,312	957,715	20.4	80,468	991,085
2023	407,270	17.2	70,050	853,448	19.6	79,825	967,446	20.4	83,083	1,001,155
2024	420,506	17.2	72,327	860,943	19.6	82,419	975,942	20.4	85,783	1,009,947
2025	434,172	17.2	74,678	867,214	19.6	85,098	983,051	20.4	88,571	1,017,304
2026	448,283	17.2	77,105	872,115	19.6	87,863	988,607	20.4	91,450	1,023,053
2027	462,852	17.2	79,611	875,488	19.6	90,719	992,430	20.4	94,422	1,027,009
2028	477,895	17.2	82,198	877,160	19.6	93,667	994,325	20.4	97,491	1,028,970

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
2019	\$ 358,362	23.4%	\$83,857	\$ 1,079,094	23.8%	\$85,290	\$ 1,095,178	27.2%	\$97,474	\$ 1,235,585
2020	370,009	23.4	86,582	1,093,877	23.8	88,062	1,110,182	27.2	100,642	1,252,512
2021	382,034	23.4	89,396	1,107,670	23.8	90,924	1,124,181	27.2	103,913	1,268,305
2022	394,450	23.4	92,301	1,120,334	23.8	93,879	1,137,034	27.2	107,290	1,282,805
2023	407,270	23.4	95,301	1,131,718	23.8	96,930	1,148,587	27.2	110,777	1,295,839
2024	420,506	23.4	98,398	1,141,657	23.8	100,080	1,158,674	27.2	114,378	1,307,220
2025	434,172	23.4	101,596	1,149,973	23.8	103,333	1,167,114	27.2	118,095	1,316,742
2026	448,283	23.4	104,898	1,156,472	23.8	106,691	1,173,710	27.2	121,933	1,324,184
2027	462,852	23.4	108,307	1,160,944	23.8	110,159	1,178,249	27.2	125,896	1,329,305
2028	477,895	23.4	111,827	1,163,161	23.8	113,739	1,180,499	27.2	129,987	1,331,843

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.

Barton, Dade, Cedar and Jasper PWSD #1 - 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
2019	\$ 358,362	12.8%	\$45,870	\$ 629,779	16.6%	\$59,488	\$ 792,141	14.4%	\$51,604	\$ 696,284
2020	370,009	12.8	47,361	638,407	16.6	61,421	802,993	14.4	53,281	705,823
2021	382,034	12.8	48,900	646,457	16.6	63,418	813,118	14.4	55,013	714,723
2022	394,450	12.8	50,490	653,848	16.6	65,479	822,414	14.4	56,801	722,894
2023	407,270	12.8	52,131	660,492	16.6	67,607	830,770	14.4	58,647	730,239
2024	420,506	12.8	53,825	666,293	16.6	69,804	838,066	14.4	60,553	736,652
2025	434,172	12.8	55,574	671,147	16.6	72,073	844,171	14.4	62,521	742,018
2026	448,283	12.8	57,380	674,940	16.6	74,415	848,942	14.4	64,553	746,212
2027	462,852	12.8	59,245	677,550	16.6	76,833	852,225	14.4	66,651	749,098
2028	477,895	12.8	61,171	678,844	16.6	79,331	853,852	14.4	68,817	750,528

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
2019	\$ 358,362	17.8%	\$63,788	\$ 842,020	20.4%	\$73,106	\$ 954,266	21.2%	\$75,973	\$ 987,500
2020	370,009	17.8	65,862	853,556	20.4	75,482	967,339	21.2	78,442	1,001,029
2021	382,034	17.8	68,002	864,319	20.4	77,935	979,537	21.2	80,991	1,013,651
2022	394,450	17.8	70,212	874,201	20.4	80,468	990,736	21.2	83,623	1,025,240
2023	407,270	17.8	72,494	883,084	20.4	83,083	1,000,803	21.2	86,341	1,035,657
2024	420,506	17.8	74,850	890,840	20.4	85,783	1,009,592	21.2	89,147	1,044,753
2025	434,172	17.8	77,283	897,329	20.4	88,571	1,016,946	21.2	92,044	1,052,363
2026	448,283	17.8	79,794	902,400	20.4	91,450	1,022,693	21.2	95,036	1,058,311
2027	462,852	17.8	82,388	905,890	20.4	94,422	1,026,648	21.2	98,125	1,062,404
2028	477,895	17.8	85,065	907,620	20.4	97,491	1,028,608	21.2	101,314	1,064,433

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
2019	\$ 358,362	24.3%	\$87,082	\$ 1,116,109	24.7%	\$88,515	\$ 1,132,737	28.2%	\$101,058	\$ 1,277,826
2020	370,009	24.3	89,912	1,131,400	24.7	91,392	1,148,255	28.2	104,343	1,295,332
2021	382,034	24.3	92,834	1,145,666	24.7	94,362	1,162,734	28.2	107,734	1,311,665
2022	394,450	24.3	95,851	1,158,764	24.7	97,429	1,176,027	28.2	111,235	1,326,661
2023	407,270	24.3	98,967	1,170,538	24.7	100,596	1,187,977	28.2	114,850	1,340,141
2024	420,506	24.3	102,183	1,180,818	24.7	103,865	1,198,410	28.2	118,583	1,351,911
2025	434,172	24.3	105,504	1,189,419	24.7	107,240	1,207,140	28.2	122,437	1,361,759
2026	448,283	24.3	108,933	1,196,141	24.7	110,726	1,213,962	28.2	126,416	1,369,455
2027	462,852	24.3	112,473	1,200,767	24.7	114,324	1,218,656	28.2	130,524	1,374,751
2028	477,895	24.3	116,128	1,203,060	24.7	118,040	1,220,983	28.2	134,766	1,377,376

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.

Barton, Dade, Cedar and Jasper PWSD #1 - 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
2019	\$ 358,362	16.0%	\$57,338	\$ 623,382	19.7%	\$70,597	\$ 779,230	17.6%	\$63,072	\$ 687,247
2020	370,009	16.0	59,201	631,922	19.7	72,892	789,905	17.6	65,122	696,662
2021	382,034	16.0	61,125	639,890	19.7	75,261	799,865	17.6	67,238	705,446
2022	394,450	16.0	63,112	647,206	19.7	77,707	809,010	17.6	69,423	713,511
2023	407,270	16.0	65,163	653,782	19.7	80,232	817,230	17.6	71,680	720,761
2024	420,506	16.0	67,281	659,524	19.7	82,840	824,407	17.6	74,009	727,091
2025	434,172	16.0	69,468	664,328	19.7	85,532	830,412	17.6	76,414	732,387
2026	448,283	16.0	71,725	668,083	19.7	88,312	835,105	17.6	78,898	736,526
2027	462,852	16.0	74,056	670,667	19.7	91,182	838,334	17.6	81,462	739,374
2028	477,895	16.0	76,463	671,948	19.7	94,145	839,935	17.6	84,110	740,786

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
2019	\$ 358,362	21.0%	\$75,256	\$ 827,128	23.5%	\$84,215	\$ 935,058	24.3%	\$87,082	\$ 966,995
2020	370,009	21.0	77,702	838,460	23.5	86,952	947,868	24.3	89,912	980,243
2021	382,034	21.0	80,227	849,032	23.5	89,778	959,820	24.3	92,834	992,603
2022	394,450	21.0	82,835	858,739	23.5	92,696	970,794	24.3	95,851	1,003,951
2023	407,270	21.0	85,527	867,465	23.5	95,708	980,658	24.3	98,967	1,014,152
2024	420,506	21.0	88,306	875,083	23.5	98,819	989,270	24.3	102,183	1,023,059
2025	434,172	21.0	91,176	881,457	23.5	102,030	996,476	24.3	105,504	1,030,511
2026	448,283	21.0	94,139	886,439	23.5	105,347	1,002,108	24.3	108,933	1,036,335
2027	462,852	21.0	97,199	889,867	23.5	108,770	1,005,983	24.3	112,473	1,040,343
2028	477,895	21.0	100,358	891,566	23.5	112,305	1,007,904	24.3	116,128	1,042,330

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
2019	\$ 358,362	27.3%	\$97,833	\$ 1,090,893	27.7%	\$99,266	\$ 1,106,863	31.1%	\$111,451	\$ 1,246,759
2020	370,009	27.3	101,012	1,105,838	27.7	102,492	1,122,027	31.1	115,073	1,263,839
2021	382,034	27.3	104,295	1,119,782	27.7	105,823	1,136,175	31.1	118,813	1,279,775
2022	394,450	27.3	107,685	1,132,584	27.7	109,263	1,149,165	31.1	122,674	1,294,407
2023	407,270	27.3	111,185	1,144,092	27.7	112,814	1,160,842	31.1	126,661	1,307,559
2024	420,506	27.3	114,798	1,154,140	27.7	116,480	1,171,037	31.1	130,777	1,319,042
2025	434,172	27.3	118,529	1,162,547	27.7	120,266	1,179,567	31.1	135,027	1,328,650
2026	448,283	27.3	122,381	1,169,117	27.7	124,174	1,186,234	31.1	139,416	1,336,159
2027	462,852	27.3	126,359	1,173,638	27.7	128,210	1,190,821	31.1	143,947	1,341,326
2028	477,895	27.3	130,465	1,175,879	27.7	132,377	1,193,095	31.1	148,625	1,343,887

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.

Barton, Dade, Cedar and Jasper PWSD #1 - 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 %	Annual	Accrued	As a %	Annual	Accrued	As a %	Annual	Accrued
		of Payroll	Dollars	Liability	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability
2019	\$ 358,362	16.5%	\$59,130	\$ 644,388	20.5%	\$73,464	\$ 805,470	18.2%	\$65,222	\$ 710,505
2020	370,009	16.5	61,051	653,216	20.5	75,852	816,505	18.2	67,342	720,239
2021	382,034	16.5	63,036	661,453	20.5	78,317	826,801	18.2	69,530	729,321
2022	394,450	16.5	65,084	669,015	20.5	80,862	836,254	18.2	71,790	737,659
2023	407,270	16.5	67,200	675,813	20.5	83,490	844,751	18.2	74,123	745,154
2024	420,506	16.5	69,383	681,748	20.5	86,204	852,170	18.2	76,532	751,698
2025	434,172	16.5	71,638	686,714	20.5	89,005	858,377	18.2	79,019	757,174
2026	448,283	16.5	73,967	690,595	20.5	91,898	863,228	18.2	81,588	761,453
2027	462,852	16.5	76,371	693,266	20.5	94,885	866,566	18.2	84,239	764,398
2028	477,895	16.5	78,853	694,590	20.5	97,968	868,221	18.2	86,977	765,858

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 %	Annual	Accrued	As a %	Annual	Accrued	As a %	Annual	Accrued
		of Payroll	Dollars	Liability	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability
2019	\$ 358,362	21.6%	\$77,406	\$ 855,048	24.3%	\$87,082	\$ 966,572	25.1%	\$89,949	\$ 999,665
2020	370,009	21.6	79,922	866,762	24.3	89,912	979,814	25.1	92,872	1,013,360
2021	382,034	21.6	82,519	877,691	24.3	92,834	992,169	25.1	95,891	1,026,138
2022	394,450	21.6	85,201	887,726	24.3	95,851	1,003,512	25.1	99,007	1,037,870
2023	407,270	21.6	87,970	896,746	24.3	98,967	1,013,709	25.1	102,225	1,048,416
2024	420,506	21.6	90,829	904,622	24.3	102,183	1,022,612	25.1	105,547	1,057,624
2025	434,172	21.6	93,781	911,212	24.3	105,504	1,030,061	25.1	108,977	1,065,328
2026	448,283	21.6	96,829	916,362	24.3	108,933	1,035,883	25.1	112,519	1,071,349
2027	462,852	21.6	99,976	919,906	24.3	112,473	1,039,889	25.1	116,176	1,075,492
2028	477,895	21.6	103,225	921,663	24.3	116,128	1,041,875	25.1	119,952	1,077,546

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 %	Annual	Accrued	As a %	Annual	Accrued	As a %	Annual	Accrued
		of Payroll	Dollars	Liability	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability
2019	\$ 358,362	28.2%	\$101,058	\$ 1,127,694	28.6%	\$102,492	\$ 1,144,218	32.1%	\$115,034	\$ 1,288,822
2020	370,009	28.2	104,343	1,143,143	28.6	105,823	1,159,894	32.1	118,773	1,306,479
2021	382,034	28.2	107,734	1,157,557	28.6	109,262	1,174,520	32.1	122,633	1,322,953
2022	394,450	28.2	111,235	1,170,791	28.6	112,813	1,187,948	32.1	126,618	1,338,078
2023	407,270	28.2	114,850	1,182,687	28.6	116,479	1,200,019	32.1	130,734	1,351,674
2024	420,506	28.2	118,583	1,193,074	28.6	120,265	1,210,558	32.1	134,982	1,363,545
2025	434,172	28.2	122,437	1,201,765	28.6	124,173	1,219,376	32.1	139,369	1,373,478
2026	448,283	28.2	126,416	1,208,557	28.6	128,209	1,226,268	32.1	143,899	1,381,240
2027	462,852	28.2	130,524	1,213,231	28.6	132,376	1,231,010	32.1	148,575	1,386,581
2028	477,895	28.2	134,766	1,215,548	28.6	136,678	1,233,361	32.1	153,404	1,389,229

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.

Barton, Dade, Cedar and Jasper PWSD #1 - 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
2019	\$ 358,362	14.2%	\$50,887	\$ 690,200	18.4%	\$65,939	\$ 866,624	18.0%	\$64,505	\$ 845,170
2020	370,009	14.2	52,541	699,656	18.4	68,082	878,497	18.0	66,602	856,749
2021	382,034	14.2	54,249	708,478	18.4	70,294	889,574	18.0	68,766	867,552
2022	394,450	14.2	56,012	716,578	18.4	72,579	899,744	18.0	71,001	877,471
2023	407,270	14.2	57,832	723,859	18.4	74,938	908,886	18.0	73,309	886,387
2024	420,506	14.2	59,712	730,216	18.4	77,373	916,868	18.0	75,691	894,172
2025	434,172	14.2	61,652	735,535	18.4	79,888	923,547	18.0	78,151	900,685
2026	448,283	14.2	63,656	739,692	18.4	82,484	928,767	18.0	80,691	905,775
2027	462,852	14.2	65,725	742,552	18.4	85,165	932,359	18.0	83,313	909,278
2028	477,895	14.2	67,861	743,970	18.4	87,933	934,139	18.0	86,021	911,014

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 %	Annual	Accrued	As a %	Annual	Accrued	As a %	Annual	Accrued
		of Payroll	Dollars	Liability	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability
2019	\$ 358,362	21.3%	\$76,331	\$ 982,854	22.5%	\$80,631	\$ 1,042,916	24.3%	\$87,082	\$ 1,120,384
2020	370,009	21.3	78,812	996,319	22.5	83,252	1,057,204	24.3	89,912	1,135,733
2021	382,034	21.3	81,373	1,008,882	22.5	85,958	1,070,535	24.3	92,834	1,150,054
2022	394,450	21.3	84,018	1,020,416	22.5	88,751	1,082,774	24.3	95,851	1,163,202
2023	407,270	21.3	86,749	1,030,784	22.5	91,636	1,093,776	24.3	98,967	1,175,021
2024	420,506	21.3	89,568	1,039,837	22.5	94,614	1,103,382	24.3	102,183	1,185,340
2025	434,172	21.3	92,479	1,047,412	22.5	97,689	1,111,419	24.3	105,504	1,193,974
2026	448,283	21.3	95,484	1,053,332	22.5	100,864	1,117,700	24.3	108,933	1,200,722
2027	462,852	21.3	98,587	1,057,405	22.5	104,142	1,122,022	24.3	112,473	1,205,365
2028	477,895	21.3	101,792	1,059,424	22.5	107,526	1,124,164	24.3	116,128	1,207,667

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 %	Annual	Accrued	As a %	Annual	Accrued	As a %	Annual	Accrued
		of Payroll	Dollars	Liability	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability
2019	\$ 358,362	26.7%	\$95,683	\$ 1,218,978	27.7%	\$99,266	\$ 1,257,738	31.0%	\$111,092	\$ 1,394,906
2020	370,009	26.7	98,792	1,235,678	27.7	102,492	1,274,969	31.0	114,703	1,414,016
2021	382,034	26.7	102,003	1,251,259	27.7	105,823	1,291,046	31.0	118,431	1,431,846
2022	394,450	26.7	105,318	1,265,565	27.7	109,263	1,305,806	31.0	122,280	1,448,216
2023	407,270	26.7	108,741	1,278,424	27.7	112,814	1,319,074	31.0	126,254	1,462,931
2024	420,506	26.7	112,275	1,289,652	27.7	116,480	1,330,659	31.0	130,357	1,475,779
2025	434,172	26.7	115,924	1,299,046	27.7	120,266	1,340,352	31.0	134,593	1,486,529
2026	448,283	26.7	119,692	1,306,388	27.7	124,174	1,347,927	31.0	138,968	1,494,930
2027	462,852	26.7	123,581	1,311,440	27.7	128,210	1,353,139	31.0	143,484	1,500,711
2028	477,895	26.7	127,598	1,313,944	27.7	132,377	1,355,723	31.0	148,147	1,503,577

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.

Barton, Dade, Cedar and Jasper PWSD #1 - 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
2019	\$ 358,362	14.7%	\$52,679	\$ 714,673	19.1%	\$68,447	\$ 897,177	18.8%	\$67,372	\$ 875,251
2020	370,009	14.7	54,391	724,464	19.1	70,672	909,468	18.8	69,562	887,242
2021	382,034	14.7	56,159	733,599	19.1	72,968	920,936	18.8	71,822	898,430
2022	394,450	14.7	57,984	741,986	19.1	75,340	931,465	18.8	74,157	908,702
2023	407,270	14.7	59,869	749,525	19.1	77,789	940,930	18.8	76,567	917,935
2024	420,506	14.7	61,814	756,108	19.1	80,317	949,194	18.8	79,055	925,997
2025	434,172	14.7	63,823	761,616	19.1	82,927	956,108	18.8	81,624	932,742
2026	448,283	14.7	65,898	765,920	19.1	85,622	961,512	18.8	84,277	938,014
2027	462,852	14.7	68,039	768,882	19.1	88,405	965,230	18.8	87,016	941,641
2028	477,895	14.7	70,251	770,350	19.1	91,278	967,073	18.8	89,844	943,439

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 %	Annual	Accrued	As a %	Annual	Accrued	As a %	Annual	Accrued
		of Payroll	Dollars	Liability	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability
2019	\$ 358,362	22.0%	\$78,840	\$ 1,017,606	23.4%	\$83,857	\$ 1,079,510	25.4%	\$91,024	\$ 1,159,808
2020	370,009	22.0	81,402	1,031,547	23.4	86,582	1,094,299	25.4	93,982	1,175,697
2021	382,034	22.0	84,047	1,044,554	23.4	89,396	1,108,097	25.4	97,037	1,190,522
2022	394,450	22.0	86,779	1,056,496	23.4	92,301	1,120,766	25.4	100,190	1,204,133
2023	407,270	22.0	89,599	1,067,231	23.4	95,301	1,132,154	25.4	103,447	1,216,368
2024	420,506	22.0	92,511	1,076,604	23.4	98,398	1,142,097	25.4	106,809	1,227,051
2025	434,172	22.0	95,518	1,084,446	23.4	101,596	1,150,416	25.4	110,280	1,235,989
2026	448,283	22.0	98,622	1,090,575	23.4	104,898	1,156,918	25.4	113,864	1,242,974
2027	462,852	22.0	101,827	1,094,792	23.4	108,307	1,161,392	25.4	117,564	1,247,781
2028	477,895	22.0	105,137	1,096,882	23.4	111,827	1,163,610	25.4	121,385	1,250,164

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 %	Annual	Accrued	As a %	Annual	Accrued	As a %	Annual	Accrued
		of Payroll	Dollars	Liability	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability
2019	\$ 358,362	27.7%	\$99,266	\$ 1,261,664	28.8%	\$103,208	\$ 1,301,800	32.2%	\$115,393	\$ 1,443,761
2020	370,009	27.7	102,492	1,278,949	28.8	106,563	1,319,634	32.2	119,143	1,463,540
2021	382,034	27.7	105,823	1,295,076	28.8	110,026	1,336,274	32.2	123,015	1,481,994
2022	394,450	27.7	109,263	1,309,883	28.8	113,602	1,351,552	32.2	127,013	1,498,938
2023	407,270	27.7	112,814	1,323,193	28.8	117,294	1,365,285	32.2	131,141	1,514,169
2024	420,506	27.7	116,480	1,334,814	28.8	121,106	1,377,275	32.2	135,403	1,527,467
2025	434,172	27.7	120,266	1,344,537	28.8	125,042	1,387,308	32.2	139,803	1,538,594
2026	448,283	27.7	124,174	1,352,136	28.8	129,106	1,395,149	32.2	144,347	1,547,290
2027	462,852	27.7	128,210	1,357,365	28.8	133,301	1,400,544	32.2	149,038	1,553,273
2028	477,895	27.7	132,377	1,359,957	28.8	137,634	1,403,218	32.2	153,882	1,556,239

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.

Barton, Dade, Cedar and Jasper PWSD #1 - 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
2019	\$ 358,362	17.8%	\$63,788	\$ 701,752	22.1%	\$79,198	\$ 877,222	21.7%	\$77,765	\$ 856,165
2020	370,009	17.8	65,862	711,366	22.1	81,772	889,240	21.7	80,292	867,894
2021	382,034	17.8	68,002	720,336	22.1	84,430	900,453	21.7	82,901	878,838
2022	394,450	17.8	70,212	728,572	22.1	87,173	910,748	21.7	85,596	888,886
2023	407,270	17.8	72,494	735,975	22.1	90,007	920,002	21.7	88,378	897,918
2024	420,506	17.8	74,850	742,439	22.1	92,932	928,082	21.7	91,250	905,804
2025	434,172	17.8	77,283	747,847	22.1	95,952	934,842	21.7	94,215	912,402
2026	448,283	17.8	79,794	752,074	22.1	99,071	940,125	21.7	97,277	917,559
2027	462,852	17.8	82,388	754,982	22.1	102,290	943,761	21.7	100,439	921,107
2028	477,895	17.8	85,065	756,424	22.1	105,615	945,563	21.7	103,703	922,866

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 %	Annual	Accrued	As a %	Annual	Accrued	As a %	Annual	Accrued
		of Payroll	Dollars	Liability	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability
2019	\$ 358,362	24.9%	\$89,232	\$ 993,022	26.3%	\$94,249	\$ 1,052,654	28.2%	\$101,058	\$ 1,129,862
2020	370,009	24.9	92,132	1,006,626	26.3	97,312	1,067,075	28.2	104,343	1,145,341
2021	382,034	24.9	95,126	1,019,319	26.3	100,475	1,080,530	28.2	107,734	1,159,783
2022	394,450	24.9	98,218	1,030,973	26.3	103,740	1,092,884	28.2	111,235	1,173,043
2023	407,270	24.9	101,410	1,041,449	26.3	107,112	1,103,989	28.2	114,850	1,184,962
2024	420,506	24.9	104,706	1,050,595	26.3	110,593	1,113,685	28.2	118,583	1,195,369
2025	434,172	24.9	108,109	1,058,248	26.3	114,187	1,121,797	28.2	122,437	1,204,076
2026	448,283	24.9	111,622	1,064,229	26.3	117,898	1,128,137	28.2	126,416	1,210,881
2027	462,852	24.9	115,250	1,068,344	26.3	121,730	1,132,500	28.2	130,524	1,215,564
2028	477,895	24.9	118,996	1,070,384	26.3	125,686	1,134,662	28.2	134,766	1,217,885

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 %	Annual	Accrued	As a %	Annual	Accrued	As a %	Annual	Accrued
		of Payroll	Dollars	Liability	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability
2019	\$ 358,362	30.6%	\$109,659	\$ 1,228,116	31.6%	\$113,242	\$ 1,266,707	34.9%	\$125,068	\$ 1,403,529
2020	370,009	30.6	113,223	1,244,941	31.6	116,923	1,284,061	34.9	129,133	1,422,757
2021	382,034	30.6	116,902	1,260,639	31.6	120,723	1,300,252	34.9	133,330	1,440,697
2022	394,450	30.6	120,702	1,275,052	31.6	124,646	1,315,118	34.9	137,663	1,457,168
2023	407,270	30.6	124,625	1,288,008	31.6	128,697	1,328,481	34.9	142,137	1,471,974
2024	420,506	30.6	128,675	1,299,320	31.6	132,880	1,340,148	34.9	146,757	1,484,901
2025	434,172	30.6	132,857	1,308,785	31.6	137,198	1,349,910	34.9	151,526	1,495,718
2026	448,283	30.6	137,175	1,316,182	31.6	141,657	1,357,539	34.9	156,451	1,504,171
2027	462,852	30.6	141,633	1,321,272	31.6	146,261	1,362,789	34.9	161,535	1,509,988
2028	477,895	30.6	146,236	1,323,795	31.6	151,015	1,365,391	34.9	166,785	1,512,871

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.

Barton, Dade, Cedar and Jasper PWSD #1 - 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 % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2019	\$ 358,362	18.4%	\$65,939	\$ 726,069	22.9%	\$82,065	\$ 907,577	22.3%	\$79,915	\$ 886,039
2020	370,009	18.4	68,082	736,016	22.9	84,732	920,011	22.3	82,512	898,178
2021	382,034	18.4	70,294	745,297	22.9	87,486	931,612	22.3	85,194	909,503
2022	394,450	18.4	72,579	753,818	22.9	90,329	942,263	22.3	87,962	919,901
2023	407,270	18.4	74,938	761,477	22.9	93,265	951,837	22.3	90,821	929,248
2024	420,506	18.4	77,373	768,165	22.9	96,296	960,196	22.3	93,773	937,409
2025	434,172	18.4	79,888	773,761	22.9	99,425	967,190	22.3	96,820	944,237
2026	448,283	18.4	82,484	778,134	22.9	102,657	972,656	22.3	99,967	949,574
2027	462,852	18.4	85,165	781,143	22.9	105,993	976,417	22.3	103,216	953,246
2028	477,895	18.4	87,933	782,635	22.9	109,438	978,281	22.3	106,571	955,066

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
2019	\$ 358,362	25.8%	\$92,457	\$ 1,027,548	27.3%	\$97,833	\$ 1,089,132	29.2%	\$104,642	\$ 1,169,081
2020	370,009	25.8	95,462	1,041,625	27.3	101,012	1,104,053	29.2	108,043	1,185,097
2021	382,034	25.8	98,565	1,054,759	27.3	104,295	1,117,974	29.2	111,554	1,200,040
2022	394,450	25.8	101,768	1,066,818	27.3	107,685	1,130,756	29.2	115,179	1,213,760
2023	407,270	25.8	105,076	1,077,658	27.3	111,185	1,142,246	29.2	118,923	1,226,093
2024	420,506	25.8	108,491	1,087,122	27.3	114,798	1,152,278	29.2	122,788	1,236,861
2025	434,172	25.8	112,016	1,095,041	27.3	118,529	1,160,672	29.2	126,778	1,245,871
2026	448,283	25.8	115,657	1,101,230	27.3	122,381	1,167,232	29.2	130,899	1,252,912
2027	462,852	25.8	119,416	1,105,489	27.3	126,359	1,171,746	29.2	135,153	1,257,757
2028	477,895	25.8	123,297	1,107,600	27.3	130,465	1,173,983	29.2	139,545	1,260,159

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
2019	\$ 358,362	31.6%	\$113,242	\$ 1,270,607	32.7%	\$117,184	\$ 1,310,592	36.1%	\$129,369	\$ 1,452,153
2020	370,009	31.6	116,923	1,288,014	32.7	120,993	1,328,547	36.1	133,573	1,472,047
2021	382,034	31.6	120,723	1,304,255	32.7	124,925	1,345,299	36.1	137,914	1,490,609
2022	394,450	31.6	124,646	1,319,166	32.7	128,985	1,360,680	36.1	142,396	1,507,651
2023	407,270	31.6	128,697	1,332,570	32.7	133,177	1,374,506	36.1	147,024	1,522,970
2024	420,506	31.6	132,880	1,344,273	32.7	137,505	1,386,577	36.1	151,803	1,536,345
2025	434,172	31.6	137,198	1,354,065	32.7	141,974	1,396,677	36.1	156,736	1,547,536
2026	448,283	31.6	141,657	1,361,718	32.7	146,589	1,404,571	36.1	161,830	1,556,282
2027	462,852	31.6	146,261	1,366,984	32.7	151,353	1,410,003	36.1	167,090	1,562,300
2028	477,895	31.6	151,015	1,369,594	32.7	156,272	1,412,695	36.1	172,520	1,565,283

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.