



The Initial Valuation For
City of Norwood
as of June 30, 2019



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August 16, 2019

City of Norwood
Norwood, Missouri

Ladies and Gentlemen:

Submitted in this report are the results of the actuarial valuation prepared to determine the employer contribution rates required to support, for your employees, the benefits provided by the Missouri Local Government Employees Retirement System (LAGERS). This report contains the information needed to comply with Missouri State disclosure requirements regarding the adoption of LAGERS benefits by a political subdivision (Sections 105.660 - 106.685 RSMo). This report should not be relied on for any purpose other than the purposes described herein. Determinations of financial results, associated with the benefits described in this report, for purposes other than those identified above may be significantly different.

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

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

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

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

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

The actuarial assumptions and methods used to determine the stated costs are described in Appendix II of this report. In our opinion, they do produce results which, in the aggregate, are reasonable. Additional miscellaneous and technical assumptions as well as disclosures required by the actuarial standards of practice may be found in the LAGERS Compiled Annual Actuarial Valuation report as of February 28, 2019.

The computed contributions required for LAGERS participation will permit the System to continue to operate in accordance with the actuarial principles of level cost financing and the State law which governs LAGERS. This valuation assumed the ability of the plan sponsor to make the contributions necessary to fund this plan. A determination regarding whether or not the plan sponsor is actually able to do so is outside our expertise and not performed. Summary provisions of the law as well as benefit illustrations can be found in Appendices III and IV.

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

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

In accordance with LAGERS Board policy, the employer contribution rates established by this valuation report are valid for purposes of joining the System for a two year period from the date of this valuation which was June 30, 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.

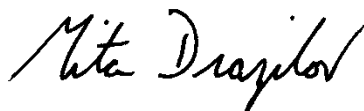
If you have any questions concerning this report or LAGERS in general, please contact the LAGERS office in Jefferson City.

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.

City of Norwood

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	2.90%	3.00%	0.20%	6.10%
L-3	General	3.70	4.30	0.30	8.30
LT-4(65)	General	3.40	3.50	0.20	7.10
LT-5(65)	General	4.00	4.80	0.30	9.10
L-7	General	4.50	5.70	0.30	10.50
LT-8(65)	General	4.70	6.00	0.30	11.00
L-12	General	5.30	7.10	0.40	12.80
LT-14(65)	General	5.40	7.20	0.40	13.00
L-6	General	6.10	8.50	0.50	15.10

* 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.

City of Norwood

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	3.00%	3.20%	0.20%	6.40%
L-3	General	3.90	4.50	0.30	8.70
LT-4(65)	General	3.50	3.70	0.20	7.40
LT-5(65)	General	4.20	5.00	0.30	9.50
L-7	General	4.70	6.00	0.30	11.00
LT-8(65)	General	4.90	6.30	0.30	11.50
L-12	General	5.50	7.40	0.40	13.30
LT-14(65)	General	5.60	7.60	0.40	13.60
L-6	General	6.30	9.00	0.50	15.80

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

City of Norwood

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	3.20%	6.50%	0.20%	9.90%
L-3	General	4.00	7.90	0.30	12.20
LT-4(65)	General	3.60	7.00	0.20	10.80
LT-5(65)	General	4.40	8.30	0.30	13.00
L-7	General	4.80	9.30	0.30	14.40
LT-8(65)	General	5.00	9.60	0.30	14.90
L-12	General	5.60	10.70	0.40	16.70
LT-14(65)	General	5.70	10.80	0.40	16.90
L-6	General	6.40	12.10	0.50	19.00

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

City of Norwood

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	3.30%	6.70%	0.20%	10.20%
L-3	General	4.20	8.10	0.30	12.60
LT-4(65)	General	3.80	7.30	0.20	11.30
LT-5(65)	General	4.50	8.60	0.30	13.40
L-7	General	5.00	9.60	0.30	14.90
LT-8(65)	General	5.20	9.90	0.30	15.40
L-12	General	5.80	11.00	0.40	17.20
LT-14(65)	General	5.90	11.20	0.40	17.50
L-6	General	6.70	12.50	0.50	19.70

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

City of Norwood

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	3.20%	3.60%	0.20%	7.00%
L-3	General	4.10	5.00	0.30	9.40
LT-4(65)	General	4.00	4.80	0.20	9.00
LT-5(65)	General	4.70	6.00	0.30	11.00
L-7	General	4.90	6.60	0.30	11.80
LT-8(65)	General	5.30	7.10	0.30	12.70
L-12	General	5.80	8.10	0.40	14.30
LT-14(65)	General	6.00	8.40	0.40	14.80
L-6	General	6.70	9.60	0.50	16.80

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

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

City of Norwood

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

Rule of 80 Retirement Eligibility#

Benefit Program	Employee Groups	Percents of Active Member Payroll			
		Prior Service Cost *	Current Cost	Disability Cost	Total Employer Contribution Rate
L-1	General	3.30%	3.80%	0.20%	7.30%
L-3	General	4.20	5.30	0.30	9.80
LT-4(65)	General	4.10	5.10	0.20	9.40
LT-5(65)	General	4.80	6.20	0.30	11.30
L-7	General	5.10	6.90	0.30	12.30
LT-8(65)	General	5.50	7.50	0.30	13.30
L-12	General	6.00	8.40	0.40	14.80
LT-14(65)	General	6.20	8.80	0.40	15.40
L-6	General	6.90	10.10	0.50	17.50

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

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City of Norwood

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	3.50%	7.00%	0.20%	10.70%
L-3	General	4.40	8.60	0.30	13.30
LT-4(65)	General	4.30	8.30	0.20	12.80
LT-5(65)	General	5.00	9.50	0.30	14.80
L-7	General	5.30	10.10	0.30	15.70
LT-8(65)	General	5.60	10.70	0.30	16.60
L-12	General	6.10	11.70	0.40	18.20
LT-14(65)	General	6.30	12.00	0.40	18.70
L-6	General	7.00	13.20	0.50	20.70

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

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

City of Norwood

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	3.60%	7.30%	0.20%	11.10%
L-3	General	4.50	8.90	0.30	13.70
LT-4(65)	General	4.40	8.60	0.20	13.20
LT-5(65)	General	5.10	9.80	0.30	15.20
L-7	General	5.40	10.50	0.30	16.20
LT-8(65)	General	5.80	11.10	0.30	17.20
L-12	General	6.30	12.00	0.40	18.70
LT-14(65)	General	6.50	12.40	0.40	19.30
L-6	General	7.30	13.60	0.50	21.40

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

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

City of Norwood

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	\$ 6,892
L-3	9,378
LT-4(65)	8,022
LT-5(65)	10,282
L-7	11,863
LT-8(65)	12,428
L-12	14,462
LT-14(65)	14,688
L-6	17,061

3 Year FAS	
Benefit Program	General
L-1	\$ 7,231
L-3	9,830
LT-4(65)	8,361
LT-5(65)	10,734
L-7	12,428
LT-8(65)	12,993
L-12	15,027
LT-14(65)	15,366
L-6	17,852

Non-Contributory Plan

5 Year FAS	
Benefit Program	General
L-1	\$ 11,186
L-3	13,784
LT-4(65)	12,202
LT-5(65)	14,688
L-7	16,270
LT-8(65)	16,835
L-12	18,869
LT-14(65)	19,095
L-6	21,467

3 Year FAS	
Benefit Program	General
L-1	\$ 11,525
L-3	14,236
LT-4(65)	12,767
LT-5(65)	15,140
L-7	16,835
LT-8(65)	17,400
L-12	19,434
LT-14(65)	19,772
L-6	22,258

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

City of Norwood

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	\$ 7,909
L-3	10,621
LT-4(65)	10,169
LT-5(65)	12,428
L-7	13,332
LT-8(65)	14,349
L-12	16,157
LT-14(65)	16,722
L-6	18,982

3 Year FAS	
Benefit Program	General
L-1	\$ 8,248
L-3	11,073
LT-4(65)	10,621
LT-5(65)	12,767
L-7	13,897
LT-8(65)	15,027
L-12	16,722
LT-14(65)	17,400
L-6	19,772

Non-Contributory Plan

5 Year FAS	
Benefit Program	General
L-1	\$ 12,089
L-3	15,027
LT-4(65)	14,462
LT-5(65)	16,722
L-7	17,739
LT-8(65)	18,756
L-12	20,563
LT-14(65)	21,128
L-6	23,388

3 Year FAS	
Benefit Program	General
L-1	\$ 12,541
L-3	15,479
LT-4(65)	14,914
LT-5(65)	17,174
L-7	18,304
LT-8(65)	19,434
L-12	21,128
LT-14(65)	21,806
L-6	24,179

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

City of Norwood

Employees and Payroll Included in the Valuation

	General
Number of Employees	5
Annual Payroll	\$ 112,986

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

APPENDIX I

UNFUNDED ACTUARIAL ACCRUED LIABILITY

Unfunded Actuarial Accrued Liability (UAAL)

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

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

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

City of Norwood

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	\$ 58,147	\$ 60,395	\$ 64,150	\$ 66,408
L-3	General	74,118	76,913	80,196	83,010
LT-4(65)	General	66,702	69,226	72,645	75,179
LT-5(65)	General	80,531	83,530	86,584	89,585
L-7	General	90,069	93,370	96,250	99,577
LT-8(65)	General	94,323	97,780	100,508	103,978
L-12	General	105,895	109,735	112,271	116,184
LT-14(65)	General	108,016	111,940	114,399	118,366
L-6	General	121,683	126,067	128,315	132,768

City of Norwood

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	\$ 63,839	\$ 66,294	\$ 69,681	\$ 72,128
L-3	General	81,185	84,243	87,102	90,205
LT-4(65)	General	79,147	82,140	84,936	87,919
LT-5(65)	General	92,650	96,122	98,559	102,039
L-7	General	98,443	102,106	104,536	108,228
LT-8(65)	General	106,116	110,027	112,150	116,104
L-12	General	115,680	119,907	121,951	126,250
LT-14(65)	General	119,528	123,871	125,758	130,201
L-6	General	132,857	137,706	139,359	144,324

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, 2019

(Section references are to RSMo)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

APPENDIX IV

BENEFIT ILLUSTRATIONS

Missouri LAGERS
Illustrations of Age and Service Allowance Amounts
For Sample Combinations of Service & Salary
(L-1 Benefit Program is Years of Credited Service
times: 1.00% of FAS ¹)

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

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

² "Estimated Social Security" means, for an employee covered by Social Security, an employee's estimated OASDI retirement benefit and is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 65 in 2019 - it does not include any amounts which might be payable to an eligible spouse or children.

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

Missouri LAGERS
Illustrations of Age and Service Allowance Amounts
For Sample Combinations of Service & Salary
(L-3 Benefit Program is Years of Credited Service
times: 1.25% of FAS ¹)

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

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

² "Estimated Social Security" means, for an employee covered by Social Security, an employee's estimated OASDI retirement benefit and is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 65 in 2019 - it does not include any amounts which might be payable to an eligible spouse or children.

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

Missouri LAGERS
Illustrations of Age and Service Allowance Amounts
For Sample Combinations of Service & Salary
(L-7 Benefit Program is Years of Credited Service
times: 1.50% of FAS ¹)

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

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

² "Estimated Social Security" means, for an employee covered by Social Security, an employee's estimated OASDI retirement benefit and is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 65 in 2019 - it does not include any amounts which might be payable to an eligible spouse or children.

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

Missouri LAGERS
Illustrations of Age and Service Allowance Amounts
For Sample Combinations of Service & Salary
(L-12 Benefit Program is Years of Credited Service
times: 1.75% of FAS ¹)

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

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

² "Estimated Social Security" means, for an employee covered by Social Security, an employee's estimated OASDI retirement benefit and is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 65 in 2019 - it does not include any amounts which might be payable to an eligible spouse or children.

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

Missouri LAGERS
Illustrations of Age and Service Allowance Amounts
For Sample Combinations of Service & Salary
(L-6 Benefit Program is Years of Credited Service
times: 2.00% of FAS ¹)

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

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

² "Estimated Social Security" means, for an employee covered by Social Security, an employee's estimated OASDI retirement benefit and is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 65 in 2019 - it does not include any amounts which might be payable to an eligible spouse or children.

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

Missouri LAGERS
Illustrations of Age and Service Allowance Amounts
For Sample Combinations of Service & Salary
(LT-4(65) Benefit Program is Years of Credited Service
times: 2.00% of FAS ¹ to age 65)
1.00% of FAS ¹ at age 65)

Final Average Salary (FAS) ¹	LAGERS BENEFIT ³		Estimated Social Security ²	Estimated Monthly Total		Percent of FAS	
	To 65	At 65		To 65	At 65	To 65	At 65
35 Years of Service:							
\$1,500	\$1,050	\$ 525	\$ 930	\$1,050	\$1,455	70%	97%
2,000	1,400	700	1,076	1,400	1,776	70%	89%
2,500	1,750	875	1,223	1,750	2,098	70%	84%
3,000	2,100	1,050	1,370	2,100	2,420	70%	81%
3,500	2,450	1,225	1,516	2,450	2,741	70%	78%
4,000	2,800	1,400	1,662	2,800	3,062	70%	77%
25 Years of Service:							
\$1,500	\$ 750	\$ 375	\$ 930	\$ 750	\$1,305	50%	87%
2,000	1,000	500	1,076	1,000	1,576	50%	79%
2,500	1,250	625	1,223	1,250	1,848	50%	74%
3,000	1,500	750	1,370	1,500	2,120	50%	71%
3,500	1,750	875	1,516	1,750	2,391	50%	68%
4,000	2,000	1,000	1,662	2,000	2,662	50%	67%
15 Years of Service:							
\$1,500	\$ 450	\$225	\$ 930	\$ 450	\$1,155	30%	77%
2,000	600	300	1,076	600	1,376	30%	69%
2,500	750	375	1,223	750	1,598	30%	64%
3,000	900	450	1,370	900	1,820	30%	61%
3,500	1,050	525	1,516	1,050	2,041	30%	58%
4,000	1,200	600	1,662	1,200	2,262	30%	57%

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

² "Estimated Social Security" means, for an employee covered by Social Security, an employee's estimated OASDI retirement benefit and is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 65 in 2019 - it does not include any amounts which might be payable to an eligible spouse or children.

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

Missouri LAGERS

Illustrations of Age and Service Allowance Amounts For Sample Combinations of Service & Salary (LT-5(65) Benefit Program is Years of Credited Service times: 2.00% of FAS ¹ to age 65) 1.25% of FAS ¹ at age 65)

Final Average Salary (FAS) ¹	LAGERS BENEFIT ³		Estimated Social Security ²	Estimated Monthly Total		Percent of FAS	
	To 65	At 65		To 65	At 65	To 65	At 65
35 Years of Service:							
\$1,500	\$1,050	\$ 656	\$ 930	\$1,050	\$1,586	70%	106%
2,000	1,400	875	1,076	1,400	1,951	70%	98%
2,500	1,750	1,094	1,223	1,750	2,317	70%	93%
3,000	2,100	1,313	1,370	2,100	2,683	70%	89%
3,500	2,450	1,531	1,516	2,450	3,047	70%	87%
4,000	2,800	1,750	1,662	2,800	3,412	70%	85%
25 Years of Service:							
\$1,500	\$ 750	\$ 469	\$ 930	\$ 750	\$1,399	50%	93%
2,000	1,000	625	1,076	1,000	1,701	50%	85%
2,500	1,250	781	1,223	1,250	2,004	50%	80%
3,000	1,500	938	1,370	1,500	2,308	50%	77%
3,500	1,750	1,094	1,516	1,750	2,610	50%	75%
4,000	2,000	1,250	1,662	2,000	2,912	50%	73%
15 Years of Service:							
\$1,500	\$ 450	\$281	\$ 930	\$ 450	\$1,211	30%	81%
2,000	600	375	1,076	600	1,451	30%	73%
2,500	750	469	1,223	750	1,692	30%	68%
3,000	900	563	1,370	900	1,933	30%	64%
3,500	1,050	656	1,516	1,050	2,172	30%	62%
4,000	1,200	750	1,662	1,200	2,412	30%	60%

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

² "Estimated Social Security" means, for an employee covered by Social Security, an employee's estimated OASDI retirement benefit and is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 65 in 2019 - it does not include any amounts which might be payable to an eligible spouse or children.

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

Missouri LAGERS
Illustrations of Age and Service Allowance Amounts
For Sample Combinations of Service & Salary
(LT-8(65) Benefit Program is Years of Credited Service
times: 2.00% of FAS ¹ to age 65)
1.50% of FAS ¹ at age 65)

Final Average Salary (FAS) ¹	LAGERS BENEFIT ³		Estimated Social Security ²	Estimated Monthly Total		Percent of FAS	
	To 65	At 65		To 65	At 65	To 65	At 65
35 Years of Service:							
\$1,500	\$1,050	\$ 788	\$ 930	\$1,050	\$1,718	70%	115%
2,000	1,400	1,050	1,076	1,400	2,126	70%	106%
2,500	1,750	1,313	1,223	1,750	2,536	70%	101%
3,000	2,100	1,575	1,370	2,100	2,945	70%	98%
3,500	2,450	1,838	1,516	2,450	3,354	70%	96%
4,000	2,800	2,100	1,662	2,800	3,762	70%	94%
25 Years of Service:							
\$1,500	\$ 750	\$ 563	\$ 930	\$ 750	\$1,493	50%	100%
2,000	1,000	750	1,076	1,000	1,826	50%	91%
2,500	1,250	938	1,223	1,250	2,161	50%	86%
3,000	1,500	1,125	1,370	1,500	2,495	50%	83%
3,500	1,750	1,313	1,516	1,750	2,829	50%	81%
4,000	2,000	1,500	1,662	2,000	3,162	50%	79%
15 Years of Service:							
\$1,500	\$ 450	\$338	\$ 930	\$ 450	\$1,268	30%	85%
2,000	600	450	1,076	600	1,526	30%	76%
2,500	750	563	1,223	750	1,786	30%	71%
3,000	900	675	1,370	900	2,045	30%	68%
3,500	1,050	788	1,516	1,050	2,304	30%	66%
4,000	1,200	900	1,662	1,200	2,562	30%	64%

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

² "Estimated Social Security" means, for an employee covered by Social Security, an employee's estimated OASDI retirement benefit and is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 65 in 2019 - it does not include any amounts which might be payable to an eligible spouse or children.

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

Missouri LAGERS
Illustrations of Age and Service Allowance Amounts
For Sample Combinations of Service & Salary
(LT-14(65) Benefit Program is Years of Credited Service
times: 2.00% of FAS ¹ to age 65)
1.75% of FAS ¹ at age 65)

Final Average Salary (FAS) ¹	LAGERS BENEFIT ³		Estimated Social Security ²	Estimated Monthly Total		Percent of FAS	
	To 65	At 65		To 65	At 65	To 65	At 65
35 Years of Service:							
\$1,500	\$1,050	\$ 919	\$ 930	\$1,050	\$1,849	70%	123%
2,000	1,400	1,225	1,076	1,400	2,301	70%	115%
2,500	1,750	1,531	1,223	1,750	2,754	70%	110%
3,000	2,100	1,838	1,370	2,100	3,208	70%	107%
3,500	2,450	2,144	1,516	2,450	3,660	70%	105%
4,000	2,800	2,450	1,662	2,800	4,112	70%	103%
25 Years of Service:							
\$1,500	\$ 750	\$ 656	\$ 930	\$ 750	\$1,586	50%	106%
2,000	1,000	875	1,076	1,000	1,951	50%	98%
2,500	1,250	1,094	1,223	1,250	2,317	50%	93%
3,000	1,500	1,313	1,370	1,500	2,683	50%	89%
3,500	1,750	1,531	1,516	1,750	3,047	50%	87%
4,000	2,000	1,750	1,662	2,000	3,412	50%	85%
15 Years of Service:							
\$1,500	\$ 450	\$ 394	\$ 930	\$ 450	\$1,324	30%	88%
2,000	600	525	1,076	600	1,601	30%	80%
2,500	750	656	1,223	750	1,879	30%	75%
3,000	900	788	1,370	900	2,158	30%	72%
3,500	1,050	919	1,516	1,050	2,435	30%	70%
4,000	1,200	1,050	1,662	1,200	2,712	30%	68%

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

² "Estimated Social Security" means, for an employee covered by Social Security, an employee's estimated OASDI retirement benefit and is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 65 in 2019 - it does not include any amounts which might be payable to an eligible spouse or children.

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

APPENDIX V

AGE AND SERVICE CHARACTERISTICS OF EMPLOYEES

City of Norwood

June 30, 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	\$ 12,293
25-29									
30-34	1							1	\$ 31,200
35-39	1							1	\$ 29,120
40-44									
45-49									
50-54				1				1	\$ 28,080
55-59									
60-64	1							1	\$ 12,293
65-69									
70 & Over									
Totals	4			1				5	\$ 112,986

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

Age: 40.3 years.

Benefit Service: 4.7 years.

Annual Pay: \$22,597.

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.



August 16, 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 June 30, 2019 Initial Actuarial Valuation of LAGERS benefits for the employees of

City of Norwood

Sincerely,

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

Mita D. Drazilov, ASA, FCA, MAAA

MDD:wp

August 16, 2019

City of Norwood
Norwood, 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 June 30, 2019 Initial Valuation for the City of Norwood dated August 16, 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, 2019.

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

Respectfully submitted,



Mita D. Drazilov, ASA, FCA, MAAA

City of Norwood - 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	\$ 112,986	6.1%	\$6,892	\$ 58,147	8.3%	\$9,378	\$ 74,118	7.1%	\$8,022	\$ 66,702
2020	116,658	6.1	7,116	58,944	8.3	9,683	75,133	7.1	8,283	67,616
2021	120,449	6.1	7,347	59,687	8.3	9,997	76,080	7.1	8,552	68,469
2022	124,364	6.1	7,586	60,369	8.3	10,322	76,950	7.1	8,830	69,252
2023	128,406	6.1	7,833	60,982	8.3	10,658	77,732	7.1	9,117	69,956
2024	132,579	6.1	8,087	61,518	8.3	11,004	78,415	7.1	9,413	70,570
2025	136,888	6.1	8,350	61,966	8.3	11,362	78,986	7.1	9,719	71,084
2026	141,337	6.1	8,622	62,316	8.3	11,731	79,432	7.1	10,035	71,486
2027	145,930	6.1	8,902	62,557	8.3	12,112	79,739	7.1	10,361	71,762
2028	150,673	6.1	9,191	62,676	8.3	12,506	79,891	7.1	10,698	71,899

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	\$ 112,986	9.1%	\$10,282	\$ 80,531	10.5%	\$11,863	\$ 90,069	11.0%	\$12,428	\$ 94,323
2020	116,658	9.1	10,616	81,634	10.5	12,249	91,303	11.0	12,832	95,615
2021	120,449	9.1	10,961	82,663	10.5	12,647	92,454	11.0	13,249	96,821
2022	124,364	9.1	11,317	83,608	10.5	13,058	93,511	11.0	13,680	97,928
2023	128,406	9.1	11,685	84,458	10.5	13,483	94,461	11.0	14,125	98,923
2024	132,579	9.1	12,065	85,200	10.5	13,921	95,291	11.0	14,584	99,792
2025	136,888	9.1	12,457	85,821	10.5	14,373	95,985	11.0	15,058	100,519
2026	141,337	9.1	12,862	86,306	10.5	14,840	96,527	11.0	15,547	101,087
2027	145,930	9.1	13,280	86,640	10.5	15,323	96,900	11.0	16,052	101,478
2028	150,673	9.1	13,711	86,805	10.5	15,821	97,085	11.0	16,574	101,672

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	\$ 112,986	12.8%	\$14,462	\$ 105,895	13.0%	\$14,688	\$ 108,016	15.1%	\$17,061	\$ 121,683
2020	116,658	12.8	14,932	107,346	13.0	15,166	109,496	15.1	17,615	123,350
2021	120,449	12.8	15,417	108,700	13.0	15,658	110,877	15.1	18,188	124,905
2022	124,364	12.8	15,919	109,943	13.0	16,167	112,145	15.1	18,779	126,333
2023	128,406	12.8	16,436	111,060	13.0	16,693	113,284	15.1	19,389	127,617
2024	132,579	12.8	16,970	112,035	13.0	17,235	114,279	15.1	20,019	128,738
2025	136,888	12.8	17,522	112,851	13.0	17,795	115,111	15.1	20,670	129,676
2026	141,337	12.8	18,091	113,489	13.0	18,374	115,762	15.1	21,342	130,409
2027	145,930	12.8	18,679	113,928	13.0	18,971	116,210	15.1	22,035	130,913
2028	150,673	12.8	19,286	114,146	13.0	19,587	116,432	15.1	22,752	131,163

Notes regarding the above projections:

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

City of Norwood - 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	\$ 112,986	6.4%	\$7,231	\$ 60,395	8.7%	\$9,830	\$ 76,913	7.4%	\$8,361	\$ 69,226
2020	116,658	6.4	7,466	61,222	8.7	10,149	77,967	7.4	8,633	70,174
2021	120,449	6.4	7,709	61,994	8.7	10,479	78,950	7.4	8,913	71,059
2022	124,364	6.4	7,959	62,703	8.7	10,820	79,853	7.4	9,203	71,871
2023	128,406	6.4	8,218	63,340	8.7	11,171	80,664	7.4	9,502	72,601
2024	132,579	6.4	8,485	63,896	8.7	11,534	81,372	7.4	9,811	73,239
2025	136,888	6.4	8,761	64,361	8.7	11,909	81,965	7.4	10,130	73,772
2026	141,337	6.4	9,046	64,725	8.7	12,296	82,428	7.4	10,459	74,189
2027	145,930	6.4	9,340	64,975	8.7	12,696	82,747	7.4	10,799	74,476
2028	150,673	6.4	9,643	65,099	8.7	13,109	82,905	7.4	11,150	74,618

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	\$ 112,986	9.5%	\$10,734	\$ 83,530	11.0%	\$12,428	\$ 93,370	11.5%	\$12,993	\$ 97,780
2020	116,658	9.5	11,083	84,674	11.0	12,832	94,649	11.5	13,416	99,120
2021	120,449	9.5	11,443	85,742	11.0	13,249	95,842	11.5	13,852	100,370
2022	124,364	9.5	11,815	86,722	11.0	13,680	96,938	11.5	14,302	101,518
2023	128,406	9.5	12,199	87,603	11.0	14,125	97,923	11.5	14,767	102,550
2024	132,579	9.5	12,595	88,372	11.0	14,584	98,783	11.5	15,247	103,451
2025	136,888	9.5	13,004	89,016	11.0	15,058	99,503	11.5	15,742	104,205
2026	141,337	9.5	13,427	89,519	11.0	15,547	100,065	11.5	16,254	104,794
2027	145,930	9.5	13,863	89,865	11.0	16,052	100,452	11.5	16,782	105,199
2028	150,673	9.5	14,314	90,037	11.0	16,574	100,644	11.5	17,327	105,400

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	\$ 112,986	13.3%	\$15,027	\$ 109,735	13.6%	\$15,366	\$ 111,940	15.8%	\$17,852	\$ 126,067
2020	116,658	13.3	15,516	111,238	13.6	15,865	113,474	15.8	18,432	127,794
2021	120,449	13.3	16,020	112,641	13.6	16,381	114,905	15.8	19,031	129,405
2022	124,364	13.3	16,540	113,929	13.6	16,914	116,219	15.8	19,650	130,884
2023	128,406	13.3	17,078	115,087	13.6	17,463	117,400	15.8	20,288	132,214
2024	132,579	13.3	17,633	116,098	13.6	18,031	118,431	15.8	20,947	133,375
2025	136,888	13.3	18,206	116,944	13.6	18,617	119,294	15.8	21,628	134,347
2026	141,337	13.3	18,798	117,605	13.6	19,222	119,968	15.8	22,331	135,106
2027	145,930	13.3	19,409	118,060	13.6	19,846	120,432	15.8	23,057	135,628
2028	150,673	13.3	20,040	118,285	13.6	20,492	120,662	15.8	23,806	135,887

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.

City of Norwood - 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 Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability
		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars	
2019	\$ 112,986	9.9%	\$11,186	\$ 64,150	12.2%	\$13,784	\$ 80,196	10.8%	\$12,202	\$ 72,645
2020	116,658	9.9	11,549	65,029	12.2	14,232	81,295	10.8	12,599	73,640
2021	120,449	9.9	11,924	65,849	12.2	14,695	82,320	10.8	13,008	74,569
2022	124,364	9.9	12,312	66,602	12.2	15,172	83,261	10.8	13,431	75,422
2023	128,406	9.9	12,712	67,279	12.2	15,666	84,107	10.8	13,868	76,188
2024	132,579	9.9	13,125	67,870	12.2	16,175	84,846	10.8	14,319	76,857
2025	136,888	9.9	13,552	68,364	12.2	16,700	85,464	10.8	14,784	77,417
2026	141,337	9.9	13,992	68,750	12.2	17,243	85,947	10.8	15,264	77,855
2027	145,930	9.9	14,447	69,016	12.2	17,803	86,279	10.8	15,760	78,156
2028	150,673	9.9	14,917	69,148	12.2	18,382	86,444	10.8	16,273	78,305

Valuation Year	Estimated Projected Payroll	LT-5(65) Benefit Program			L-7 Benefit Program			LT-8(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability
		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars	
2019	\$ 112,986	13.0%	\$14,688	\$ 86,584	14.4%	\$16,270	\$ 96,250	14.9%	\$16,835	\$ 100,508
2020	116,658	13.0	15,166	87,770	14.4	16,799	97,569	14.9	17,382	101,885
2021	120,449	13.0	15,658	88,877	14.4	17,345	98,799	14.9	17,947	103,170
2022	124,364	13.0	16,167	89,893	14.4	17,908	99,929	14.9	18,530	104,350
2023	128,406	13.0	16,693	90,806	14.4	18,490	100,944	14.9	19,132	105,410
2024	132,579	13.0	17,235	91,603	14.4	19,091	101,831	14.9	19,754	106,336
2025	136,888	13.0	17,795	92,270	14.4	19,712	102,573	14.9	20,396	107,111
2026	141,337	13.0	18,374	92,791	14.4	20,353	103,153	14.9	21,059	107,716
2027	145,930	13.0	18,971	93,150	14.4	21,014	103,552	14.9	21,744	108,133
2028	150,673	13.0	19,587	93,328	14.4	21,697	103,750	14.9	22,450	108,339

Valuation Year	Estimated Projected Payroll	L-12 Benefit Program			LT-14(65) Benefit Program			L-6 Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability
		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars	
2019	\$ 112,986	16.7%	\$18,869	\$ 112,271	16.9%	\$19,095	\$ 114,399	19.0%	\$21,467	\$ 128,315
2020	116,658	16.7	19,482	113,809	16.9	19,715	115,966	19.0	22,165	130,073
2021	120,449	16.7	20,115	115,244	16.9	20,356	117,428	19.0	22,885	131,713
2022	124,364	16.7	20,769	116,562	16.9	21,018	118,771	19.0	23,629	133,219
2023	128,406	16.7	21,444	117,746	16.9	21,701	119,978	19.0	24,397	134,573
2024	132,579	16.7	22,141	118,780	16.9	22,406	121,032	19.0	25,190	135,755
2025	136,888	16.7	22,860	119,645	16.9	23,134	121,914	19.0	26,009	136,744
2026	141,337	16.7	23,603	120,321	16.9	23,886	122,603	19.0	26,854	137,517
2027	145,930	16.7	24,370	120,786	16.9	24,662	123,077	19.0	27,727	138,049
2028	150,673	16.7	25,162	121,017	16.9	25,464	123,312	19.0	28,628	138,313

Notes regarding the above projections:

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

City of Norwood - 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 Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability
		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars	
2019	\$ 112,986	10.2%	\$11,525	\$ 66,408	12.6%	\$14,236	\$ 83,010	11.3%	\$12,767	\$ 75,179
2020	116,658	10.2	11,899	67,318	12.6	14,699	84,147	11.3	13,182	76,209
2021	120,449	10.2	12,286	68,167	12.6	15,177	85,208	11.3	13,611	77,170
2022	124,364	10.2	12,685	68,946	12.6	15,670	86,182	11.3	14,053	78,052
2023	128,406	10.2	13,097	69,647	12.6	16,179	87,058	11.3	14,510	78,845
2024	132,579	10.2	13,523	70,259	12.6	16,705	87,823	11.3	14,981	79,537
2025	136,888	10.2	13,963	70,771	12.6	17,248	88,463	11.3	15,468	80,116
2026	141,337	10.2	14,416	71,171	12.6	17,808	88,963	11.3	15,971	80,569
2027	145,930	10.2	14,885	71,446	12.6	18,387	89,307	11.3	16,490	80,881
2028	150,673	10.2	15,369	71,582	12.6	18,985	89,478	11.3	17,026	81,035

Valuation Year	Estimated Projected Payroll	LT-5(65) Benefit Program			L-7 Benefit Program			LT-8(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability
		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars	
2019	\$ 112,986	13.4%	\$15,140	\$ 89,585	14.9%	\$16,835	\$ 99,577	15.4%	\$17,400	\$ 103,978
2020	116,658	13.4	15,632	90,812	14.9	17,382	100,941	15.4	17,965	105,402
2021	120,449	13.4	16,140	91,957	14.9	17,947	102,214	15.4	18,549	106,731
2022	124,364	13.4	16,665	93,008	14.9	18,530	103,383	15.4	19,152	107,951
2023	128,406	13.4	17,206	93,953	14.9	19,132	104,433	15.4	19,775	109,048
2024	132,579	13.4	17,766	94,778	14.9	19,754	105,350	15.4	20,417	110,006
2025	136,888	13.4	18,343	95,468	14.9	20,396	106,117	15.4	21,081	110,807
2026	141,337	13.4	18,939	96,008	14.9	21,059	106,717	15.4	21,766	111,433
2027	145,930	13.4	19,555	96,379	14.9	21,744	107,130	15.4	22,473	111,864
2028	150,673	13.4	20,190	96,563	14.9	22,450	107,335	15.4	23,204	112,078

Valuation Year	Estimated Projected Payroll	L-12 Benefit Program			LT-14(65) Benefit Program			L-6 Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability
		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars	
2019	\$ 112,986	17.2%	\$19,434	\$ 116,184	17.5%	\$19,772	\$ 118,366	19.7%	\$22,258	\$ 132,768
2020	116,658	17.2	20,065	117,776	17.5	20,415	119,988	19.7	22,982	134,587
2021	120,449	17.2	20,717	119,261	17.5	21,079	121,501	19.7	23,728	136,284
2022	124,364	17.2	21,391	120,625	17.5	21,764	122,890	19.7	24,500	137,842
2023	128,406	17.2	22,086	121,851	17.5	22,471	124,139	19.7	25,296	139,243
2024	132,579	17.2	22,804	122,921	17.5	23,201	125,229	19.7	26,118	140,466
2025	136,888	17.2	23,545	123,816	17.5	23,955	126,141	19.7	26,967	141,489
2026	141,337	17.2	24,310	124,516	17.5	24,734	126,854	19.7	27,843	142,289
2027	145,930	17.2	25,100	124,998	17.5	25,538	127,345	19.7	28,748	142,839
2028	150,673	17.2	25,916	125,237	17.5	26,368	127,588	19.7	29,683	143,112

Notes regarding the above projections:

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

City of Norwood - 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	\$ 112,986	7.0%	\$7,909	\$ 63,839	9.4%	\$10,621	\$ 81,185	9.0%	\$10,169	\$ 79,147
2020	116,658	7.0	8,166	64,714	9.4	10,966	82,297	9.0	10,499	80,231
2021	120,449	7.0	8,431	65,530	9.4	11,322	83,335	9.0	10,840	81,243
2022	124,364	7.0	8,705	66,279	9.4	11,690	84,288	9.0	11,193	82,172
2023	128,406	7.0	8,988	66,952	9.4	12,070	85,144	9.0	11,557	83,007
2024	132,579	7.0	9,281	67,540	9.4	12,462	85,892	9.0	11,932	83,736
2025	136,888	7.0	9,582	68,032	9.4	12,867	86,518	9.0	12,320	84,346
2026	141,337	7.0	9,894	68,416	9.4	13,286	87,007	9.0	12,720	84,823
2027	145,930	7.0	10,215	68,681	9.4	13,717	87,343	9.0	13,134	85,151
2028	150,673	7.0	10,547	68,812	9.4	14,163	87,510	9.0	13,561	85,314

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	\$ 112,986	11.0%	\$12,428	\$ 92,650	11.8%	\$13,332	\$ 98,443	12.7%	\$14,349	\$ 106,116
2020	116,658	11.0	12,832	93,919	11.8	13,766	99,792	12.7	14,816	107,570
2021	120,449	11.0	13,249	95,103	11.8	14,213	101,050	12.7	15,297	108,926
2022	124,364	11.0	13,680	96,190	11.8	14,675	102,205	12.7	15,794	110,171
2023	128,406	11.0	14,125	97,167	11.8	15,152	103,243	12.7	16,308	111,290
2024	132,579	11.0	14,584	98,020	11.8	15,644	104,150	12.7	16,838	112,267
2025	136,888	11.0	15,058	98,734	11.8	16,153	104,909	12.7	17,385	113,085
2026	141,337	11.0	15,547	99,292	11.8	16,678	105,502	12.7	17,950	113,724
2027	145,930	11.0	16,052	99,676	11.8	17,220	105,910	12.7	18,533	114,164
2028	150,673	11.0	16,574	99,866	11.8	17,779	106,112	12.7	19,135	114,382

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	\$ 112,986	14.3%	\$16,157	\$ 115,680	14.8%	\$16,722	\$ 119,528	16.8%	\$18,982	\$ 132,857
2020	116,658	14.3	16,682	117,265	14.8	17,265	121,166	16.8	19,599	134,677
2021	120,449	14.3	17,224	118,744	14.8	17,826	122,694	16.8	20,235	136,375
2022	124,364	14.3	17,784	120,102	14.8	18,406	124,097	16.8	20,893	137,934
2023	128,406	14.3	18,362	121,322	14.8	19,004	125,358	16.8	21,572	139,336
2024	132,579	14.3	18,959	122,387	14.8	19,622	126,459	16.8	22,273	140,560
2025	136,888	14.3	19,575	123,279	14.8	20,259	127,380	16.8	22,997	141,584
2026	141,337	14.3	20,211	123,976	14.8	20,918	128,100	16.8	23,745	142,384
2027	145,930	14.3	20,868	124,455	14.8	21,598	128,595	16.8	24,516	142,935
2028	150,673	14.3	21,546	124,693	14.8	22,300	128,841	16.8	25,313	143,208

Notes regarding the above projections:

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

City of Norwood - 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 Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability
		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars	
2019	\$ 112,986	7.3%	\$8,248	\$ 66,294	9.8%	\$11,073	\$ 84,243	9.4%	\$10,621	\$ 82,140
2020	116,658	7.3	8,516	67,202	9.8	11,432	85,397	9.4	10,966	83,265
2021	120,449	7.3	8,793	68,049	9.8	11,804	86,474	9.4	11,322	84,315
2022	124,364	7.3	9,079	68,827	9.8	12,188	87,463	9.4	11,690	85,279
2023	128,406	7.3	9,374	69,526	9.8	12,584	88,352	9.4	12,070	86,146
2024	132,579	7.3	9,678	70,137	9.8	12,993	89,128	9.4	12,462	86,903
2025	136,888	7.3	9,993	70,648	9.8	13,415	89,777	9.4	12,867	87,536
2026	141,337	7.3	10,318	71,047	9.8	13,851	90,284	9.4	13,286	88,031
2027	145,930	7.3	10,653	71,322	9.8	14,301	90,633	9.4	13,717	88,371
2028	150,673	7.3	10,999	71,458	9.8	14,766	90,806	9.4	14,163	88,540

Valuation Year	Estimated Projected Payroll	LT-5(65) Benefit Program			L-7 Benefit Program			LT-8(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability
		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars	
2019	\$ 112,986	11.3%	\$12,767	\$ 96,122	12.3%	\$13,897	\$ 102,106	13.3%	\$15,027	\$ 110,027
2020	116,658	11.3	13,182	97,439	12.3	14,349	103,505	13.3	15,516	111,534
2021	120,449	11.3	13,611	98,668	12.3	14,815	104,810	13.3	16,020	112,940
2022	124,364	11.3	14,053	99,796	12.3	15,297	106,008	13.3	16,540	114,231
2023	128,406	11.3	14,510	100,810	12.3	15,794	107,085	13.3	17,078	115,392
2024	132,579	11.3	14,981	101,695	12.3	16,307	108,025	13.3	17,633	116,405
2025	136,888	11.3	15,468	102,436	12.3	16,837	108,812	13.3	18,206	117,253
2026	141,337	11.3	15,971	103,015	12.3	17,384	109,427	13.3	18,798	117,916
2027	145,930	11.3	16,490	103,413	12.3	17,949	109,850	13.3	19,409	118,372
2028	150,673	11.3	17,026	103,610	12.3	18,533	110,060	13.3	20,040	118,598

Valuation Year	Estimated Projected Payroll	L-12 Benefit Program			LT-14(65) Benefit Program			L-6 Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability
		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars	
2019	\$ 112,986	14.8%	\$16,722	\$ 119,907	15.4%	\$17,400	\$ 123,871	17.5%	\$19,772	\$ 137,706
2020	116,658	14.8	17,265	121,550	15.4	17,965	125,568	17.5	20,415	139,593
2021	120,449	14.8	17,826	123,083	15.4	18,549	127,151	17.5	21,079	141,353
2022	124,364	14.8	18,406	124,490	15.4	19,152	128,605	17.5	21,764	142,969
2023	128,406	14.8	19,004	125,755	15.4	19,775	129,912	17.5	22,471	144,422
2024	132,579	14.8	19,622	126,859	15.4	20,417	131,053	17.5	23,201	145,690
2025	136,888	14.8	20,259	127,783	15.4	21,081	132,008	17.5	23,955	146,751
2026	141,337	14.8	20,918	128,505	15.4	21,766	132,754	17.5	24,734	147,580
2027	145,930	14.8	21,598	129,002	15.4	22,473	133,267	17.5	25,538	148,151
2028	150,673	14.8	22,300	129,248	15.4	23,204	133,521	17.5	26,368	148,434

Notes regarding the above projections:

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

City of Norwood - 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	\$ 112,986	10.7%	\$12,089	\$ 69,681	13.3%	\$15,027	\$ 87,102	12.8%	\$14,462	\$ 84,936
2020	116,658	10.7	12,482	70,636	13.3	15,516	88,295	12.8	14,932	86,100
2021	120,449	10.7	12,888	71,527	13.3	16,020	89,408	12.8	15,417	87,186
2022	124,364	10.7	13,307	72,345	13.3	16,540	90,430	12.8	15,919	88,183
2023	128,406	10.7	13,739	73,080	13.3	17,078	91,349	12.8	16,436	89,079
2024	132,579	10.7	14,186	73,722	13.3	17,633	92,151	12.8	16,970	89,861
2025	136,888	10.7	14,647	74,259	13.3	18,206	92,822	12.8	17,522	90,516
2026	141,337	10.7	15,123	74,679	13.3	18,798	93,347	12.8	18,091	91,028
2027	145,930	10.7	15,615	74,968	13.3	19,409	93,708	12.8	18,679	91,380
2028	150,673	10.7	16,122	75,111	13.3	20,040	93,887	12.8	19,286	91,554

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	\$ 112,986	14.8%	\$16,722	\$ 98,559	15.7%	\$17,739	\$ 104,536	16.6%	\$18,756	\$ 112,150
2020	116,658	14.8	17,265	99,909	15.7	18,315	105,968	16.6	19,365	113,686
2021	120,449	14.8	17,826	101,169	15.7	18,910	107,304	16.6	19,995	115,120
2022	124,364	14.8	18,406	102,326	15.7	19,525	108,531	16.6	20,644	116,436
2023	128,406	14.8	19,004	103,366	15.7	20,160	109,634	16.6	21,315	117,619
2024	132,579	14.8	19,622	104,274	15.7	20,815	110,597	16.6	22,008	118,652
2025	136,888	14.8	20,259	105,034	15.7	21,491	111,403	16.6	22,723	119,516
2026	141,337	14.8	20,918	105,628	15.7	22,190	112,033	16.6	23,462	120,191
2027	145,930	14.8	21,598	106,036	15.7	22,911	112,466	16.6	24,224	120,656
2028	150,673	14.8	22,300	106,238	15.7	23,656	112,681	16.6	25,012	120,886

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	\$ 112,986	18.2%	\$20,563	\$ 121,951	18.7%	\$21,128	\$ 125,758	20.7%	\$23,388	\$ 139,359
2020	116,658	18.2	21,232	123,622	18.7	21,815	127,481	20.7	24,148	141,268
2021	120,449	18.2	21,922	125,181	18.7	22,524	129,088	20.7	24,933	143,049
2022	124,364	18.2	22,634	126,612	18.7	23,256	130,564	20.7	25,743	144,684
2023	128,406	18.2	23,370	127,898	18.7	24,012	131,891	20.7	26,580	146,154
2024	132,579	18.2	24,129	129,021	18.7	24,792	133,049	20.7	27,444	147,438
2025	136,888	18.2	24,914	129,961	18.7	25,598	134,018	20.7	28,336	148,512
2026	141,337	18.2	25,723	130,695	18.7	26,430	134,775	20.7	29,257	149,351
2027	145,930	18.2	26,559	131,200	18.7	27,289	135,296	20.7	30,208	149,929
2028	150,673	18.2	27,422	131,451	18.7	28,176	135,554	20.7	31,189	150,215

Notes regarding the above projections:

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

City of Norwood - General

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

(0% member contributions are additional)

Rule of 80 Retirement Eligibility

Valuation Year	Estimated Projected Payroll	L-1 Benefit Program			L-3 Benefit Program			LT-4(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a %	Annual	Accrued	As a %	Annual	Accrued	As a %	Annual	Accrued
		of Payroll	Dollars	Liability	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability
2019	\$ 112,986	11.1%	\$12,541	\$ 72,128	13.7%	\$15,479	\$ 90,205	13.2%	\$14,914	\$ 87,919
2020	116,658	11.1	12,949	73,116	13.7	15,982	91,441	13.2	15,399	89,123
2021	120,449	11.1	13,370	74,038	13.7	16,502	92,594	13.2	15,899	90,247
2022	124,364	11.1	13,804	74,884	13.7	17,038	93,653	13.2	16,416	91,279
2023	128,406	11.1	14,253	75,645	13.7	17,592	94,605	13.2	16,950	92,206
2024	132,579	11.1	14,716	76,309	13.7	18,163	95,436	13.2	17,500	93,016
2025	136,888	11.1	15,195	76,865	13.7	18,754	96,131	13.2	18,069	93,694
2026	141,337	11.1	15,688	77,299	13.7	19,363	96,674	13.2	18,656	94,224
2027	145,930	11.1	16,198	77,598	13.7	19,992	97,048	13.2	19,263	94,588
2028	150,673	11.1	16,725	77,746	13.7	20,642	97,233	13.2	19,889	94,769

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	\$ 112,986	15.2%	\$17,174	\$ 102,039	16.2%	\$18,304	\$ 108,228	17.2%	\$19,434	\$ 116,104
2020	116,658	15.2	17,732	103,437	16.2	18,899	109,711	17.2	20,065	117,695
2021	120,449	15.2	18,308	104,741	16.2	19,513	111,094	17.2	20,717	119,179
2022	124,364	15.2	18,903	105,938	16.2	20,147	112,364	17.2	21,391	120,542
2023	128,406	15.2	19,518	107,014	16.2	20,802	113,506	17.2	22,086	121,767
2024	132,579	15.2	20,152	107,954	16.2	21,478	114,503	17.2	22,804	122,836
2025	136,888	15.2	20,807	108,740	16.2	22,176	115,337	17.2	23,545	123,731
2026	141,337	15.2	21,483	109,355	16.2	22,897	115,989	17.2	24,310	124,430
2027	145,930	15.2	22,181	109,778	16.2	23,641	116,438	17.2	25,100	124,911
2028	150,673	15.2	22,902	109,988	16.2	24,409	116,660	17.2	25,916	125,150

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	\$ 112,986	18.7%	\$21,128	\$ 126,250	19.3%	\$21,806	\$ 130,201	21.4%	\$24,179	\$ 144,324
2020	116,658	18.7	21,815	127,980	19.3	22,515	131,985	21.4	24,965	146,301
2021	120,449	18.7	22,524	129,594	19.3	23,247	133,649	21.4	25,776	148,146
2022	124,364	18.7	23,256	131,076	19.3	24,002	135,177	21.4	26,614	149,840
2023	128,406	18.7	24,012	132,408	19.3	24,782	136,551	21.4	27,479	151,363
2024	132,579	18.7	24,792	133,571	19.3	25,588	137,750	21.4	28,372	152,692
2025	136,888	18.7	25,598	134,544	19.3	26,419	138,753	21.4	29,294	153,804
2026	141,337	18.7	26,430	135,304	19.3	27,278	139,537	21.4	30,246	154,673
2027	145,930	18.7	27,289	135,827	19.3	28,164	140,077	21.4	31,229	155,271
2028	150,673	18.7	28,176	136,086	19.3	29,080	140,344	21.4	32,244	155,567

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.
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