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July 10, 2020

Clark County Ambulance District Kahoka, 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 May 31, 2020. The valuation was based on data furnished from your records concerning individual employees (see Appendix V).

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

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

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

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

The signing actuary is independent of the plan sponsor.

Respectfully submitted,

Mite Draplor

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.



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

		Percents of Active Member Payroll				
		Prior			Total Employer	
Benefit	Employee	Service	Current	Disability	Contribution	
Program	Groups	Cost *	Cost	Cost	Rate	
L-1	General	0.00%	5.90%	0.20%	6.10%	
	Public Safety	3.20	3.40	0.40	7.00	
L-3	General	0.00	8.00	0.30	8.30	
	Public Safety	4.10	4.90	0.50	9.50	
LT-4(65)	General	0.00	6.60	0.20	6.80	
	Public Safety	4.20	4.70	0.40	9.30	
LT-5(65)	General	0.00	8.50	0.30	8.80	
	Public Safety	4.90	5.80	0.50	11.20	
L-7	General	0.00	10.10	0.30	10.40	
	Public Safety	5.00	6.40	0.60	12.00	
LT-8(65)	General	0.00	10.40	0.30	10.70	
	Public Safety	5.50	7.00	0.60	13.10	
L-12	General	0.00	12.10	0.40	12.50	
	Public Safety	5.90	7.90	0.70	14.50	
LT-14(65)	General	0.00	12.30	0.40	12.70	
	Public Safety	6.20	8.20	0.70	15.10	
L-6	General	0.00	14.20	0.50	14.70	
	Public Safety	6.80	9.40	0.80	17.00	

## **Regular Retirement Eligibility**



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

		Percents of Active Member Payroll					
Benefit Program	Employee Groups	Prior Service Cost *	Current Cost	Disability Cost	Total Employer Contribution Rate		
L-1	General	0.00%	6.20%	0.20%	6.40%		
	Public Safety	3.40	3.60	0.40	7.40		
L-3	General	0.00	8.30	0.30	8.60		
	Public Safety	4.30	5.10	0.50	9.90		
LT-4(65)	General	0.00	6.90	0.20	7.10		
	Public Safety	4.40	4.90	0.40	9.70		
LT-5(65)	General	0.00	8.90	0.30	9.20		
	Public Safety	5.10	6.10	0.50	11.70		
L-7	General	0.00	10.50	0.30	10.80		
	Public Safety	5.20	6.70	0.60	12.50		
LT-8(65)	General	0.00	10.80	0.30	11.10		
	Public Safety	5.70	7.40	0.60	13.70		
L-12	General	0.00	12.60	0.40	13.00		
	Public Safety	6.10	8.40	0.70	15.20		
LT-14(65)	General	0.00	12.80	0.40	13.20		
	Public Safety	6.40	8.60	0.70	15.70		
L-6	General	0.00	14.80	0.50	15.30		
	Public Safety	7.10	9.80	0.80	17.70		

## **Regular Retirement Eligibility**



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

		Percents of Active Member Payroll					
Benefit Program	Employee Groups	Prior Service Cost *	Current Cost	Disability Cost	Total Employer Contribution Rate		
L-1	General	0.00%	9.20%	0.20%	9.40%		
	Public Safety	3.70	6.80	0.40	10.90		
L-3	General	0.00	11.30	0.30	11.60		
	Public Safety	4.70	8.20	0.50	13.40		
LT-4(65)	General	0.00	9.90	0.20	10.10		
	Public Safety	4.70	8.10	0.40	13.20		
LT-5(65)	General	0.00	11.80	0.30	12.10		
	Public Safety	5.40	9.20	0.50	15.10		
L-7	General	0.00	13.30	0.30	13.60		
	Public Safety	5.60	9.70	0.60	15.90		
LT-8(65)	General	0.00	13.70	0.30	14.00		
	Public Safety	6.10	10.30	0.60	17.00		
L-12	General	0.00	15.40	0.40	15.80		
	Public Safety	6.50	11.20	0.70	18.40		
LT-14(65)	General	0.00	15.60	0.40	16.00		
	Public Safety	6.80	11.50	0.70	19.00		
L-6	General	0.00	17.50	0.50	18.00		
	Public Safety	7.50	12.60	0.80	20.90		

### **Regular Retirement Eligibility**



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

		Percents of Active Member Payroll					
Benefit Program	Employee Groups	Prior Service Cost *	Current Cost	Disability Cost	Total Employer Contribution Rate		
L-1	General	0.00%	9.50%	0.20%	9.70%		
	Public Safety	3.90	7.00	0.40	11.30		
L-3	General	0.00	11.60	0.30	11.90		
	Public Safety	4.80	8.50	0.50	13.80		
LT-4(65)	General	0.00	10.20	0.20	10.40		
	Public Safety	4.90	8.30	0.40	13.60		
LT-5(65)	General	0.00	12.20	0.30	12.50		
	Public Safety	5.60	9.50	0.50	15.60		
L-7	General	0.00	13.80	0.30	14.10		
	Public Safety	5.80	10.00	0.60	16.40		
LT-8(65)	General	0.00	14.10	0.30	14.40		
	Public Safety	6.30	10.70	0.60	17.60		
L-12	General	0.00	15.90	0.40	16.30		
	Public Safety	6.80	11.60	0.70	19.10		
LT-14(65)	General	0.00	16.10	0.40	16.50		
	Public Safety	7.00	11.90	0.70	19.60		
L-6	General	0.00	18.00	0.50	18.50		
	Public Safety	7.70	13.10	0.80	21.60		

### **Regular Retirement Eligibility**



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

		Percents of Active Member Payroll					
					Total		
		Prior			Employer		
Benefit	Employee	Service	Current	Disability	Contribution		
Program	Groups	Cost *	Cost	Cost	Rate		
L-1	General	0.00%	5.90%	0.20%	6.10%		
	Public Safety	3.60	3.50	0.40	7.50		
L-3	General	0.00	8.00	0.30	8.30		
	Public Safety	4.50	5.20	0.50	10.20		
LT-4(65)	General	0.00	6.60	0.20	6.80		
	Public Safety	5.00	5.20	0.40	10.60		
LT-5(65)	General	0.00	8.50	0.30	8.80		
	Public Safety	5.60	6.30	0.50	12.40		
L-7	General	0.00	10.10	0.30	10.40		
	Public Safety	5.50	6.70	0.60	12.80		
LT-8(65)	General	0.00	10.40	0.30	10.70		
	Public Safety	6.20	7.60	0.60	14.40		
L-12	General	0.00	12.10	0.40	12.50		
	Public Safety	6.50	8.30	0.70	15.50		
LT-14(65)	General	0.00	12.30	0.40	12.70		
	Public Safety	6.80	8.70	0.70	16.20		
L-6	General	0.00	14.20	0.50	14.70		
	Public Safety	7.40	9.90	0.80	18.10		

## Rule of 80 Retirement Eligibility#

# 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.



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

		Percents of Active Member Payroll				
- C.		Prior		<b>D:</b> 1.11.	Total Employer	
Benefit	Employee	Service	Current	Disability	Contribution	
Program	Groups	Cost *	Cost	Cost	Rate	
L-1	General	0.00%	6.20%	0.20%	6.40%	
	Public Safety	3.70	3.80	0.40	7.90	
L-3	General	0.00	8.30	0.30	8.60	
	Public Safety	4.70	5.40	0.50	10.60	
LT-4(65)	General	0.00	6.90	0.20	7.10	
	Public Safety	5.20	5.50	0.40	11.10	
LT-5(65)	General	0.00	8.90	0.30	9.20	
	Public Safety	5.80	6.80	0.50	13.10	
L-7	General	0.00	10.50	0.30	10.80	
	Public Safety	5.70	7.10	0.60	13.40	
LT-8(65)	General	0.00	10.80	0.30	11.10	
	Public Safety	6.50	7.80	0.60	14.90	
L-12	General	0.00	12.60	0.40	13.00	
	Public Safety	6.70	8.70	0.70	16.10	
LT-14(65)	General	0.00	12.80	0.40	13.20	
	Public Safety	7.10	9.10	0.70	16.90	
L-6	General	0.00	14.80	0.50	15.30	
	Public Safety	7.70	10.30	0.80	18.80	

### Rule of 80 Retirement Eligibility#

# 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.



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

		Percents of Active Member Payroll					
		Prior			Total Employer		
Benefit	Employee	Service	Current	Disability	Contribution		
Program	Groups	Cost *	Cost	Cost	Rate		
L-1	General	0.00%	9.20%	0.20%	9.40%		
	Public Safety	4.00	7.00	0.40	11.40		
L-3	General	0.00	11.30	0.30	11.60		
	Public Safety	5.10	8.50	0.50	14.10		
LT-4(65)	General	0.00	9.90	0.20	10.10		
	Public Safety	5.50	8.60	0.40	14.50		
LT-5(65)	General	0.00	11.80	0.30	12.10		
	Public Safety	6.10	9.70	0.50	16.30		
L-7	General	0.00	13.30	0.30	13.60		
	Public Safety	6.10	10.00	0.60	16.70		
LT-8(65)	General	0.00	13.70	0.30	14.00		
	Public Safety	6.80	10.90	0.60	18.30		
L-12	General	0.00	15.40	0.40	15.80		
	Public Safety	7.10	11.60	0.70	19.40		
LT-14(65)	General	0.00	15.60	0.40	16.00		
	Public Safety	7.40	12.00	0.70	20.10		
L-6	General	0.00	17.50	0.50	18.00		
	Public Safety	8.10	13.10	0.80	22.00		

### Rule of 80 Retirement Eligibility#

- # 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.



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

		Percents of Active Member Payroll				
Benefit Program	Employee Groups	Prior Service Cost *	Current Cost	Disability Cost	Total Employer Contribution Rate	
L-1	General Public Safety	0.00%	9.50% 7.20	0.20% 0.40	9.70% 11.80	
L-3	General	0.00	11.60	0.30	11.90	
	Public Safety	5.20	8.80	0.50	14.50	
LT-4(65)	General	0.00	10.20	0.20	10.40	
	Public Safety	5.70	8.90	0.40	15.00	
LT-5(65)	General	0.00	12.20	0.30	12.50	
	Public Safety	6.40	10.10	0.50	17.00	
L-7	General	0.00	13.80	0.30	14.10	
	Public Safety	6.30	10.40	0.60	17.30	
LT-8(65)	General	0.00	14.10	0.30	14.40	
	Public Safety	7.00	11.20	0.60	18.80	
L-12	General	0.00	15.90	0.40	16.30	
	Public Safety	7.30	12.00	0.70	20.00	
LT-14(65)	General	0.00	16.10	0.40	16.50	
	Public Safety	7.70	12.40	0.70	20.80	
L-6	General	0.00	18.00	0.50	18.50	
	Public Safety	8.40	13.50	0.80	22.70	

### Rule of 80 Retirement Eligibility#

- # 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.



### 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:

5 Year FAS					
Benefit					
Program	General	Public Safety			
L-1	\$ 1,708	\$ 29,596			
L-3	2,324	40,166			
LT-4(65)	1,904	39,321			
LT-5(65)	2,464	47,354			
L-7	2,912	50,736			
LT-8(65)	2,996	55,387			
L-12	3,500	61,307			
LT-14(65)	3,556	63,843			
L-6	4,116	71,877			

#### **Contributory Plan**

	3 Year FAS					
Benefit						
Program	General	Public Safety				
L-1	\$ 1,792	\$ 31,288				
L-3	2,408	41,858				
LT-4(65)	1,988	41,012				
LT-5(65)	2,576	49,468				
L-7	3,024	52,851				
LT-8(65)	3,108	57,924				
L-12	3,640	64,266				
LT-14(65)	3,696	66,380				
L-6	4,284	74,836				

#### **Non-Contributory Plan**

	5 Year FAS				3 Year FAS	
Benefit				Benefit		
Program	General	Public Safety		Program	General	Public Safety
L-1	\$ 2,632	\$ 46,086		L-1	\$ 2,716	\$ 47,777
L-3	3,248	56,656		L-3	3,332	58,347
LT-4(65)	2,828	55,810		LT-4(65)	2,912	57,501
LT-5(65)	3,388	63,843		LT-5(65)	3,500	65,957
L-7	3,808	67,226		L-7	3,948	69,340
LT-8(65)	3,920	71,877		LT-8(65)	4,032	74,414
L-12	4,424	77,796		L-12	4,564	80,756
LT-14(65)	4,480	80,333		LT-14(65)	4,620	82,870
L-6	5,040	88,366		L-6	5,180	91,326

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.



### **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:

5 Year FAS					
Benefit					
Program	General	Public Safety			
L-1	\$ 1,708	\$ 31,710			
L-3	2,324	43,126			
LT-4(65)	1,904	44,817			
LT-5(65)	2,464	52,428			
L-7	2,912	54,119			
LT-8(65)	2,996	60,884			
L-12	3,500	65 <i>,</i> 535			
LT-14(65)	3,556	68,494			
L-6	4,116	76,528			

#### **Contributory Plan**

3 Year FAS						
Benefit						
Program	General	Public Safety				
L-1	\$ 1,792	\$ 33,402				
L-3	2,408	44,817				
LT-4(65)	1,988	46,931				
LT-5(65)	2,576	55,387				
L-7	3,024	56,656				
LT-8(65)	3,108	62,998				
L-12	3,640	68,071				
LT-14(65)	3,696	71,454				
L-6	4,284	79,487				

#### **Non-Contributory Plan**

	5 Year FAS		3 Year FAS			
Benefit				Benefit		
Program	General	Public Safety		Program	General	Public Safety
L-1	\$ 2,632	\$ 48,200		L-1	\$ 2,716	\$ 49,891
L-3	3,248	59,615		L-3	3,332	61,307
LT-4(65)	2,828	61,307		LT-4(65)	2,912	63,421
LT-5(65)	3,388	68,917		LT-5(65)	3,500	71,877
L-7	3,808	70,608		L-7	3,948	73,145
LT-8(65)	3,920	77,373		LT-8(65)	4,032	79,487
L-12	4,424	82,024		L-12	4,564	84,561
LT-14(65)	4,480	84,984		LT-14(65)	4,620	87,943
L-6	5,040	93,017		L-6	5,180	95,977

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.



## **Employees and Payroll Included in the Valuation**

	General	Public Safety
Number of Employees	1	8
Annual Payroll	\$ 28,000	8 \$ 422,804

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:

## **Clark County Ambulance District**

		Contri	butory	Non-Con	tributory
Benefit	Employee	UAAL	UAAL	UAAL	UAAL
Group	Group	(5 Year FAS)	(3 Year FAS)	(5 Year FAS)	(3 Year FAS)
L-1	General	\$1	\$ -	\$ 2	\$ -
	Public Safety	241,541	251,221	277,861	287,976
L-3	General	1	6	-	-
	Public Safety	308,348	320,245	347,319	359,952
LT-4(65)	General	-	-	4	-
	Public Safety	314,729	327,045	350,704	363 <i>,</i> 457
LT-5(65)	General	-	6	-	-
	Public Safety	363,205	377,095	401,968	416,554
L-7	General	-	3	-	3
	Public Safety	374,609	388,825	416,809	431,984
LT-8(65)	General	5	3	-	-
	Public Safety	411,170	426,734	453,194	469,693
L-12	General	-	6	-	5
	Public Safety	440,867	457,379	486,259	503,922
LT-14(65)	General	2	1	-	2
	Public Safety	459,136	476,338	504,448	522,814
L-6	General	4	3	2	6
	Public Safety	506,856	525,685	555,701	575,902

## **Regular Retirement Eligibility**



## Unfunded Actuarial Accrued Liability (UAAL)

		Contributory		Non-Con	tributory
Benefit	Employee	UAAL	UAAL	UAAL	UAAL
Group	Group	(5 Year FAS)	(3 Year FAS)	(5 Year FAS)	(3 Year FAS)
L-1	General	\$ 1	\$ -	\$ 2	\$ -
	Public Safety	265,728	276,402	301,426	312,591
L-3	General	1	6	-	-
	Public Safety	338,159	351,317	376,741	390,739
LT-4(65)	General	-	-	4	-
	Public Safety	374,271	388,926	409,575	424,702
LT-5(65)	General	-	6	-	-
	Public Safety	419,547	435,707	457,869	474,806
L-7	General	-	3	-	3
	Public Safety	410,125	425,868	452,115	468,906
LT-8(65)	General	5	3	-	-
	Public Safety	464,358	482,135	506,165	524,953
L-12	General	-	6	-	5
	Public Safety	482,003	500,316	527,472	547,010
LT-14(65)	General	2	1	-	2
	Public Safety	509,141	528,447	554,511	575,052
L-6	General	4	3	2	6
	Public Safety	553,706	574,585	602,814	625,132

## Rule of 80 Retirement Eligibility



**APPENDIX II** 

SUMMARY OF FINANCIAL ASSUMPTIONS

## **Summary of Assumptions Used in Actuarial Valuations**

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

- 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. The pre-retirement 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.
- 9. Police assumptions were used for the Public Safety employee group.



### Schedule 1.

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

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

Percent Inc	rease in
1	

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



## Schedule 2.

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

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

### **Early Retirement**

### **Normal Retirement**

Retirement	General Members		Retirement		
Ages	Men	Women	Ages	Police	Fire
60	10%	10%	55	10%	13%
61	10	10	56	10	13
62	25	15	57	10	13
63	20	15	58	10	13
64	20	15	59	10	13
65 66	25 25	25 25	60 61	10 10	15 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	General	Members		
Ages	Men	Women	Police	Fire
50	15%	15%	25%	25%
51	15	15	25	20
52	15	15	15	20
53	15	15	15	20
54	15	15	15	20
55	15	15	15	20
56	15	15	15	20
57	15	15	15	25
58	15	15	15	25
59	15	15	15	25
60	15	15	15	35
61	15	15	25	35
62	30	15	30	45
63	30	15	30	45
64	30	20	30	45
65	30	25	100	100
66	30	25		
67	30	25		
68	30	25		
69	30	25		
70	100	100		



**APPENDIX III** 

SUMMARY OF LAGERS PROVISIONS

# Missouri LocAl Government Employees Retirement System Brief Summary of LAGERS Benefits and Conditions Evaluated and/or Considered as of February 28, 2019 (Section references are to RSMo)

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

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

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

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

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

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

Final		Estimated	Estim	Estimated		
Average	LAGERS	Social	Month	y Total		
Salary (FAS) <sup>1</sup>	BENEFIT <sup>3</sup>	Security <sup>2</sup>	\$	% of FAS		
35 Years of Service	::					
\$1,500	\$ 525	\$ 930	\$1 <i>,</i> 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%		

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

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



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

Final	Estimated Estimated			ated
Average	LAGERS	Social	Monthl	y Total
Salary (FAS) <sup>1</sup>	BENEFIT <sup>3</sup>	Security <sup>2</sup>	\$	% of FAS
35 Years of Service	2:			
\$1,500	\$ 656	\$ 930	\$1 <i>,</i> 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	2:			
\$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	2:			
\$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%

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

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



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

Final		Estimated Estimated		
Average	LAGERS	Social	Monthl	y Total
Salary (FAS) <sup>1</sup>	BENEFIT <sup>3</sup>	Security <sup>2</sup>	\$	% of FAS
35 Years of Service	2:			
\$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	2:			
\$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	2:			
\$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%

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

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



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

Final		Estimated	Estimated		
Average	LAGERS	Social	Monthl	y Total	
Salary (FAS) <sup>1</sup>	BENEFIT <sup>3</sup>	Security <sup>2</sup>	\$	% 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%	

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

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



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

Final		Estimated	Estimated		
Average	LAGERS	Social	Monthl	y Total	
Salary (FAS) <sup>1</sup>	BENEFIT <sup>3</sup>	Security <sup>2</sup>	\$	% of FAS	
35 Years of Service	::				
\$1,500	\$1,050	\$ 930	\$1 <i>,</i> 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 <i>,</i> 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%	

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

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



## **Missouri LAGERS**

Illustrations of Age and Service Allowance Amounts

For Sample Combinations of Service & Salary

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

Final Average	2				Percent of FAS		
Salary (FAS) <sup>1</sup>	To 65	At 65	Security <sup>2</sup>	To 65	At 65	To 65	At 65
35 Years of Servi	ce:						
\$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 Servi	ce:						
\$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 Servi	ce:						
\$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%

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

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



## **Missouri LAGERS**

Illustrations of Age and Service Allowance Amounts

For Sample Combinations of Service & Salary

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

1.25% of FAS <sup>1</sup> at age 65)

Final Average			2		nated Ily Total		Percent of FAS	
Salary (FAS) <sup>1</sup>	To 65	At 65	Security <sup>2</sup>	To 65	, At 65	To 65	At 65	
35 Years of Servio	ce:							
\$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 Servi	ce:							
\$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 Servi	ce:							
\$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%	

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

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



## **Missouri LAGERS**

Illustrations of Age and Service Allowance Amounts

For Sample Combinations of Service & Salary

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

Final	LAG	iERS	Estimated	Estir	nated	Per	cent
Average	BEN	EFIT <sup>3</sup>	Social	Month	ly Total	of I	AS
Salary (FAS) <sup>1</sup>	To 65	At 65	Security <sup>2</sup>	To 65	At 65	To 65	At 65
35 Years of Servio	ce:						
\$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 Servio	ce:						
\$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 Servio	ce:						
\$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%

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

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

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



## **Missouri LAGERS**

Illustrations of Age and Service Allowance Amounts

For Sample Combinations of Service & Salary

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

1.75% of FAS <sup>1</sup> at age 65)

Final			Estimated	Estir	nated	Percent		
Average	BEN	EFIT <sup>3</sup>	Social	Month	ly Total	of I	AS	
Salary (FAS) <sup>1</sup>	To 65	At 65	Security <sup>2</sup>	To 65	At 65	To 65	At 65	
35 Years of Servi	ce:							
\$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 Servi	ce:							
\$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 Servi	ce:							
\$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%	

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

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

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



**APPENDIX V** 

AGE AND SERVICE CHARACTERISTICS OF EMPLOYEES

## May 31, 2020

### By Attained Age and Years of Service

		Yea	rs of Ser	vice to V	Valuatio	n Date		Totals		
Attained									Valuation	
Age	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Payroll	
Under 20										
20-24										
25-29										
30-34										
35-39										
40-44										
45-49										
50-54										
55-59	1							1	\$ 28,000	
60-64										
65-69										
70 & Over										
Totals	1							1	\$ 28,000	

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

Age: 54.6 years. Benefit Service: 0.0 years. Annual Pay: \$28,000.



## May 31, 2020

By Attained	Age and	Years of	Service
-------------	---------	----------	---------

		Yea	rs of Ser	vice to V	Valuatio	n Date			Totals
Attained									Valuation
Age	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Payroll
Under 20									
20-24									
25-29	2							2	\$ 93,283
30-34			1					1	\$ 92,628
35-39	1	1						2	\$ 87,718
40-44	2							2	\$ 81,485
45-49					1			1	\$ 67,690
50-54									
55-59									
60-64									
65-69									
70 & Over									
Totals	5	1	1		1			8	\$ 422,804

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

Age: 36.7 years. Benefit Service: 5.6 years. Annual Pay: \$52,851.



**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;
- 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.





July 10, 2020 E-mail

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

Dear Bob:

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

**Clark County Ambulance District** 

Sincerely,

Mite Drazilor

Mita D. Drazilov, ASA, FCA, MAAA

MDD:wp



July 10, 2020

**Clark County Ambulance District** Kahoka, 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 May 31, 2020 Initial Valuation for the Clark County Ambulance District dated July 10, 2020.

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

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

Respectfully submitted,

Mita Drazilov, ASA, FCA, MAAA

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

(4% member contributions are additional)

		L-	L-1 Benefit Program			3 Benefit Pro	gram	LT-4(65) Benefit Program			
	Estimated	Estimated Employer Contribution		Unfunded Actuarial		Employer bution	Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	
Valuation	Projected	As a %	Annual	Accrued	As a %	Annual	Accrued	As a %	Annual	Accrued	
Year	Payroll	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability	
2020	\$ 28,000	6.1%	\$1,708	\$1	8.3%	\$2,324	\$1	6.8%	\$1,904	\$-	
2021	28,910	6.1	1,764	1	8.3	2,400	1	6.8	1,966	-	
2022	29,850	6.1	1,821	1	8.3	2,478	1	6.8	2,030	-	
2023	30,820	6.1	1,880	1	8.3	2,558	1	6.8	2,096	-	
2024	31,822	6.1	1,941	1	8.3	2,641	1	6.8	2,164	-	
2025	32,856	6.1	2,004	1	8.3	2,727	1	6.8	2,234	-	
2026	33,924	6.1	2,069	1	8.3	2,816	1	6.8	2,307	-	
2027	35,027	6.1	2,137	1	8.3	2,907	1	6.8	2,382	-	
2028	36,165	6.1	2,206	1	8.3	3,002	1	6.8	2,459	-	
2029	37,340	6.1	2,278	1	8.3	3,099	1	6.8	2,539	-	

### **Regular Retirement Eligibility**

		LT-5	(65) Benefit	Program	Ŀ	7 Benefit Pro	ogram	LT-8	(65) Benefit P	rogram
	Estimated		l Employer ibution	Unfunded Actuarial		l Employer ibution	Unfunded Actuarial		l Employer ibution	Unfunded Actuarial
Valuation	Projected	As a % of	Annual	Accrued	As a % of	Annual	Accrued	As a % of	Annual	Accrued
Year	Payroll	Payroll	Dollars	Liability	Payroll	Dollars	Liability	Payroll	Dollars	Liability
2020	\$ 28,000	8.8%	\$2,464	\$-	10.4%	\$2,912	\$-	10.7%	\$2,996	\$ 5
2021	28,910	8.8	2,544	-	10.4	3,007	-	10.7	3,093	5
2022	29,850	8.8	2,627	-	10.4	3,104	-	10.7	3,194	5
2023	30,820	8.8	2,712	-	10.4	3,205	-	10.7	3,298	5
2024	31,822	8.8	2,800	-	10.4	3,309	-	10.7	3,405	5
2025	32,856	8.8	2,891	-	10.4	3,417	-	10.7	3,516	5
2026	33,924	8.8	2,985	-	10.4	3,528	-	10.7	3,630	5
2027	35,027	8.8	3,082	-	10.4	3,643	-	10.7	3,748	5
2028	36,165	8.8	3,183	-	10.4	3,761	-	10.7	3,870	5
2029	37,340	8.8	3,286	-	10.4	3,883	-	10.7	3,995	5

		L-12 Benefit Program			LT-14	l(65) Benefit I	Program	L-6 Benefit Program		
	Estimated		Estimated Employer Contribution			Estimated Employer Contribution		Estimated Employer Contribution		Unfunded Actuarial
Valuation Year	Projected Payroll	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2020	\$ 28,000	12.5%	\$3,500	\$ -	12.7%	\$3,556	\$ 2	14.7%	\$4,116	\$ 4
2021	28,910	12.5	3,614	-	12.7	3,672	2	14.7	4,250	4
2022	29,850	12.5	3,731	-	12.7	3,791	2	14.7	4,388	4
2023	30,820	12.5	3,853	-	12.7	3,914	2	14.7	4,531	4
2024	31,822	12.5	3,978	-	12.7	4,041	2	14.7	4,678	4
2025	32,856	12.5	4,107	-	12.7	4,173	2	14.7	4,830	4
2026	33,924	12.5	4,241	-	12.7	4,308	2	14.7	4,987	4
2027	35,027	12.5	4,378	-	12.7	4,448	2	14.7	5,149	4
2028	36,165	12.5	4,521	-	12.7	4,593	2	14.7	5,316	4
2029	37,340	12.5	4,668	-	12.7	4,742	2	14.7	5,489	4

- 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 28<sup>th</sup> 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.



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

(4% member contributions are additional)

		Ŀ	1 Benefit Pro	ogram	Ŀ	3 Benefit Pro	gram	LT-4	(65) Benefit I	Program
		Estimated	l Employer	Unfunded	Estimated	l Employer	Unfunded	Estimated	l Employer	Unfunded
	Estimated	Contri	ibution	Actuarial	Contr	ibution	Actuarial	Contri	ibution	Actuarial
Valuation	Projected	As a %	Annual	Accrued	As a %	Annual	Accrued	As a %	Annual	Accrued
Year	Payroll	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability
2020	\$ 28,000	6.4%	\$1,792	\$-	8.6%	\$2,408	\$6	7.1%	\$1,988	\$-
2021	28,910	6.4	1,850	-	8.6	2,486	6	7.1	2,053	-
2022	29,850	6.4	1,910	-	8.6	2,567	6	7.1	2,119	-
2023	30,820	6.4	1,972	-	8.6	2,651	6	7.1	2,188	-
2024	31,822	6.4	2,037	-	8.6	2,737	6	7.1	2,259	-
2025	32,856	6.4	2,103	-	8.6	2,826	6	7.1	2,333	-
2026	33,924	6.4	2,171	-	8.6	2,917	6	7.1	2,409	-
2027	35,027	6.4	2,242	-	8.6	3,012	6	7.1	2,487	-
2028	36,165	6.4	2,315	-	8.6	3,110	6	7.1	2,568	-
2029	37,340	6.4	2,390	-	8.6	3,211	6	7.1	2,651	-

### **Regular Retirement Eligibility**

		LT-5	(65) Benefit P	rogram	Ŀ	7 Benefit Pro	gram	LT-8	(65) Benefit P	rogram
	Estimated		Estimated Employer Contribution			l Employer ibution	Unfunded Actuarial		l Employer ibution	Unfunded Actuarial
Valuation	Projected	As a % of	Annual	Accrued	As a % of	Annual	Accrued	As a % of	Annual	Accrued
Year	Payroll	Payroll	Dollars	Liability	Payroll	Dollars	Liability	Payroll	Dollars	Liability
2020	\$ 28,000	9.2%	\$2,576	\$ 6	10.8%	\$3,024	\$ 3	11.1%	\$3,108	\$ 3
2021	28,910	9.2	2,660	6	10.8	3,122	3	11.1	3,209	3
2022	29,850	9.2	2,746	6	10.8	3,224	3	11.1	3,313	3
2023	30,820	9.2	2,835	6	10.8	3,329	3	11.1	3,421	3
2024	31,822	9.2	2,928	6	10.8	3,437	3	11.1	3,532	3
2025	32,856	9.2	3,023	6	10.8	3,548	3	11.1	3,647	3
2026	33,924	9.2	3,121	6	10.8	3,664	3	11.1	3,766	3
2027	35,027	9.2	3,222	6	10.8	3,783	3	11.1	3,888	3
2028	36,165	9.2	3,327	6	10.8	3,906	3	11.1	4,014	3
2029	37,340	9.2	3,435	6	10.8	4,033	3	11.1	4,145	3

		L-12 Benefit Program			LT-14	l(65) Benefit I	Program	L-6 Benefit Program			
	Estimated		l Employer ibution	Unfunded Actuarial		l Employer ibution	Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	
Valuation Projected Year Payroll	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability		
2020	\$ 28,000	13.0%	\$3,640	\$ 6	13.2%	\$3,696	\$1	15.3%	\$4,284	\$ 3	
2021	28,910	13.0	3,758	6	13.2	3,816	1	15.3	4,423	3	
2022	29,850	13.0	3,881	6	13.2	3,940	1	15.3	4,567	3	
2023	30,820	13.0	4,007	6	13.2	4,068	1	15.3	4,715	3	
2024	31,822	13.0	4,137	6	13.2	4,201	1	15.3	4,869	3	
2025	32,856	13.0	4,271	6	13.2	4,337	1	15.3	5,027	3	
2026	33,924	13.0	4,410	6	13.2	4,478	1	15.3	5,190	3	
2027	35,027	13.0	4,554	6	13.2	4,624	1	15.3	5,359	3	
2028	36,165	13.0	4,701	6	13.2	4,774	1	15.3	5 <i>,</i> 533	3	
2029	37,340	13.0	4,854	6	13.2	4,929	1	15.3	5,713	3	

- 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 28<sup>th</sup> 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.



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

(0% member contributions are additional)

		Ŀ	1 Benefit Pro	gram	Ŀ	3 Benefit Pro	ogram	LT-4	(65) Benefit P	rogram
		Estimated	l Employer	Unfunded	Estimated	Employer	Unfunded	Estimated	l Employer	Unfunded
	Estimated	Contri	ibution	Actuarial	Contri	bution	Actuarial	Contri	ibution	Actuarial
Valuation	Projected	As a %	Annual	Accrued	As a %	Annual	Accrued	As a %	Annual	Accrued
Year	Payroll	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability
2020	\$ 28,000	9.4%	\$2,632	\$ 2	11.6%	\$3,248	\$-	10.1%	\$2,828	\$4
2021	28,910	9.4	2,718	2	11.6	3,354	-	10.1	2,920	4
2022	29,850	9.4	2,806	2	11.6	3,463	-	10.1	3,015	4
2023	30,820	9.4	2,897	2	11.6	3,575	-	10.1	3,113	4
2024	31,822	9.4	2,991	2	11.6	3,691	-	10.1	3,214	4
2025	32,856	9.4	3,088	2	11.6	3,811	-	10.1	3,318	4
2026	33,924	9.4	3,189	2	11.6	3,935	-	10.1	3,426	4
2027	35,027	9.4	3,293	2	11.6	4,063	-	10.1	3,538	4
2028	36,165	9.4	3,400	2	11.6	4,195	-	10.1	3,653	4
2029	37,340	9.4	3,510	2	11.6	4,331	-	10.1	3,771	4

### **Regular Retirement Eligibility**

		LT-5	(65) Benefit	Program	Ŀ	7 Benefit Pro	ogram	ram LT-8(65) Benefit		Program
	Estimated		l Employer ibution	Unfunded Actuarial		l Employer ibution	Unfunded Actuarial		l Employer ibution	Unfunded Actuarial
Valuation	Projected	As a % of	Annual	Accrued	As a % of	Annual	Accrued	As a % of	Annual	Accrued
Year	Payroll	Payroll	Dollars	Liability	Payroll	Dollars	Liability	Payroll	Dollars	Liability
2020	\$ 28,000	12.1%	\$3,388	\$-	13.6%	\$3,808	\$-	14.0%	\$3,920	\$-
2021	28,910	12.1	3,498	-	13.6	3,932	-	14.0	4,047	-
2022	29,850	12.1	3,612	-	13.6	4,060	-	14.0	4,179	-
2023	30,820	12.1	3,729	-	13.6	4,192	-	14.0	4,315	-
2024	31,822	12.1	3,850	-	13.6	4,328	-	14.0	4,455	-
2025	32,856	12.1	3,976	-	13.6	4,468	-	14.0	4,600	-
2026	33,924	12.1	4,105	-	13.6	4,614	-	14.0	4,749	-
2027	35,027	12.1	4,238	-	13.6	4,764	-	14.0	4,904	-
2028	36,165	12.1	4,376	-	13.6	4,918	-	14.0	5,063	-
2029	37,340	12.1	4,518	-	13.6	5,078	-	14.0	5,228	-

		L-1	12 Benefit Pr	· · · · · · ·			Program	Ŀ	gram	
	Estimated		l Employer ibution	Unfunded Actuarial		l Employer ibution	Unfunded Actuarial		l Employer ibution	Unfunded Actuarial
Valuation Year	Projected Payroll	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2020	\$ 28,000	15.8%	\$4,424	\$ -	16.0%	\$4,480	\$ -	18.0%	\$5,040	\$ 2
2021	28,910	15.8	4,568	-	16.0	4,626	-	18.0	5,204	2
2022	29,850	15.8	4,716	-	16.0	4,776	-	18.0	5,373	2
2023	30,820	15.8	4,870	-	16.0	4,931	-	18.0	5,548	2
2024	31,822	15.8	5,028	-	16.0	5,092	-	18.0	5,728	2
2025	32,856	15.8	5,191	-	16.0	5,257	-	18.0	5,914	2
2026	33,924	15.8	5,360	-	16.0	5,428	-	18.0	6,106	2
2027	35,027	15.8	5,534	-	16.0	5,604	-	18.0	6,305	2
2028	36,165	15.8	5,714	-	16.0	5,786	-	18.0	6,510	2
2029	37,340	15.8	5,900	-	16.0	5,974	-	18.0	6,721	2

- 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 28<sup>th</sup> 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.



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

(0% member contributions are additional)

		Ŀ	1 Benefit Pro	ogram	Ŀ	3 Benefit Pro	ogram	LT-4	(65) Benefit F	rogram
		Estimated	Employer	Unfunded	Estimated	l Employer	Unfunded	Estimated	Employer	Unfunded
	Estimated	Contri	bution	Actuarial	Contri	bution	Actuarial	Contri	bution	Actuarial
Valuation	Projected	As a %	Annual	Accrued	As a %	Annual	Accrued	As a %	Annual	Accrued
Year	Payroll	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability
2020	\$ 28,000	9.7%	\$2,716	\$-	11.9%	\$3,332	\$-	10.4%	\$2,912	\$-
2021	28,910	9.7	2,804	-	11.9	3,440	-	10.4	3,007	-
2022	29,850	9.7	2,895	-	11.9	3,552	-	10.4	3,104	-
2023	30,820	9.7	2,990	-	11.9	3,668	-	10.4	3,205	-
2024	31,822	9.7	3,087	-	11.9	3,787	-	10.4	3,309	-
2025	32,856	9.7	3,187	-	11.9	3,910	-	10.4	3,417	-
2026	33,924	9.7	3,291	-	11.9	4,037	-	10.4	3,528	-
2027	35,027	9.7	3,398	-	11.9	4,168	-	10.4	3,643	-
2028	36,165	9.7	3,508	-	11.9	4,304	-	10.4	3,761	-
2029	37,340	9.7	3,622	-	11.9	4,443	-	10.4	3,883	-

### **Regular Retirement Eligibility**

		LT-5	(65) Benefit	Program L-7 B		7 Benefit Pro	7 Benefit Program		(65) Benefit	Program
	Estimated		l Employer ibution	Unfunded Actuarial		l Employer ibution	Unfunded Actuarial		l Employer ibution	Unfunded Actuarial
Valuation	Projected	As a % of	Annual	Accrued	As a % of	Annual	Accrued	As a % of	Annual	Accrued
Year	Payroll	Payroll	Dollars	Liability	Payroll	Dollars	Liability	Payroll	Dollars	Liability
2020	\$ 28,000	12.5%	\$3,500	\$-	14.1%	\$3,948	\$ 3	14.4%	\$4,032	\$-
2021	28,910	12.5	3,614	-	14.1	4,076	3	14.4	4,163	-
2022	29,850	12.5	3,731	-	14.1	4,209	3	14.4	4,298	-
2023	30,820	12.5	3,853	-	14.1	4,346	3	14.4	4,438	-
2024	31,822	12.5	3,978	-	14.1	4,487	3	14.4	4,582	-
2025	32,856	12.5	4,107	-	14.1	4,633	3	14.4	4,731	-
2026	33,924	12.5	4,241	-	14.1	4,783	3	14.4	4,885	-
2027	35,027	12.5	4,378	-	14.1	4,939	3	14.4	5,044	-
2028	36,165	12.5	4,521	-	14.1	5,099	3	14.4	5,208	-
2029	37,340	12.5	4,668	-	14.1	5,265	3	14.4	5,377	-

		L-:	L2 Benefit Pro	gram	LT-14	l(65) Benefit I	Program	L-	6 Benefit Pro	gram
	Estimated		l Employer ibution	Unfunded Actuarial		l Employer ibution	Unfunded Actuarial		l Employer ibution	Unfunded Actuarial
Valuation Year	Projected Payroll	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2020	\$ 28,000	16.3%	\$4,564	\$ 5	16.5%	\$4,620	\$ 2	18.5%	\$5,180	\$ 6
2021	28,910	16.3	4,712	5	16.5	4,770	2	18.5	5,348	6
2022	29,850	16.3	4,866	5	16.5	4,925	2	18.5	5,522	6
2023	30,820	16.3	5,024	5	16.5	5,085	2	18.5	5,702	6
2024	31,822	16.3	5,187	5	16.5	5,251	2	18.5	5,887	6
2025	32,856	16.3	5,356	5	16.5	5,421	2	18.5	6,078	6
2026	33,924	16.3	5,530	5	16.5	5,597	2	18.5	6,276	6
2027	35,027	16.3	5,709	5	16.5	5,779	2	18.5	6,480	6
2028	36,165	16.3	5,895	5	16.5	5,967	2	18.5	6,691	6
2029	37,340	16.3	6,086	5	16.5	6,161	2	18.5	6,908	6

- 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 28<sup>th</sup> 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.



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

(4% member contributions are additional)

		Ŀ	1 Benefit Pro	· · · · · · · · · · · · · · · · · · ·			gram	LT-4	(65) Benefit I	Program
		Estimated	l Employer	Unfunded	Estimated	l Employer	Unfunded	Estimated	l Employer	Unfunded
	Estimated	Contri	ibution	Actuarial	Contri	bution	Actuarial	Contri	ibution	Actuarial
Valuation	Projected	As a %	Annual	Accrued	As a %	Annual	Accrued	As a %	Annual	Accrued
Year	Payroll	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability
2020	\$ 28,000	6.1%	\$1,708	\$1	8.3%	\$2,324	\$1	6.8%	\$1,904	\$-
2021	28,910	6.1	1,764	1	8.3	2,400	1	6.8	1,966	-
2022	29,850	6.1	1,821	1	8.3	2,478	1	6.8	2,030	-
2023	30,820	6.1	1,880	1	8.3	2,558	1	6.8	2,096	-
2024	31,822	6.1	1,941	1	8.3	2,641	1	6.8	2,164	-
2025	32,856	6.1	2,004	1	8.3	2,727	1	6.8	2,234	-
2026	33,924	6.1	2,069	1	8.3	2,816	1	6.8	2,307	-
2027	35,027	6.1	2,137	1	8.3	2,907	1	6.8	2,382	-
2028	36,165	6.1	2,206	1	8.3	3,002	1	6.8	2,459	-
2029	37,340	6.1	2,278	1	8.3	3,099	1	6.8	2,539	-

### Rule of 80 Retirement Eligibility

		LT-5	(65) Benefit	Program	Ŀ	7 Benefit Pro	ogram	LT-8(65) Benefit Program			
	Estimated		l Employer ibution	Unfunded Actuarial		l Employer ibution	Unfunded Actuarial		l Employer ibution	Unfunded Actuarial	
Valuation	Projected	As a % of	Annual	Accrued	As a % of	Annual	Accrued	As a % of	Annual	Accrued	
Year	Payroll	Payroll	Dollars	Liability	Payroll	Dollars	Liability	Payroll	Dollars	Liability	
2020	\$ 28 <i>,</i> 000	8.8%	\$2,464	\$-	10.4%	\$2,912	\$-	10.7%	\$2,996	\$ 5	
2021	28,910	8.8	2,544	-	10.4	3,007	-	10.7	3,093	5	
2022	29,850	8.8	2,627	-	10.4	3,104	-	10.7	3,194	5	
2023	30,820	8.8	2,712	-	10.4	3,205	-	10.7	3,298	5	
2024	31,822	8.8	2,800	-	10.4	3,309	-	10.7	3,405	5	
2025	32,856	8.8	2,891	-	10.4	3,417	-	10.7	3,516	5	
2026	33,924	8.8	2,985	-	10.4	3,528	-	10.7	3,630	5	
2027	35,027	8.8	3,082	-	10.4	3,643	-	10.7	3,748	5	
2028	36,165	8.8	3,183	-	10.4	3,761	-	10.7	3,870	5	
2029	37,340	8.8	3,286	-	10.4	3,883	-	10.7	3,995	5	

		L-1	12 Benefit Pr	• • • • • • •		Program	Ŀ	gram		
	Estimated		l Employer ibution	Unfunded Actuarial		l Employer ibution	Unfunded Actuarial		l Employer ibution	Unfunded Actuarial
Valuation Year	Projected Payroll	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2020	\$ 28,000	12.5%	\$3,500	\$ -	12.7%	\$3,556	\$ 2	14.7%	\$4,116	\$ 4
2021	28,910	12.5	3,614	-	12.7	3,672	2	14.7	4,250	4
2022	29,850	12.5	3,731	-	12.7	3,791	2	14.7	4,388	4
2023	30,820	12.5	3,853	-	12.7	3,914	2	14.7	4,531	4
2024	31,822	12.5	3,978	-	12.7	4,041	2	14.7	4,678	4
2025	32,856	12.5	4,107	-	12.7	4,173	2	14.7	4,830	4
2026	33,924	12.5	4,241	-	12.7	4,308	2	14.7	4,987	4
2027	35,027	12.5	4,378	-	12.7	4,448	2	14.7	5,149	4
2028	36,165	12.5	4,521	-	12.7	4,593	2	14.7	5,316	4
2029	37,340	12.5	4,668	-	12.7	4,742	2	14.7	5,489	4

- 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 28<sup>th</sup> 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.



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

(4% member contributions are additional)

		Ŀ	1 Benefit Pro	ogram	Ŀ	3 Benefit Pro	gram	LT-4	(65) Benefit I	rogram	
		Estimated	l Employer	Unfunded	Estimated	l Employer	Unfunded	Estimated	l Employer	Unfunded	
	Estimated	Contri	ibution	Actuarial	Contr	ibution	Actuarial	Contri	ibution	Actuarial	
Valuation	Projected	As a %	Annual	Accrued	As a %	Annual	Accrued	As a %	Annual	Accrued	
Year	Payroll	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability	
2020	\$ 28,000	6.4%	\$1,792	\$-	8.6%	\$2,408	\$6	7.1%	\$1,988	\$-	
2021	28,910	6.4	1,850	-	8.6	2,486	6	7.1	2,053	-	
2022	29,850	6.4	1,910	-	8.6	2,567	6	7.1	2,119	-	
2023	30,820	6.4	1,972	-	8.6	2,651	6	7.1	2,188	-	
2024	31,822	6.4	2,037	-	8.6	2,737	6	7.1	2,259	-	
2025	32,856	6.4	2,103	-	8.6	2,826	6	7.1	2,333	-	
2026	33,924	6.4	2,171	-	8.6	2,917	6	7.1	2,409	-	
2027	35,027	6.4	2,242	-	8.6	3,012	6	7.1	2,487	-	
2028	36,165	6.4	2,315	-	8.6	3,110	6	7.1	2,568	-	
2029	37,340	6.4	2,390	-	8.6	3,211	6	7.1	2,651	-	

### Rule of 80 Retirement Eligibility

		LT-5	(65) Benefit P	rogram	Ŀ	7 Benefit Pro	gram	LT-8	(65) Benefit P	rogram
			l Employer	Unfunded		l Employer	Unfunded		l Employer	Unfunded
	Estimated	Contr	ibution	Actuarial	Contr	ibution	Actuarial	Contr	ibution	Actuarial
Valuation	Projected	As a % of	Annual	Accrued	As a % of	Annual	Accrued	As a % of	Annual	Accrued
Year	Payroll	Payroll	Dollars	Liability	Payroll	Dollars	Liability	Payroll	Dollars	Liability
2020	\$ 28,000	9.2%	\$2,576	\$ 6	10.8%	\$3,024	\$ 3	11.1%	\$3,108	\$ 3
2021	28,910	9.2	2,660	6	10.8	3,122	3	11.1	3,209	3
2022	29,850	9.2	2,746	6	10.8	3,224	3	11.1	3,313	3
2023	30,820	9.2	2,835	6	10.8	3,329	3	11.1	3,421	3
2024	31,822	9.2	2,928	6	10.8	3,437	3	11.1	3,532	3
2025	32,856	9.2	3,023	6	10.8	3,548	3	11.1	3,647	3
2026	33,924	9.2	3,121	6	10.8	3,664	3	11.1	3,766	3
2027	35,027	9.2	3,222	6	10.8	3,783	3	11.1	3,888	3
2028	36,165	9.2	3,327	6	10.8	3,906	3	11.1	4,014	3
2029	37,340	9.2	3,435	6	10.8	4,033	3	11.1	4,145	3

		L-1	L2 Benefit Pro	gram	LT-14	l(65) Benefit I	Program	L-6 Benefit Program		
	Estimated		l Employer ibution	Unfunded Actuarial		Employer	Unfunded Actuarial		l Employer ibution	Unfunded Actuarial
Valuation Year	Projected Payroll	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2020	\$ 28,000	13.0%	\$3,640	\$ 6	13.2%	\$3,696	\$1	15.3%	\$4,284	\$ 3
2021	28,910	13.0	3,758	6	13.2	3,816	1	15.3	4,423	3
2022	29,850	13.0	3,881	6	13.2	3,940	1	15.3	4,567	3
2023	30,820	13.0	4,007	6	13.2	4,068	1	15.3	4,715	3
2024	31,822	13.0	4,137	6	13.2	4,201	1	15.3	4,869	3
2025	32,856	13.0	4,271	6	13.2	4,337	1	15.3	5,027	3
2026	33,924	13.0	4,410	6	13.2	4,478	1	15.3	5,190	3
2027	35,027	13.0	4,554	6	13.2	4,624	1	15.3	5,359	3
2028	36,165	13.0	4,701	6	13.2	4,774	1	15.3	5,533	3
2029	37,340	13.0	4,854	6	13.2	4,929	1	15.3	5,713	3

- 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 28<sup>th</sup> 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.



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

(0% member contributions are additional)

		Ŀ	1 Benefit Pro	gram	Ŀ	3 Benefit Pro	ogram	LT-4(65) Benefit Program			
		Estimated	l Employer	Unfunded	Estimated	Employer	Unfunded	Estimated	Employer	Unfunded	
	Estimated	Contri	ibution	Actuarial	Contri	bution	Actuarial	Contri	bution	Actuarial	
Valuation	Projected	As a %	Annual	Accrued	As a %	Annual	Accrued	As a %	Annual	Accrued	
Year	Payroll	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability	
2020	\$ 28,000	9.4%	\$2,632	\$ 2	11.6%	\$3,248	\$-	10.1%	\$2,828	\$4	
2021	28,910	9.4	2,718	2	11.6	3,354	-	10.1	2,920	4	
2022	29,850	9.4	2,806	2	11.6	3,463	-	10.1	3,015	4	
2023	30,820	9.4	2,897	2	11.6	3,575	-	10.1	3,113	4	
2024	31,822	9.4	2,991	2	11.6	3,691	-	10.1	3,214	4	
2025	32,856	9.4	3,088	2	11.6	3,811	-	10.1	3,318	4	
2026	33,924	9.4	3,189	2	11.6	3 <i>,</i> 935	-	10.1	3,426	4	
2027	35,027	9.4	3,293	2	11.6	4,063	-	10.1	3,538	4	
2028	36,165	9.4	3,400	2	11.6	4,195	-	10.1	3,653	4	
2029	37,340	9.4	3,510	2	11.6	4,331	-	10.1	3,771	4	

### Rule of 80 Retirement Eligibility

		LT-5	(65) Benefit	Program	Ŀ	7 Benefit Pro	ogram	LT-8	(65) Benefit	Program
	Estimated		l Employer ibution	Unfunded Actuarial		l Employer ibution	Unfunded Actuarial		l Employer ibution	Unfunded Actuarial
Valuation	Projected	As a % of	Annual	Accrued	As a % of	Annual	Accrued	As a % of	Annual	Accrued
Year	Payroll	Payroll	Dollars	Liability	Payroll	Dollars	Liability	Payroll	Dollars	Liability
2020	\$ 28,000	12.1%	\$3,388	\$-	13.6%	\$3,808	\$-	14.0%	\$3,920	\$-
2021	28,910	12.1	3,498	-	13.6	3,932	-	14.0	4,047	-
2022	29,850	12.1	3,612	-	13.6	4,060	-	14.0	4,179	-
2023	30,820	12.1	3,729	-	13.6	4,192	-	14.0	4,315	-
2024	31,822	12.1	3,850	-	13.6	4,328	-	14.0	4,455	-
2025	32,856	12.1	3,976	-	13.6	4,468	-	14.0	4,600	-
2026	33,924	12.1	4,105	-	13.6	4,614	-	14.0	4,749	-
2027	35,027	12.1	4,238	-	13.6	4,764	-	14.0	4,904	-
2028	36,165	12.1	4,376	-	13.6	4,918	-	14.0	5,063	-
2029	37,340	12.1	4,518	-	13.6	5,078	-	14.0	5,228	-

		L-1	12 Benefit Pr	ogram				L-6 Benefit Pro Estimated Employer Contribution As a % of Annual		gram
	Estimated		l Employer ibution	Unfunded Actuarial		l Employer ibution	Unfunded Actuarial			Unfunded Actuarial
Valuation Year	Projected Payroll	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2020	\$ 28,000	15.8%	\$4,424	\$ -	16.0%	\$4,480	\$ -	18.0%	\$5,040	\$ 2
2021	28,910	15.8	4,568	-	16.0	4,626	-	18.0	5,204	2
2022	29,850	15.8	4,716	-	16.0	4,776	-	18.0	5,373	2
2023	30,820	15.8	4,870	-	16.0	4,931	-	18.0	5,548	2
2024	31,822	15.8	5,028	-	16.0	5 <i>,</i> 092	-	18.0	5,728	2
2025	32,856	15.8	5,191	-	16.0	5,257	-	18.0	5,914	2
2026	33,924	15.8	5,360	-	16.0	5,428	-	18.0	6,106	2
2027	35,027	15.8	5,534	-	16.0	5,604	-	18.0	6,305	2
2028	36,165	15.8	5,714	-	16.0	5,786	-	18.0	6,510	2
2029	37,340	15.8	5,900	-	16.0	5,974	-	18.0	6,721	2

- 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 28<sup>th</sup> 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.



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

(0% member contributions are additional)

		Ŀ	1 Benefit Pro	ogram	Ŀ	3 Benefit Pro	ogram	LT-4	(65) Benefit F	0	
		Estimated	Employer	Unfunded	Estimated	l Employer	Unfunded	Estimated	l Employer	Unfunded	
	Estimated	Contri	bution	Actuarial	Contri	ibution	Actuarial	Contri	ibution	Actuarial	
Valuation	Projected	As a %	Annual	Accrued	As a %	Annual	Accrued	As a %	Annual	Accrued	
Year	Payroll	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability	
2020	\$ 28,000	9.7%	\$2,716	\$-	11.9%	\$3,332	\$-	10.4%	\$2,912	\$-	
2021	28,910	9.7	2,804	-	11.9	3,440	-	10.4	3,007	-	
2022	29,850	9.7	2,895	-	11.9	3,552	-	10.4	3,104	-	
2023	30,820	9.7	2,990	-	11.9	3,668	-	10.4	3,205	-	
2024	31,822	9.7	3,087	-	11.9	3,787	-	10.4	3,309	-	
2025	32,856	9.7	3,187	-	11.9	3,910	-	10.4	3,417	-	
2026	33,924	9.7	3,291	-	11.9	4,037	-	10.4	3,528	-	
2027	35,027	9.7	3,398	-	11.9	4,168	-	10.4	3,643	-	
2028	36,165	9.7	3,508	-	11.9	4,304	-	10.4	3,761	-	
2029	37,340	9.7	3,622	-	11.9	4,443	-	10.4	3,883	-	

### Rule of 80 Retirement Eligibility

		LT-5	(65) Benefit I	Program	L-7 Benefit Program			LT-8(65) Benefit Program			
	F. C		Employer	Unfunded		l Employer	Unfunded		ted Employer ntribution f Annual Dollars \$4,032 4,163 4,298	Unfunded	
Male and an	Estimated		bution	Actuarial		ibution	Actuarial			Actuarial	
Valuation	Projected	As a % of	Annual	Accrued	As a % of	Annual	Accrued	As a % of		Accrued	
Year	Payroll	Payroll	Dollars	Liability	Payroll	Dollars	Liability	Payroll	Dollars	Liability	
2020	\$ 28,000	12.5%	\$3,500	\$-	14.1%	\$3,948	\$ 3	14.4%	\$4,032	\$-	
2021	28,910	12.5	3,614	-	14.1	4,076	3	14.4	4,163	-	
2022	29,850	12.5	3,731	-	14.1	4,209	3	14.4	4,298	-	
2023	30,820	12.5	3,853	-	14.1	4,346	3	14.4	4,438	-	
2024	31,822	12.5	3,978	-	14.1	4,487	3	14.4	4,582	-	
2025	32,856	12.5	4,107	-	14.1	4,633	3	14.4	4,731	-	
2026	33,924	12.5	4,241	-	14.1	4,783	3	14.4	4,885	-	
2027	35,027	12.5	4,378	-	14.1	4,939	3	14.4	5,044	-	
2028	36,165	12.5	4,521	-	14.1	5,099	3	14.4	5,208	-	
2029	37,340	12.5	4,668	-	14.1	5,265	3	14.4	5,377	-	

		L-:	12 Benefit Pro	gram	LT-14	l(65) Benefit I	Program	Ŀ	6 Benefit Pro	gram
	Estimated		l Employer ibution	Unfunded Actuarial		l Employer ibution	Unfunded Actuarial		l Employer ibution	Unfunded Actuarial
Valuation Year	Projected Payroll	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2020	\$ 28,000	16.3%	\$4,564	\$ 5	16.5%	\$4,620	\$ 2	18.5%	\$5,180	\$ 6
2021	28,910	16.3	4,712	5	16.5	4,770	2	18.5	5,348	6
2022	29,850	16.3	4,866	5	16.5	4,925	2	18.5	5,522	6
2023	30,820	16.3	5,024	5	16.5	5,085	2	18.5	5,702	6
2024	31,822	16.3	5,187	5	16.5	5,251	2	18.5	5,887	6
2025	32,856	16.3	5,356	5	16.5	5,421	2	18.5	6,078	6
2026	33,924	16.3	5,530	5	16.5	5,597	2	18.5	6,276	6
2027	35,027	16.3	5,709	5	16.5	5,779	2	18.5	6,480	6
2028	36,165	16.3	5,895	5	16.5	5,967	2	18.5	6,691	6
2029	37,340	16.3	6,086	5	16.5	6,161	2	18.5	6,908	6

- 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 28<sup>th</sup> 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.



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

(4% member contributions are additional)

		Ŀ	1 Benefit Pro	gram	Ŀ	3 Benefit Pro	gram	LT-4(65) Benefit Program			
	Estimated		l Employer ibution	Unfunded Actuarial		l Employer ibution	Unfunded Actuarial		l Employer ibution	Unfunded Actuarial	
Valuation Year	Projected Payroll	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	
2020	\$ 422,804	7.0%	\$29,596	\$ 241,541	9.5%	\$40,166	\$ 308,348	9.3%	\$39,321	\$ 314,729	
2021	436,545	7.0	30,558	244,850	9.5	41,472	312,572	9.3	40,599	319,041	
2022	450,733	7.0	31,551	247,937	9.5	42,820	316,513	9.3	41,918	323,064	
2023	465,382	7.0	32,577	250,772	9.5	44,211	320,132	9.3	43,281	326,758	
2024	480,507	7.0	33,635	253,320	9.5	45,648	323,385	9.3	44,687	330,078	
2025	496,123	7.0	34,729	255,545	9.5	47,132	326,225	9.3	46,139	332,977	
2026	512,247	7.0	35,857	257,406	9.5	48,663	328,601	9.3	47,639	335,403	
2027	528,895	7.0	37,023	258,861	9.5	50,245	330,458	9.3	49,187	337,299	
2028	546,084	7.0	38,226	259,862	9.5	51,878	331,736	9.3	50,786	338,603	
2029	563,832	7.0	39,468	260,358	9.5	53,564	332,369	9.3	52,436	339,250	

### **Regular Retirement Eligibility**

		LT-5	(65) Benefit P	rogram	Ŀ	7 Benefit Pro	gram	LT-8(65) Benefit Program			
		Estimated	l Employer	Unfunded	Estimated	l Employer	Unfunded	Estimated	l Employer	Unfunded	
	Estimated	Contri	ibution	Actuarial	Contr	ibution	Actuarial	Contr	ibution	Actuarial	
Valuation	Projected	As a % of	Annual	Accrued	As a % of	Annual	Accrued	As a % of	Annual	Accrued	
Year	Payroll	Payroll	Dollars	Liability	Payroll	Dollars	Liability	Payroll	Dollars	Liability	
2020	\$ 422,804	11.2%	\$47,354	\$ 363,205	12.0%	\$50,736	\$ 374,609	13.1%	\$55,387	\$ 411,170	
2021	436,545	11.2	48,893	368,181	12.0	52,385	379,741	13.1	57,187	416,803	
2022	450,733	11.2	50,482	372,824	12.0	54,088	384,529	13.1	59,046	422,059	
2023	465,382	11.2	52,123	377,086	12.0	55,846	388,925	13.1	60,965	426,884	
2024	480,507	11.2	53,817	380,918	12.0	57,661	392,877	13.1	62,946	431,222	
2025	496,123	11.2	55,566	384,263	12.0	59,535	396,327	13.1	64,992	435,009	
2026	512,247	11.2	57,372	387,062	12.0	61,470	399,214	13.1	67,104	438,178	
2027	528,895	11.2	59,236	389,250	12.0	63,467	401,470	13.1	69,285	440,654	
2028	546,084	11.2	61,161	390,755	12.0	65,530	403,023	13.1	71,537	442,358	
2029	563,832	11.2	63,149	391,501	12.0	67,660	403,793	13.1	73,862	443,203	

		L-1	L2 Benefit Pro	gram	LT-14	l(65) Benefit I	Program	Ŀ	gram	
	Estimated		l Employer ibution	Unfunded Actuarial		l Employer ibution	Unfunded Actuarial		l Employer ibution	Unfunded Actuarial
Valuation Year	Projected Payroll	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2020	\$ 422,804	14.5%	\$61,307	\$ 440,867	15.1%	\$63,843	\$ 459,136	17.0%	\$71,877	\$ 506,856
2021	436,545	14.5	63,299	446,907	15.1	65,918	465,426	17.0	74,213	513,800
2022	450,733	14.5	65,356	452,542	15.1	68,061	471,295	17.0	76,625	520,279
2023	465,382	14.5	67,480	457,716	15.1	70,273	476,683	17.0	79,115	526,227
2024	480,507	14.5	69,674	462,367	15.1	72,557	481,527	17.0	81,686	531,574
2025	496,123	14.5	71,938	466,428	15.1	74,915	485,756	17.0	84,341	536,242
2026	512,247	14.5	74,276	469,826	15.1	77,349	489,294	17.0	87,082	540,148
2027	528,895	14.5	76,690	472,481	15.1	79,863	492,059	17.0	89,912	543,201
2028	546,084	14.5	79,182	474,308	15.1	82,459	493,962	17.0	92,834	545 <i>,</i> 302
2029	563,832	14.5	81,756	475,214	15.1	85,139	494,905	17.0	95,851	546,343

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 28<sup>th</sup> 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.



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

(4% member contributions are additional)

		Ŀ	1 Benefit Pro	gram	Ŀ	3 Benefit Pro	gram	LT-4(65) Benefit Program			
		Estimated	l Employer	Unfunded	Estimated	l Employer	Unfunded	Estimated	l Employer	Unfunded	
	Estimated	Contri	ibution	Actuarial	Contri	bution	Actuarial	Contri	ibution	Actuarial	
Valuation	Projected	As a %	Annual	Accrued	As a %	Annual	Accrued	As a %	Annual	Accrued	
Year	Payroll	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability	
2020	\$ 422,804	7.4%	\$31,288	\$ 251,221	9.9%	\$41,858	\$ 320,245	9.7%	\$41,012	\$ 327,045	
2021	436,545	7.4	32,304	254,663	9.9	43,218	324,632	9.7	42,345	331,525	
2022	450,733	7.4	33,354	257,874	9.9	44,623	328,725	9.7	43,721	335,705	
2023	465,382	7.4	34,438	260,822	9.9	46,073	332,483	9.7	45,142	339,543	
2024	480,507	7.4	35,558	263,472	9.9	47,570	335,861	9.7	46,609	342,993	
2025	496,123	7.4	36,713	265,786	9.9	49,116	338,811	9.7	48,124	346,005	
2026	512,247	7.4	37,906	267,722	9.9	50,712	341,279	9.7	49,688	348,525	
2027	528,895	7.4	39,138	269,235	9.9	52,361	343,208	9.7	51,303	350,495	
2028	546,084	7.4	40,410	270,276	9.9	54,062	344,535	9.7	52,970	351,850	
2029	563,832	7.4	41,724	270,792	9.9	55,819	345,193	9.7	54,692	352,522	

### **Regular Retirement Eligibility**

		LT-5	(65) Benefit P	rogram	L-7 Benefit Program			LT-8(65) Benefit Program			
		Estimated	l Employer	Unfunded	Estimated	l Employer	Unfunded	Estimated	l Employer	Unfunded	
	Estimated	Contr	ibution	Actuarial	Contr	ibution	Actuarial	Contr	ibution	Actuarial	
Valuation	Projected	As a % of	Annual	Accrued	As a % of	Annual	Accrued	As a % of	Annual	Accrued	
Year	Payroll	Payroll	Dollars	Liability	Payroll	Dollars	Liability	Payroll	Dollars	Liability	
2020	\$ 422,804	11.7%	\$49,468	\$ 377,095	12.5%	\$52,851	\$ 388,825	13.7%	\$57,924	\$ 426,734	
2021	436,545	11.7	51,076	382,261	12.5	54,568	394,152	13.7	59,807	432,580	
2022	450,733	11.7	52,736	387,081	12.5	56,342	399,122	13.7	61,750	438,035	
2023	465,382	11.7	54,450	391,506	12.5	58,173	403,685	13.7	63,757	443,043	
2024	480,507	11.7	56,219	395,484	12.5	60,063	407,787	13.7	65,829	447,545	
2025	496,123	11.7	58,046	398,957	12.5	62,015	411,368	13.7	67,969	451,475	
2026	512,247	11.7	59,933	401,863	12.5	64,031	414,365	13.7	70,178	454,764	
2027	528,895	11.7	61,881	404,134	12.5	66,112	416,707	13.7	72,459	457,334	
2028	546,084	11.7	63,892	405,697	12.5	68,261	418,318	13.7	74,814	459,103	
2029	563,832	11.7	65,968	406,472	12.5	70,479	419,117	13.7	77,245	459,980	

		L-1	L2 Benefit Pro	· · · ·			Program	ogram L-6 Benefit Program			
	Estimated		l Employer ibution	Unfunded Actuarial		Employer	Unfunded Actuarial		l Employer ibution	Unfunded Actuarial	
Valuation Year	Projected Payroll	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	
2020	\$ 422,804	15.2%	\$64,266	\$ 457 <i>,</i> 379	15.7%	\$66,380	\$ 476,338	17.7%	\$74,836	\$ 525 <i>,</i> 685	
2021	436,545	15.2	66,355	463,645	15.7	68,538	482,864	17.7	77,268	532,887	
2022	450,733	15.2	68,511	469,491	15.7	70,765	488,953	17.7	79,780	539 <i>,</i> 606	
2023	465,382	15.2	70,738	474,859	15.7	73,065	494,543	17.7	82,373	545,775	
2024	480,507	15.2	73,037	479,684	15.7	75,440	499,568	17.7	85,050	551,321	
2025	496,123	15.2	75,411	483 <i>,</i> 897	15.7	77,891	503,955	17.7	87,814	556,163	
2026	512,247	15.2	77,862	487,422	15.7	80,423	507,626	17.7	90,668	560,214	
2027	528,895	15.2	80,392	490,177	15.7	83,037	510,495	17.7	93,614	563,380	
2028	546,084	15.2	83,005	492,073	15.7	85,735	512,469	17.7	96,657	565,559	
2029	563,832	15.2	85,702	493,013	15.7	88,522	513,448	17.7	99,798	566,639	

- 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 28<sup>th</sup> 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.



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

(0% member contributions are additional)

		Ŀ	1 Benefit Pro	gram	L-	3 Benefit Pro	gram	LT-4	(65) Benefit P	rogram
		Estimated	l Employer	Unfunded	Estimated	Employer	Unfunded	Estimated	l Employer	Unfunded
	Estimated	Contri	ibution	Actuarial	Contri	ibution	Actuarial	Contri	bution	Actuarial
Valuation	Projected	As a %	Annual	Accrued	As a %	Annual	Accrued	As a %	Annual	Accrued
Year	Payroll	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability
2020	\$ 422,804	10.9%	\$46 <i>,</i> 086	\$ 277,861	13.4%	\$56 <i>,</i> 656	\$ 347,319	13.2%	\$55 <i>,</i> 810	\$ 350,704
2021	436,545	10.9	47,583	281,668	13.4	58,497	352,077	13.2	57,624	355,509
2022	450,733	10.9	49,130	285,220	13.4	60,398	356,516	13.2	59,497	359,992
2023	465,382	10.9	50,727	288,481	13.4	62,361	360,592	13.2	61,430	364,108
2024	480,507	10.9	52,375	291,412	13.4	64,388	364,256	13.2	63,427	367,808
2025	496,123	10.9	54,077	293,971	13.4	66,480	367,455	13.2	65,488	371,038
2026	512,247	10.9	55,835	296,112	13.4	68,641	370,132	13.2	67,617	373,741
2027	528,895	10.9	57,650	297,786	13.4	70,872	372,224	13.2	69,814	375,853
2028	546,084	10.9	59,523	298,938	13.4	73,175	373,663	13.2	72,083	377,306
2029	563,832	10.9	61,458	299,509	13.4	75,553	374,377	13.2	74,426	378,026

### **Regular Retirement Eligibility**

		LT-5	(65) Benefit P	rogram	Ŀ	7 Benefit Pro	gram	LT-8	(65) Benefit P	rogram
			l Employer	Unfunded		Employer	Unfunded		Employer	Unfunded
	Estimated	Contri	ibution	Actuarial	Contr	ibution	Actuarial	Contr	ibution	Actuarial
Valuation	Projected	As a % of	Annual	Accrued	As a % of	Annual	Accrued	As a % of	Annual	Accrued
Year	Payroll	Payroll	Dollars	Liability	Payroll	Dollars	Liability	Payroll	Dollars	Liability
2020	\$ 422,804	15.1%	\$63,843	\$ 401,968	15.9%	\$67,226	\$ 416,809	17.0%	\$71,877	\$ 453,194
2021	436,545	15.1	65,918	407,475	15.9	69,411	422,519	17.0	74,213	459,403
2022	450,733	15.1	68,061	412,613	15.9	71,667	427,847	17.0	76,625	465,196
2023	465,382	15.1	70,273	417,330	15.9	73,996	432,739	17.0	79,115	470,515
2024	480,507	15.1	72,557	421,570	15.9	76,401	437,136	17.0	81,686	475,296
2025	496,123	15.1	74,915	425,272	15.9	78,884	440,975	17.0	84,341	479,470
2026	512,247	15.1	77,349	428,370	15.9	81,447	444,187	17.0	87,082	482,963
2027	528,895	15.1	79,863	430,791	15.9	84,094	446,697	17.0	89,912	485,693
2028	546,084	15.1	82,459	432,457	15.9	86,827	448,424	17.0	92,834	487,571
2029	563,832	15.1	85,139	433,283	15.9	89,649	449,280	17.0	95,851	488,502

		L-1	L2 Benefit Pro	gram LT-14(65) Benefit F			Program L-6 Benefit Program			gram
	Estimated		l Employer ibution	Unfunded Actuarial		Employer bution	Unfunded Actuarial		l Employer ibution	Unfunded Actuarial
Valuation Year	Projected Payroll	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2020	\$ 422,804	18.4%	\$77,796	\$ 486,259	19.0%	\$80,333	\$ 504,448	20.9%	\$88,366	\$ 555,701
2021	436,545	18.4	80,324	492,921	19.0	82,944	511,359	20.9	91,238	563,314
2022	450,733	18.4	82,935	499,136	19.0	85,639	517,807	20.9	94,203	570,417
2023	465,382	18.4	85,630	504,843	19.0	88,423	523,727	20.9	97,265	576,939
2024	480,507	18.4	88,413	509,973	19.0	91,296	529,049	20.9	100,426	582,801
2025	496,123	18.4	91,287	514,452	19.0	94,263	533 <i>,</i> 695	20.9	103,690	587,919
2026	512,247	18.4	94,253	518,199	19.0	97,327	537,583	20.9	107,060	592,202
2027	528,895	18.4	97,317	521,128	19.0	100,490	540,621	20.9	110,539	595,549
2028	546,084	18.4	100,479	523,143	19.0	103,756	542,712	20.9	114,132	597,852
2029	563,832	18.4	103,745	524,142	19.0	107,128	543,748	20.9	117,841	598,994

- 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 28<sup>th</sup> 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.



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

(0% member contributions are additional)

		Ŀ	1 Benefit Pro	gram	Ŀ	3 Benefit Pro	gram	LT-4	(65) Benefit P	rogram
		Estimated	l Employer	Unfunded	Estimated	Employer	Unfunded	Estimated	Employer	Unfunded
	Estimated	Contri	ibution	Actuarial	Contri	bution	Actuarial	Contri	bution	Actuarial
Valuation	Projected	As a %	Annual	Accrued	As a %	Annual	Accrued	As a %	Annual	Accrued
Year	Payroll	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability
2020	\$ 422,804	11.3%	\$47,777	\$ 287,976	13.8%	\$58,347	\$ 359,952	13.6%	\$57,501	\$ 363,457
2021	436,545	11.3	49,330	291,921	13.8	60,243	364,883	13.6	59,370	368,436
2022	450,733	11.3	50,933	295,602	13.8	62,201	369,484	13.6	61,300	373,082
2023	465,382	11.3	52,588	298,982	13.8	64,223	373,708	13.6	63,292	377,347
2024	480,507	11.3	54,297	302,020	13.8	66,310	377,505	13.6	65,349	381,181
2025	496,123	11.3	56,062	304,672	13.8	68,465	380,820	13.6	67,473	384,529
2026	512,247	11.3	57 <i>,</i> 884	306,891	13.8	70,690	383,594	13.6	69,666	387,330
2027	528,895	11.3	59,765	308,625	13.8	72,988	385,762	13.6	71,930	389,519
2028	546,084	11.3	61,707	309,818	13.8	75,360	387,254	13.6	74,267	391,025
2029	563,832	11.3	63,713	310,410	13.8	77,809	387,993	13.6	76,681	391,772

### **Regular Retirement Eligibility**

		LT-5	(65) Benefit P	rogram	L-7 Benefit Program			LT-8(65) Benefit Program			
		Estimated	l Employer	Unfunded	Estimated	l Employer	Unfunded	Estimated	l Employer	Unfunded	
	Estimated	Contr	ibution	Actuarial	Contr	ibution	Actuarial	Contr	ibution	Actuarial	
Valuation	Projected	As a % of	Annual	Accrued	As a % of	Annual	Accrued	As a % of	Annual	Accrued	
Year	Payroll	Payroll	Dollars	Liability	Payroll	Dollars	Liability	Payroll	Dollars	Liability	
2020	\$ 422,804	15.6%	\$65,957	\$ 416,554	16.4%	\$69,340	\$ 431,984	17.6%	\$74,414	\$ 469,693	
2021	436,545	15.6	68,101	422,261	16.4	71,593	437,902	17.6	76,832	476,128	
2022	450,733	15.6	70,314	427,585	16.4	73,920	443,424	17.6	79,329	482,132	
2023	465,382	15.6	72,600	432,474	16.4	76,323	448,494	17.6	81,907	487,644	
2024	480,507	15.6	74,959	436,868	16.4	78,803	453,051	17.6	84,569	492,599	
2025	496,123	15.6	77,395	440,705	16.4	81,364	457,030	17.6	87,318	496,925	
2026	512,247	15.6	79,911	443,915	16.4	84,009	460,359	17.6	90,155	500,545	
2027	528,895	15.6	82,508	446,424	16.4	86,739	462,961	17.6	93,086	503,374	
2028	546,084	15.6	85,189	448,150	16.4	89,558	464,751	17.6	96,111	505,321	
2029	563,832	15.6	87,958	449,006	16.4	92,468	465,638	17.6	99,234	506,286	

		L-1	12 Benefit Pro	<u> </u>			Program	L-6 Benefit Program			
	Estimated		l Employer ibution	Unfunded Actuarial		l Employer ibution	Unfunded Actuarial		l Employer ibution	Unfunded Actuarial	
Valuation Year	Projected Payroll	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	
2020	\$ 422,804	19.1%	\$80,756	\$ 503 <i>,</i> 922	19.6%	\$82 <i>,</i> 870	\$ 522,814	21.6%	\$91,326	\$ 575 <i>,</i> 902	
2021	436,545	19.1	83,380	510,826	19.6	85,563	529,976	21.6	94,294	583,792	
2022	450,733	19.1	86,090	517,267	19.6	88,344	536,659	21.6	97,358	591,153	
2023	465,382	19.1	88,888	523,181	19.6	91,215	542,795	21.6	100,523	597,912	
2024	480,507	19.1	91,777	528,497	19.6	94,179	548,310	21.6	103,790	603 <i>,</i> 987	
2025	496,123	19.1	94,759	533,138	19.6	97,240	553,125	21.6	107,163	609,291	
2026	512,247	19.1	97,839	537,022	19.6	100,400	557,154	21.6	110,645	613,729	
2027	528,895	19.1	101,019	540,057	19.6	103,663	560,303	21.6	114,241	617,198	
2028	546,084	19.1	104,302	542,145	19.6	107,032	562,470	21.6	117,954	619,585	
2029	563,832	19.1	107,692	543,180	19.6	110,511	563,544	21.6	121,788	620,768	

- 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 28<sup>th</sup> 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.



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

(4% member contributions are additional)

		L-	1 Benefit Pro	gram	L-3 Benefit Program			LT-4(65) Benefit Program			
	Estimated		l Employer ibution	Unfunded Actuarial		l Employer ibution	Unfunded Actuarial		l Employer ibution	Unfunded Actuarial	
Valuation Year	Projected Payroll	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	
2020	\$ 422,804	7.5%	\$31,710	\$ 265,728	10.2%	\$43,126	\$ 338,159	10.6%	\$44,817	\$ 374,271	
2021	436,545	7.5	32,741	269,368	10.2	44,528	342,792	10.6	46,274	379,398	
2022	450,733	7.5	33,805	272,765	10.2	45,975	347,114	10.6	47,778	384,182	
2023	465,382	7.5	34,904	275,884	10.2	47,469	351,083	10.6	49,330	388,574	
2024	480,507	7.5	36,038	278,687	10.2	49,012	354,650	10.6	50,934	392,522	
2025	496,123	7.5	37,209	281,135	10.2	50,605	357,765	10.6	52,589	395,969	
2026	512,247	7.5	38,419	283,183	10.2	52,249	360,371	10.6	54,298	398 <i>,</i> 853	
2027	528,895	7.5	39,667	284,783	10.2	53,947	362,408	10.6	56,063	401,107	
2028	546,084	7.5	40,956	285,884	10.2	55,701	363,809	10.6	57,885	402,658	
2029	563,832	7.5	42,287	286,430	10.2	57,511	364,504	10.6	59,766	403,427	

### Rule of 80 Retirement Eligibility

		LT-5	(65) Benefit P	Program L-7 Benefit Progr		gram			0	
		Estimated	d Employer	Unfunded	Estimated	l Employer	Unfunded	Estimated	l Employer	Unfunded
	Estimated	Contr	ibution	Actuarial	Contr	ibution	Actuarial	Contr	ibution	Actuarial
Valuation	Projected	As a % of	Annual	Accrued	As a % of	Annual	Accrued	As a % of	Annual	Accrued
Year	Payroll	Payroll	Dollars	Liability	Payroll	Dollars	Liability	Payroll	Dollars	Liability
2020	\$ 422,804	12.4%	\$52,428	\$ 419,547	12.7%	\$53 <i>,</i> 696	\$ 410,125	14.4%	\$60,884	\$ 464,358
2021	436,545	12.4	54,132	425,295	12.7	55,441	415,744	14.4	62,862	470,720
2022	450,733	12.4	55,891	430,658	12.7	57,243	420,986	14.4	64,906	476,655
2023	465,382	12.4	57,707	435,582	12.7	59,104	425,799	14.4	67,015	482,105
2024	480,507	12.4	59,583	440,008	12.7	61,024	430,126	14.4	69,193	487,004
2025	496,123	12.4	61,519	443,872	12.7	63,008	433,904	14.4	71,442	491,281
2026	512,247	12.4	63,519	447,105	12.7	65,055	437,065	14.4	73,764	494,860
2027	528,895	12.4	65 <i>,</i> 583	449,632	12.7	67,170	439,535	14.4	76,161	497,657
2028	546,084	12.4	67,714	451,371	12.7	69,353	441,235	14.4	78,636	499,581
2029	563,832	12.4	69,915	452,233	12.7	71,607	442,078	14.4	81,192	500,535

		L-1	L2 Benefit Pro	gram	LT-14(65) Benefit Program			L-6 Benefit Program		
	Estimated		l Employer ibution	Unfunded Actuarial		l Employer ibution	Unfunded Actuarial		Employer	Unfunded Actuarial
Valuation Year	Projected Payroll	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2020	\$ 422,804	15.5%	\$65,535	\$ 482,003	16.2%	\$68,494	\$ 509,141	18.1%	\$76,528	\$ 553 <i>,</i> 706
2021	436,545	15.5	67,664	488,606	16.2	70,720	516,116	18.1	79,015	561,292
2022	450,733	15.5	69,864	494,767	16.2	73,019	522,624	18.1	81,583	568,370
2023	465,382	15.5	72,134	500,424	16.2	75,392	528,599	18.1	84,234	574 <i>,</i> 868
2024	480,507	15.5	74,479	505,509	16.2	77,842	533,970	18.1	86,972	580,709
2025	496,123	15.5	76,899	509,949	16.2	80,372	538,660	18.1	89,798	585 <i>,</i> 809
2026	512,247	15.5	79,398	513,664	16.2	82,984	542,584	18.1	92,717	590,076
2027	528,895	15.5	81,979	516,567	16.2	85,681	545,651	18.1	95,730	593,411
2028	546,084	15.5	84,643	518,565	16.2	88,466	547,761	18.1	98,841	595,706
2029	563,832	15.5	87,394	519,555	16.2	91,341	548,807	18.1	102,054	596 <i>,</i> 843

- 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 28<sup>th</sup> 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.



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

(4% member contributions are additional)

		L-	1 Benefit Pro	gram	L-	3 Benefit Pro	gram	LT-4(65) Benefit Program			
	Estimated		l Employer ibution	Unfunded Actuarial		Employer	Unfunded Actuarial		l Employer ibution	Unfunded Actuarial	
Valuation Year	Projected Payroll	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	
2020	\$ 422,804	7.9%	\$33,402	\$ 276,402	10.6%	\$44,817	\$ 351,317	11.1%	\$46,931	\$ 388,926	
2021	436,545	7.9	34,487	280,189	10.6	46,274	356,130	11.1	48,456	394,254	
2022	450,733	7.9	35,608	283,722	10.6	47,778	360,621	11.1	50,031	399,225	
2023	465,382	7.9	36,765	286,966	10.6	49,330	364,744	11.1	51,657	403,789	
2024	480,507	7.9	37,960	289,882	10.6	50,934	368,450	11.1	53,336	407,892	
2025	496,123	7.9	39,194	292,428	10.6	52,589	371,686	11.1	55,070	411,474	
2026	512,247	7.9	40,468	294,558	10.6	54,298	374,393	11.1	56,859	414,471	
2027	528,895	7.9	41,783	296,223	10.6	56,063	376,509	11.1	58,707	416,813	
2028	546,084	7.9	43,141	297,369	10.6	57 <i>,</i> 885	377,965	11.1	60,615	418,425	
2029	563,832	7.9	44,543	297,937	10.6	59,766	378,687	11.1	62,585	419,224	

### Rule of 80 Retirement Eligibility

		LT-5	(65) Benefit P	rogram	Ŀ	7 Benefit Pro	gram	LT-8(65) Benefit Program			
		Estimated	l Employer	Unfunded	Estimated	l Employer	Unfunded	Estimated	l Employer	Unfunded	
	Estimated	Contr	ibution	Actuarial	Contr	ibution	Actuarial	Contr	ibution	Actuarial	
Valuation	Projected	As a % of	Annual	Accrued	As a % of	Annual	Accrued	As a % of	Annual	Accrued	
Year	Payroll	Payroll	Dollars	Liability	Payroll	Dollars	Liability	Payroll	Dollars	Liability	
2020	\$ 422,804	13.1%	\$55,387	\$ 435,707	13.4%	\$56,656	\$ 425,868	14.9%	\$62,998	\$ 482,135	
2021	436,545	13.1	57,187	441,676	13.4	58,497	431,702	14.9	65,045	488,740	
2022	450,733	13.1	59,046	447,245	13.4	60,398	437,145	14.9	67,159	494,903	
2023	465,382	13.1	60,965	452,358	13.4	62,361	442,143	14.9	69,342	500,561	
2024	480,507	13.1	62,946	456,954	13.4	64,388	446,636	14.9	71,596	505,647	
2025	496,123	13.1	64,992	460,967	13.4	66,480	450,559	14.9	73,922	510,088	
2026	512,247	13.1	67,104	464,325	13.4	68,641	453,841	14.9	76,325	513,804	
2027	528,895	13.1	69,285	466,949	13.4	70,872	456,406	14.9	78,805	516,708	
2028	546,084	13.1	71,537	468,755	13.4	73,175	458,171	14.9	81,367	518,706	
2029	563,832	13.1	73,862	469,650	13.4	75,553	459,046	14.9	84,011	519,696	

		L-1	12 Benefit Pro	ogram	LT-14	l(65) Benefit I	Program	Ŀ	gram	
	Estimated		l Employer ibution	Unfunded Actuarial			Unfunded Actuarial		l Employer ibution	Unfunded Actuarial
Valuation Year	Projected Payroll	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2020	\$ 422,804	16.1%	\$68,071	\$ 500,316	16.9%	\$71 <i>,</i> 454	\$ 528 <i>,</i> 447	18.8%	\$79,487	\$ 574,585
2021	436,545	16.1	70,284	507,170	16.9	73,776	535,687	18.8	82,070	582,457
2022	450,733	16.1	72,568	513,565	16.9	76,174	542,442	18.8	84,738	589,801
2023	465,382	16.1	74,927	519,437	16.9	78,650	548,644	18.8	87,492	596,544
2024	480,507	16.1	77,362	524,715	16.9	81,206	554,219	18.8	90,335	602,605
2025	496,123	16.1	79,876	529,323	16.9	83,845	559 <i>,</i> 086	18.8	93,271	607,897
2026	512,247	16.1	82,472	533,179	16.9	86,570	563,159	18.8	96,302	612,325
2027	528,895	16.1	85,152	536,192	16.9	89,383	566,342	18.8	99,432	615,786
2028	546,084	16.1	87,920	538,265	16.9	92,288	568,532	18.8	102,664	618,167
2029	563,832	16.1	90,777	539,293	16.9	95,288	569,618	18.8	106,000	619,347

- 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 28<sup>th</sup> 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.



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

(0% member contributions are additional)

		Ŀ	1 Benefit Prog	gram	Ŀ	3 Benefit Pro	gram	LT-4	(65) Benefit P	rogram
		Estimated	l Employer	Unfunded	Estimated	Employer	Unfunded	Estimated	Employer	Unfunded
	Estimated	Contri	ibution	Actuarial	Contri	bution	Actuarial	Contri	bution	Actuarial
Valuation	Projected	As a %	Annual	Accrued	As a %	Annual	Accrued	As a %	Annual	Accrued
Year	Payroll	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability
2020	\$ 422,804	11.4%	\$48,200	\$ 301,426	14.1%	\$59,615	\$ 376,741	14.5%	\$61,307	\$ 409,575
2021	436,545	11.4	49,766	305,555	14.1	61,553	381,902	14.5	63,299	415,186
2022	450,733	11.4	51,384	309,408	14.1	63,553	386,718	14.5	65,356	420,421
2023	465,382	11.4	53 <i>,</i> 054	312,945	14.1	65,619	391,139	14.5	67,480	425,228
2024	480,507	11.4	54,778	316,125	14.1	67,751	395,113	14.5	69,674	429,549
2025	496,123	11.4	56 <i>,</i> 558	318,901	14.1	69,953	398,583	14.5	71,938	433,321
2026	512,247	11.4	58,396	321,224	14.1	72,227	401,486	14.5	74,276	436,477
2027	528,895	11.4	60,294	323,039	14.1	74,574	403,755	14.5	76,690	438,944
2028	546,084	11.4	62,254	324,288	14.1	76,998	405,316	14.5	79,182	440,641
2029	563,832	11.4	64,277	324,907	14.1	79,500	406,090	14.5	81,756	441,482

### Rule of 80 Retirement Eligibility

		LT-5(65) Benefit Program			Ŀ	7 Benefit Pro	gram	LT-8(65) Benefit Program		
			l Employer	Unfunded		l Employer	Unfunded		Employer	Unfunded
Estimated		Contribution		Actuarial	Contribution		Actuarial	Contribution		Actuarial
Valuation	Projected	As a % of	Annual	Accrued	As a % of	Annual	Accrued	As a % of	Annual	Accrued
Year	Payroll	Payroll	Dollars	Liability	Payroll	Dollars	Liability	Payroll	Dollars	Liability
2020	\$ 422,804	16.3%	\$68,917	\$ 457,869	16.6%	\$70,185	\$ 449,796	18.3%	\$77,373	\$ 506,165
2021	436,545	16.3	71,157	464,142	16.6	72,466	455,958	18.3	79,888	513,099
2022	450,733	16.3	73,469	469,995	16.6	74,822	461,707	18.3	82,484	519,569
2023	465,382	16.3	75,857	475,368	16.6	77,253	466,986	18.3	85,165	525,509
2024	480,507	16.3	78,323	480,198	16.6	79,764	471,731	18.3	87,933	530 <i>,</i> 849
2025	496,123	16.3	80,868	484,415	16.6	82,356	475,874	18.3	90,791	535,511
2026	512,247	16.3	83,496	487,944	16.6	85,033	479,340	18.3	93,741	539,412
2027	528,895	16.3	86,210	490,702	16.6	87,797	482,049	18.3	96,788	542,461
2028	546,084	16.3	89,012	492,600	16.6	90,650	483,913	18.3	99,933	544,559
2029	563,832	16.3	91,905	493,541	16.6	93,596	484,837	18.3	103,181	545,599

	Estimated Projected Payroll	L-12 Benefit Program			LT-14	(65) Benefit I	Program	L-6 Benefit Program		
Valuation Year		Estimated I Estimated Contrib		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2020	\$ 422,804	19.4%	\$82 <i>,</i> 024	\$ 527,472	20.1%	\$84,984	\$ 554,511	22.0%	\$93 <i>,</i> 017	\$ 602 <i>,</i> 814
2021	436,545	19.4	84,690	534,698	20.1	87,746	562,108	22.0	96,040	611,072
2022	450,733	19.4	87,442	541,440	20.1	90,597	569,196	22.0	99,161	618,777
2023	465,382	19.4	90,284	547,630	20.1	93,542	575,704	22.0	102,384	625,851
2024	480,507	19.4	93,218	553,194	20.1	96,582	581,554	22.0	105,712	632,210
2025	496,123	19.4	96,248	558,052	20.1	99,721	586,661	22.0	109,147	637,762
2026	512,247	19.4	99,376	562,117	20.1	102,962	590,934	22.0	112,694	642,408
2027	528,895	19.4	102,606	565,294	20.1	106,308	594,274	22.0	116,357	646,039
2028	546,084	19.4	105,940	567,480	20.1	109,763	596,572	22.0	120,138	648,537
2029	563,832	19.4	109,383	568,564	20.1	113,330	597,711	22.0	124,043	649,775

- 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 28<sup>th</sup> 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.



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

(0% member contributions are additional)

		L-1 Benefit Program			Ŀ	3 Benefit Pro	gram	LT-4(65) Benefit Program		
	Estimated		l Employer	Unfunded	Estimated Employer		Unfunded	Estimated Employer		Unfunded
			Contribution		Contribution		Actuarial	Contribution		Actuarial
Valuation	Projected	As a %	Annual	Accrued	As a %	Annual	Accrued	As a %	Annual	Accrued
Year	Payroll	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability	of Payroll	Dollars	Liability
2020	\$ 422,804	11.8%	\$49,891	\$ 312,591	14.5%	\$61,307	\$ 390,739	15.0%	\$63,421	\$ 424,702
2021	436,545	11.8	51,512	316,873	14.5	63,299	396,092	15.0	65,482	430,520
2022	450,733	11.8	53,186	320,869	14.5	65,356	401,086	15.0	67,610	435,949
2023	465,382	11.8	54,915	324,537	14.5	67,480	405,672	15.0	69,807	440,933
2024	480,507	11.8	56,700	327,835	14.5	69,674	409,794	15.0	72,076	445,413
2025	496,123	11.8	58,543	330,714	14.5	71,938	413,393	15.0	74,418	449,325
2026	512,247	11.8	60,445	333,123	14.5	74,276	416,404	15.0	76,837	452,598
2027	528,895	11.8	62,410	335,006	14.5	76,690	418,757	15.0	79,334	455,156
2028	546,084	11.8	64,438	336,301	14.5	79,182	420,376	15.0	81,913	456,916
2029	563,832	11.8	66,532	336,943	14.5	81,756	421,179	15.0	84,575	457,788

### Rule of 80 Retirement Eligibility

	Estimated	LT-5(65) Benefit Program			Ŀ	7 Benefit Pro	gram	LT-8(65) Benefit Program		
			Estimated Employer Contribution		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
Valuation	Projected	As a % of	Annual	Accrued	As a % of	Annual	Accrued	As a % of	Annual	Accrued
Year	Payroll	Payroll	Dollars	Liability	Payroll	Dollars	Liability	Payroll	Dollars	Liability
2020	\$ 422,804	17.0%	\$71,877	\$ 474,806	17.3%	\$73,145	\$ 468,906	18.8%	\$79,487	\$ 524,953
2021	436,545	17.0	74,213	481,311	17.3	75,522	475,330	18.8	82,070	532,145
2022	450,733	17.0	76,625	487,380	17.3	77,977	481,324	18.8	84,738	538,855
2023	465,382	17.0	79,115	492,952	17.3	80,511	486,827	18.8	87,492	545,016
2024	480,507	17.0	81,686	497,961	17.3	83,128	491,774	18.8	90,335	550,554
2025	496,123	17.0	84,341	502,334	17.3	85,829	496,093	18.8	93,271	555,389
2026	512,247	17.0	87,082	505,993	17.3	88,619	499,707	18.8	96,302	559,435
2027	528,895	17.0	89,912	508,853	17.3	91,499	502,531	18.8	99,432	562,597
2028	546,084	17.0	92,834	510,821	17.3	94,473	504,474	18.8	102,664	564,773
2029	563,832	17.0	95,851	511,796	17.3	97,543	505,437	18.8	106,000	565,851

	Estimated	L-12 Benefit Program			LT-14	(65) Benefit I	Program	L-6 Benefit Program		
		Estimated Er stimated Contribu		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
Valuation Year	Projected Payroll	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2020	\$ 422,804	20.0%	\$84,561	\$ 547,010	20.8%	\$87,943	\$ 575,052	22.7%	\$95,977	\$ 625,132
2021	436,545	20.0	87,309	554,504	20.8	90,801	582 <i>,</i> 930	22.7	99,096	633,696
2022	450,733	20.0	90,147	561,496	20.8	93,752	590,280	22.7	102,316	641,687
2023	465,382	20.0	93,076	567,916	20.8	96,799	597,029	22.7	105,642	649,023
2024	480,507	20.0	96,101	573,687	20.8	99,945	603,095	22.7	109,075	655,618
2025	496,123	20.0	99,225	578,725	20.8	103,194	608,392	22.7	112,620	661,376
2026	512,247	20.0	102,449	582,941	20.8	106,547	612,824	22.7	116,280	666,194
2027	528,895	20.0	105,779	586,236	20.8	110,010	616,287	22.7	120,059	669,959
2028	546,084	20.0	109,217	588,503	20.8	113,585	618,670	22.7	123,961	672,550
2029	563,832	20.0	112,766	589,627	20.8	117,277	619,851	22.7	127,990	673,834
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