



**THE INITIAL ACTUARIAL VALUATION FOR  
CITY OF ELLSINORE  
AS OF JULY 31, 2016**

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September 14, 2016

City of Ellsinore  
Ellsinore, 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).

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 29, 2016.

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. 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.

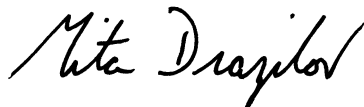
Please note that this entire report must be available as public information for at least 45 calendar days prior to the date final official action is taken by your governing body to join the System. You may wish to make notice of this report in the official minutes of the next meeting of your governing 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 July 31, 2016. The valuation was based on data furnished from your records concerning individual employees (see Appendix V).

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

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 opinion herein.

Respectfully submitted,

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

Mita D. Drazilov, ASA, MAAA

## **Alternate Plan Provisions Affecting Employer Contribution Rates**

The law governing LAGERS provides for either a contributory plan or a non-contributory plan, with benefits based on either a 5 year or 3 year Final Average Salary (FAS).

*Contributory Plan.* Under the contributory plan, each covered member contributes 4% of compensation to LAGERS. If an employee terminates before being eligible for an immediate benefit, the member's contributions, plus any interest credited to the member's individual account, are refunded upon request.

*Non-Contributory Plan.* Under the non-contributory plan, there is no individual employee contribution to the plan, no individual account maintained for each employee, and no refund paid to employees who terminate before being eligible for a benefit.

The law further provides for nine different benefit programs (benefit formula factors) and allows an employer to elect "rule of 80" eligibility for benefits. Under the rule of 80, employees are eligible for unreduced benefits at the earlier of (i) attainment of their minimum service retirement age or (ii) such time as their years of age plus years of LAGERS credited service equals 80.

In total this allows for 72 different combinations of benefit plans, giving employers considerable latitude in designing the retirement program which they feel best suits their particular situation.

The applicable combinations of these items may be changed from time to time, however, there are limitations on the frequency of changes. A more detailed description of plan provisions may be found in Appendix III of this report.

City of Ellsinore

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

Regular Retirement Eligibility

Benefit Program	Employee Groups	Percents of Active Member Payroll			
		Prior Service Cost *	Current Cost	Disability Cost	Total Employer Contribution Rate
L-1	General	0.00%	4.10%	0.20%	4.30%
	Police	0.30	2.90	0.40	3.60
L-3	General	0.00	5.80	0.30	6.10
	Police	0.50	4.20	0.50	5.20
LT-4(65)	General	0.00	4.90	0.20	5.10
	Police	0.40	4.10	0.40	4.90
LT-5(65)	General	0.00	6.30	0.30	6.60
	Police	0.50	5.10	0.50	6.10
L-7	General	0.00	7.40	0.30	7.70
	Police	0.60	5.50	0.60	6.70
LT-8(65)	General	0.00	7.80	0.30	8.10
	Police	0.60	6.20	0.60	7.40
L-12	General	0.00	9.10	0.40	9.50
	Police	0.70	6.90	0.70	8.30
LT-14(65)	General	0.00	9.30	0.40	9.70
	Police	0.70	7.20	0.70	8.60
L-6	General	0.00	10.70	0.50	11.20
	Police	0.80	8.30	0.80	9.90

\* Assumes that credit is granted for 100% of service rendered prior to the membership date. If the governing body wishes to elect one of the lesser percents allowed by law -- 75%, 50%, or 25% -- the prior service cost will be reduced. An additional actuarial valuation will need to be performed to determine the employer contribution rate.

City of Ellsinore

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

Regular Retirement Eligibility

Benefit Program	Employee Groups	Percents of Active Member Payroll			
		Prior Service Cost *	Current Cost	Disability Cost	Total Employer Contribution Rate
L-1	General	0.00%	4.30%	0.20%	4.50%
	Police	0.40	3.10	0.40	3.90
L-3	General	0.00	6.00	0.30	6.30
	Police	0.50	4.40	0.50	5.40
LT-4(65)	General	0.00	5.10	0.20	5.30
	Police	0.50	4.30	0.40	5.20
LT-5(65)	General	0.00	6.60	0.30	6.90
	Police	0.60	5.30	0.50	6.40
L-7	General	0.00	7.80	0.30	8.10
	Police	0.60	5.80	0.60	7.00
LT-8(65)	General	0.00	8.20	0.30	8.50
	Police	0.60	6.50	0.60	7.70
L-12	General	0.00	9.50	0.40	9.90
	Police	0.70	7.30	0.70	8.70
LT-14(65)	General	0.00	9.70	0.40	10.10
	Police	0.70	7.70	0.70	9.10
L-6	General	0.00	11.20	0.50	11.70
	Police	0.80	8.80	0.80	10.40

\* Assumes that credit is granted for 100% of service rendered prior to the membership date. If the governing body wishes to elect one of the lesser percents allowed by law -- 75%, 50%, or 25% -- the prior service cost will be reduced. An additional actuarial valuation will need to be performed to determine the employer contribution rate.

City of Ellsinore

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

Regular Retirement Eligibility

Benefit Program	Employee Groups	Percents of Active Member Payroll			
		Prior Service Cost *	Current Cost	Disability Cost	Total Employer Contribution Rate
L-1	General	0.00%	7.70%	0.20%	7.90%
	Police	0.50	6.50	0.40	7.40
L-3	General	0.00	9.40	0.30	9.70
	Police	0.60	7.90	0.50	9.00
LT-4(65)	General	0.00	8.40	0.20	8.60
	Police	0.60	7.70	0.40	8.70
LT-5(65)	General	0.00	10.00	0.30	10.30
	Police	0.70	8.80	0.50	10.00
L-7	General	0.00	11.10	0.30	11.40
	Police	0.70	9.30	0.60	10.60
LT-8(65)	General	0.00	11.50	0.30	11.80
	Police	0.80	9.90	0.60	11.30
L-12	General	0.00	12.80	0.40	13.20
	Police	0.80	10.70	0.70	12.20
LT-14(65)	General	0.00	13.00	0.40	13.40
	Police	0.80	11.00	0.70	12.50
L-6	General	0.00	14.50	0.50	15.00
	Police	0.90	12.10	0.80	13.80

\* Assumes that credit is granted for 100% of service rendered prior to the membership date. If the governing body wishes to elect one of the lesser percents allowed by law -- 75%, 50%, or 25% -- the prior service cost will be reduced. An additional actuarial valuation will need to be performed to determine the employer contribution rate.

City of Ellsinore

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

Regular Retirement Eligibility

Benefit Program	Employee Groups	Percents of Active Member Payroll			
		Prior Service Cost *	Current Cost	Disability Cost	Total Employer Contribution Rate
L-1	General	0.00%	7.90%	0.20%	8.10%
	Police	0.50	6.70	0.40	7.60
L-3	General	0.00	9.70	0.30	10.00
	Police	0.60	8.20	0.50	9.30
LT-4(65)	General	0.00	8.70	0.20	8.90
	Police	0.60	7.90	0.40	8.90
LT-5(65)	General	0.00	10.30	0.30	10.60
	Police	0.70	9.10	0.50	10.30
L-7	General	0.00	11.40	0.30	11.70
	Police	0.70	9.60	0.60	10.90
LT-8(65)	General	0.00	11.80	0.30	12.10
	Police	0.80	10.20	0.60	11.60
L-12	General	0.00	13.20	0.40	13.60
	Police	0.80	11.10	0.70	12.60
LT-14(65)	General	0.00	13.40	0.40	13.80
	Police	0.90	11.40	0.70	13.00
L-6	General	0.00	15.00	0.50	15.50
	Police	1.00	12.50	0.80	14.30

\* Assumes that credit is granted for 100% of service rendered prior to the membership date. If the governing body wishes to elect one of the lesser percents allowed by law -- 75%, 50%, or 25% -- the prior service cost will be reduced. An additional actuarial valuation will need to be performed to determine the employer contribution rate.

City of Ellsinore

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

Rule of 80 Retirement Eligibility#

Benefit Program	Employee Groups	Percents of Active Member Payroll			
		Prior Service Cost *	Current Cost	Disability Cost	Total Employer Contribution Rate
L-1	General	0.00%	4.10%	0.20%	4.30%
	Police	0.40	3.20	0.40	4.00
L-3	General	0.00	5.80	0.30	6.10
	Police	0.50	4.50	0.50	5.50
LT-4(65)	General	0.00	4.90	0.20	5.10
	Police	0.50	4.70	0.40	5.60
LT-5(65)	General	0.00	6.30	0.30	6.60
	Police	0.60	5.80	0.50	6.90
L-7	General	0.00	7.40	0.30	7.70
	Police	0.60	6.00	0.60	7.20
LT-8(65)	General	0.00	7.80	0.30	8.10
	Police	0.70	6.80	0.60	8.10
L-12	General	0.00	9.10	0.40	9.50
	Police	0.70	7.50	0.70	8.90
LT-14(65)	General	0.00	9.30	0.40	9.70
	Police	0.70	7.90	0.70	9.30
L-6	General	0.00	10.70	0.50	11.20
	Police	0.80	9.00	0.80	10.60

# 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. If the governing body wishes to elect one of the lesser percents allowed by law -- 75%, 50%, or 25% -- the prior service cost will be reduced. An additional actuarial valuation will need to be performed to determine the employer contribution rate.

City of Ellsinore

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

Rule of 80 Retirement Eligibility#

Benefit Program	Employee Groups	Percents of Active Member Payroll			
		Prior Service Cost *	Current Cost	Disability Cost	Total Employer Contribution Rate
L-1	General	0.00%	4.30%	0.20%	4.50%
	Police	0.40	3.40	0.40	4.20
L-3	General	0.00	6.00	0.30	6.30
	Police	0.50	4.80	0.50	5.80
LT-4(65)	General	0.00	5.10	0.20	5.30
	Police	0.50	5.10	0.40	6.00
LT-5(65)	General	0.00	6.60	0.30	6.90
	Police	0.60	6.10	0.50	7.20
L-7	General	0.00	7.80	0.30	8.10
	Police	0.60	6.40	0.60	7.60
LT-8(65)	General	0.00	8.20	0.30	8.50
	Police	0.70	7.20	0.60	8.50
L-12	General	0.00	9.50	0.40	9.90
	Police	0.70	7.90	0.70	9.30
LT-14(65)	General	0.00	9.70	0.40	10.10
	Police	0.80	8.30	0.70	9.80
L-6	General	0.00	11.20	0.50	11.70
	Police	0.90	9.40	0.80	11.10

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City of Ellsinore

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

Rule of 80 Retirement Eligibility#

Benefit Program	Employee Groups	Percents of Active Member Payroll			
		Prior Service Cost *	Current Cost	Disability Cost	Total Employer Contribution Rate
L-1	General	0.00%	7.70%	0.20%	7.90%
	Police	0.50	6.80	0.40	7.70
L-3	General	0.00	9.40	0.30	9.70
	Police	0.60	8.30	0.50	9.40
LT-4(65)	General	0.00	8.40	0.20	8.60
	Police	0.60	8.50	0.40	9.50
LT-5(65)	General	0.00	10.00	0.30	10.30
	Police	0.70	9.50	0.50	10.70
L-7	General	0.00	11.10	0.30	11.40
	Police	0.70	9.80	0.60	11.10
LT-8(65)	General	0.00	11.50	0.30	11.80
	Police	0.80	10.60	0.60	12.00
L-12	General	0.00	12.80	0.40	13.20
	Police	0.90	11.20	0.70	12.80
LT-14(65)	General	0.00	13.00	0.40	13.40
	Police	0.90	11.60	0.70	13.20
L-6	General	0.00	14.50	0.50	15.00
	Police	1.00	12.70	0.80	14.50

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

\* Assumes that credit is granted for 100% of service rendered prior to the membership date. If the governing body wishes to elect one of the lesser percents allowed by law -- 75%, 50%, or 25% -- the prior service cost will be reduced. An additional actuarial valuation will need to be performed to determine the employer contribution rate.

City of Ellsinore

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

Rule of 80 Retirement Eligibility#

Benefit Program	Employee Groups	Percents of Active Member Payroll			
		Prior Service Cost *	Current Cost	Disability Cost	Total Employer Contribution Rate
L-1	General	0.00%	7.90%	0.20%	8.10%
	Police	0.50	7.00	0.40	7.90
L-3	General	0.00	9.70	0.30	10.00
	Police	0.60	8.60	0.50	9.70
LT-4(65)	General	0.00	8.70	0.20	8.90
	Police	0.60	8.70	0.40	9.70
LT-5(65)	General	0.00	10.30	0.30	10.60
	Police	0.70	9.90	0.50	11.10
L-7	General	0.00	11.40	0.30	11.70
	Police	0.80	10.10	0.60	11.50
LT-8(65)	General	0.00	11.80	0.30	12.10
	Police	0.80	11.00	0.60	12.40
L-12	General	0.00	13.20	0.40	13.60
	Police	0.90	11.60	0.70	13.20
LT-14(65)	General	0.00	13.40	0.40	13.80
	Police	0.90	12.10	0.70	13.70
L-6	General	0.00	15.00	0.50	15.50
	Police	1.00	13.20	0.80	15.00

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

\* Assumes that credit is granted for 100% of service rendered prior to the membership date. If the governing body wishes to elect one of the lesser percents allowed by law -- 75%, 50%, or 25% -- the prior service cost will be reduced. An additional actuarial valuation will need to be performed to determine the employer contribution rate.

City of Ellsinore

Employer Contribution Dollars

Regular Retirement Eligibility

Employer contributions are payable monthly, and each month's actual dollar contribution will be the contribution percent multiplied by the payroll during the month. If payroll during your first year of LAGERS participation equals the annual payroll reported for this valuation, the approximate employer dollar contribution for the year would be as follows:

**Contributory Plan**

<b>5 Year FAS</b>		
<b>Benefit Program</b>	<b>General</b>	<b>Police</b>
L-1	\$ 1,376	\$ 2,160
L-3	1,952	3,120
LT-4(65)	1,632	2,940
LT-5(65)	2,112	3,660
L-7	2,464	4,020
LT-8(65)	2,592	4,440
L-12	3,040	4,980
LT-14(65)	3,104	5,160
L-6	3,584	5,940

<b>3 Year FAS</b>		
<b>Benefit Program</b>	<b>General</b>	<b>Police</b>
L-1	\$ 1,440	\$ 2,340
L-3	2,016	3,240
LT-4(65)	1,696	3,120
LT-5(65)	2,208	3,840
L-7	2,592	4,200
LT-8(65)	2,720	4,620
L-12	3,168	5,220
LT-14(65)	3,232	5,460
L-6	3,744	6,240

**Non-Contributory Plan**

<b>5 Year FAS</b>		
<b>Benefit Program</b>	<b>General</b>	<b>Police</b>
L-1	\$ 2,528	\$ 4,440
L-3	3,104	5,400
LT-4(65)	2,752	5,220
LT-5(65)	3,296	6,000
L-7	3,648	6,360
LT-8(65)	3,776	6,780
L-12	4,224	7,320
LT-14(65)	4,288	7,500
L-6	4,800	8,280

<b>3 Year FAS</b>		
<b>Benefit Program</b>	<b>General</b>	<b>Police</b>
L-1	\$ 2,592	\$ 4,560
L-3	3,200	5,580
LT-4(65)	2,848	5,340
LT-5(65)	3,392	6,180
L-7	3,744	6,540
LT-8(65)	3,872	6,960
L-12	4,352	7,560
LT-14(65)	4,416	7,800
L-6	4,960	8,580

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

City of Ellsinore

Employer Contribution Dollars  
Rule of 80 Retirement Eligibility

Employer contributions are payable monthly, and each month's actual dollar contribution will be the contribution percent multiplied by the payroll during the month. If payroll during your first year of LAGERS participation equals the annual payroll reported for this valuation, the approximate employer dollar contribution for the year would be as follows:

**Contributory Plan**

<b>5 Year FAS</b>		
<b>Benefit Program</b>	<b>General</b>	<b>Police</b>
L-1	\$ 1,376	\$ 2,400
L-3	1,952	3,300
LT-4(65)	1,632	3,360
LT-5(65)	2,112	4,140
L-7	2,464	4,320
LT-8(65)	2,592	4,860
L-12	3,040	5,340
LT-14(65)	3,104	5,580
L-6	3,584	6,360

<b>3 Year FAS</b>		
<b>Benefit Program</b>	<b>General</b>	<b>Police</b>
L-1	\$ 1,440	\$ 2,520
L-3	2,016	3,480
LT-4(65)	1,696	3,600
LT-5(65)	2,208	4,320
L-7	2,592	4,560
LT-8(65)	2,720	5,100
L-12	3,168	5,580
LT-14(65)	3,232	5,880
L-6	3,744	6,660

**Non-Contributory Plan**

<b>5 Year FAS</b>		
<b>Benefit Program</b>	<b>General</b>	<b>Police</b>
L-1	\$ 2,528	\$ 4,620
L-3	3,104	5,640
LT-4(65)	2,752	5,700
LT-5(65)	3,296	6,420
L-7	3,648	6,660
LT-8(65)	3,776	7,200
L-12	4,224	7,680
LT-14(65)	4,288	7,920
L-6	4,800	8,700

<b>3 Year FAS</b>		
<b>Benefit Program</b>	<b>General</b>	<b>Police</b>
L-1	\$ 2,592	\$ 4,740
L-3	3,200	5,820
LT-4(65)	2,848	5,820
LT-5(65)	3,392	6,660
L-7	3,744	6,900
LT-8(65)	3,872	7,440
L-12	4,352	7,920
LT-14(65)	4,416	8,220
L-6	4,960	9,000

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

City of Ellsinore

Employees and Payroll Included in the Valuation

	General	Police
Number of Employees	1	2
Annual Payroll	\$ 32,000	\$ 60,000

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

**APPENDIX I**

**UNFUNDED ACTUARIAL  
ACCRUED LIABILITY**

UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)

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

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

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

City of Ellsinore

Regular Retirement Eligibility

Benefit Group	Employee Group	Contributory		Non-Contributory	
		UAAL (5 Year FAS)	UAAL (3 Year FAS)	UAAL (5 Year FAS)	UAAL (3 Year FAS)
L-1	General	\$ -	\$ -	\$ 3	\$ 5
	Police	3,511	3,723	4,951	5,116
L-3	General	\$ -	\$ 8	\$ -	\$ 9
	Police	4,771	5,017	6,176	6,408
LT-4(65)	General	-	9	4	-
	Police	4,547	4,801	5,975	6,192
LT-5(65)	General	-	4	-	7
	Police	5,550	5,826	6,953	7,205
L-7	General	5	-	3	3
	Police	5,945	6,231	7,420	7,689
LT-8(65)	General	-	-	7	6
	Police	6,473	6,759	7,932	8,233
L-12	General	-	-	-	-
	Police	7,122	7,413	8,631	8,966
LT-14(65)	General	5	-	-	-
	Police	7,381	7,680	8,893	9,229
L-6	General	1	2	3	-
	Police	8,262	8,619	9,853	10,247

City of Ellsinore

UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)

Rule of 80 Retirement Eligibility

Benefit Group	Employee Group	Contributory		Non-Contributory	
		UAAL (5 Year FAS)	UAAL (3 Year FAS)	UAAL (5 Year FAS)	UAAL (3 Year FAS)
L-1	General	\$ -	\$ -	\$ 3	\$ 5
	Police	3,768	3,983	5,176	5,356
L-3	General	\$ -	\$ 8	\$ -	\$ 9
	Police	5,067	5,330	6,463	6,702
LT-4(65)	General	-	9	4	-
	Police	5,181	5,447	6,575	6,816
LT-5(65)	General	-	4	-	7
	Police	6,131	6,427	7,530	7,801
L-7	General	5	-	3	3
	Police	6,306	6,581	7,766	8,068
LT-8(65)	General	-	-	7	6
	Police	7,012	7,316	8,464	8,789
L-12	General	-	-	-	-
	Police	7,505	7,866	9,062	9,401
LT-14(65)	General	5	-	-	-
	Police	7,870	8,234	9,411	9,761
L-6	General	1	2	3	-
	Police	8,723	9,115	10,325	10,743

## **APPENDIX II**

### **SUMMARY OF FINANCIAL ASSUMPTIONS**

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

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

1. The investment return rate used in making the valuations was 7.25% per year, net of investment expenses, compounded annually. This rate of return is not the assumed real rate of return. The real rate of return is the rate of investment return in excess of the inflation rate. The price inflation rate used in making the valuations was 2.50% and the wage inflation rate used in making the valuations was 3.25%. The 7.25% investment return rate translates to an assumed real rate of return over price inflation of 4.75% and over wage inflation of 4.00%. Adopted 2011 and 2016.
2. The healthy retiree mortality tables, for post-retirement mortality, used in evaluating allowances to be paid were the RP-2014 Healthy Annuitant mortality table for males and females, adjusted for mortality improvement back to the observation period base year of 2006. The disabled retiree mortality tables, for post-retirement mortality, used in evaluating allowances to be paid were the RP-2014 disabled mortality table for males and females, adjusted for mortality improvement back to the observation period base year of 2006. The pre-retirement mortality tables used were the RP-2014 employees mortality table for males and females, adjusted for mortality improvement back to the observation period base year of 2006. For both the post-retirement and pre-retirement tables, the base year for males was then established to be 2017. Mortality rates for a particular calendar year are determined by applying the MP-2015 mortality improvement scale to the above described tables. Adopted 2016.
3. The probabilities of withdrawal from service, together with individual pay increase assumptions, are shown in Schedule 1. Adopted 2016.
4. The probabilities of retirement with an age and service allowance are shown in Schedule 2. Adopted 2016.
5. Post-retirement cost of living allowances are assumed to be 2.50% per year. Adopted 2016.
6. Total active member payroll is assumed to increase 3.25% a year, which is the portion of the individual pay increase assumptions attributable to wage inflation. In effect, this assumes no change in the number of active members per employer. Adopted 2016.
7. An individual entry-age actuarial cost method of valuation was used in determining age and service allowance actuarial liabilities and normal cost. Adopted 1986.
8. The data about persons now covered was furnished by the political subdivision. Although examined for general reasonableness, the data was not audited by us.

**Schedule 1.**

**Withdrawal From Active Employment Before Age & Service Retirement  
and Individual Pay Increase Assumptions**

Sample Ages	Years of Service	Percent of Active Members Separating Within Next Year				Percent Increase in Individual's Pay During Next Year Excluding Fire
		General Members		Police	Fire	
		Men	Women			
All	0	19.00%	22.00%	18.00%	10.00%	
	1	17.00	20.00	17.00	8.00	
	2	15.00	17.00	16.00	7.00	
	3	13.00	14.00	13.00	6.00	
	4	11.00	13.00	12.00	6.00	
25	5 & Over	7.30	10.80	9.80	5.00	6.6%
30		6.50	8.90	7.80	4.00	5.8
35		5.00	7.40	6.10	2.80	5.3
40		3.70	5.70	4.40	2.20	4.8
45		3.00	4.20	3.20	1.80	4.3
50		2.40	3.30	1.80	1.00	3.9
55		1.80	2.50	1.00	0.50	3.7
60		1.00	1.20	0.00	0.00	3.6
65		0.00	0.00	0.00	0.00	3.3

Percent Increase in Individual's Pay During Next Year	
Sample Ages	Fire
25	7.2%
30	6.1
35	5.2
40	4.5
45	4.2
50	3.9
55	3.7
60	3.3
65	3.3

**Schedule 2.**

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

**Early Retirement**

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

**Normal Retirement**

<b>Retirement Ages</b>	<b>General Members</b>		<b>Retirement Ages</b>	<b>Police</b>	<b>Fire</b>
	<b>Men</b>	<b>Women</b>			
60	10%	10%	55	10%	13%
61	10	10	56	10	13
62	25	15	57	10	13
63	20	15	58	10	13
64	20	15	59	10	13
65	25	25	60	10	15
66	25	25	61	10	15
67	20	25	62	25	20
68	20	25	63	20	20
69	20	20	64	20	20
70	100	100	65	100	100

**Schedule 2. (Continued)**

**Percent of Eligible Active Members Retiring Within Next Year  
With Rule of 80 Eligibility**

<b>Retirement Ages</b>	<b>General Members</b>		<b>Police</b>	<b>Fire</b>
	<b>Men</b>	<b>Women</b>		
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 29, 2016**  
**(Section references are to RSMo)**

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(a) The surviving spouse receives an allowance equal to the Option A allowance (joint and 75% survivor benefit) computed based upon the deceased members' service & earnings record to time of death.

(b) When no spouse benefit is payable, the dependent children under age 18 (age 23 if they are full time students) each receive an equal share of 60% of an age & service allowance computed based upon the deceased member's service & earnings record to time of death.

(c) If the death is determined to be duty related, the 5 year service requirement is waived and the benefit is based on years of credited service the member would have completed had the member continued in LAGERS-covered employment to age 60.

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

(a) Subject to the maximum in (b), the redetermined amount is the amount other-wise payable multiplied by: 100% plus up to 4%, as determined by the LAGERS Board of Trustees, for each full year of retirement.

(b) The redetermined amount may not exceed the amount otherwise payable multiplied by the ratio of the Consumer Price Index for the immediately preceding month of June to the Consumer Price Index for the month of June immediately preceding retirement.

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

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

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

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

**APPENDIX IV**

**BENEFIT  
ILLUSTRATIONS**

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

Final Average Salary (FAS) <sup>1</sup>	LAGERS BENEFIT <sup>3</sup>	Estimated Social Security <sup>2</sup>	Estimated Monthly Total	
			\$	% of FAS
35 Years of Service:				
\$1,500	\$ 525	\$ 882	\$1,407	94%
2,000	700	1,028	1,728	86%
2,500	875	1,174	2,049	82%
3,000	1,050	1,320	2,370	79%
3,500	1,225	1,465	2,690	77%
4,000	1,400	1,611	3,011	75%
25 Years of Service:				
\$1,500	\$ 375	\$ 882	\$1,257	84%
2,000	500	1,028	1,528	76%
2,500	625	1,174	1,799	72%
3,000	750	1,320	2,070	69%
3,500	875	1,465	2,340	67%
4,000	1,000	1,611	2,611	65%
15 Years of Service:				
\$1,500	\$225	\$ 882	\$1,107	74%
2,000	300	1,028	1,328	66%
2,500	375	1,174	1,549	62%
3,000	450	1,320	1,770	59%
3,500	525	1,465	1,990	57%
4,000	600	1,611	2,211	55%

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

<sup>2</sup> "Estimated Social Security" means, for an employee covered by Social Security, an employee's estimated OASDI retirement benefit and is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 65 in 2016 - it does not include any amounts which might be payable to an eligible spouse or children.

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

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

Final Average Salary (FAS) <sup>1</sup>	LAGERS BENEFIT <sup>3</sup>	Estimated Social Security <sup>2</sup>	Estimated Monthly Total	
			\$	% of FAS
35 Years of Service:				
\$1,500	\$ 656	\$ 882	\$1,538	103%
2,000	875	1,028	1,903	95%
2,500	1,094	1,174	2,268	91%
3,000	1,313	1,320	2,633	88%
3,500	1,531	1,465	2,996	86%
4,000	1,750	1,611	3,361	84%
25 Years of Service:				
\$1,500	\$ 469	\$ 882	\$1,351	90%
2,000	625	1,028	1,653	83%
2,500	781	1,174	1,955	78%
3,000	938	1,320	2,258	75%
3,500	1,094	1,465	2,559	73%
4,000	1,250	1,611	2,861	72%
15 Years of Service:				
\$1,500	\$281	\$ 882	\$1,163	78%
2,000	375	1,028	1,403	70%
2,500	469	1,174	1,643	66%
3,000	563	1,320	1,883	63%
3,500	656	1,465	2,121	61%
4,000	750	1,611	2,361	59%

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

<sup>2</sup> "Estimated Social Security" means, for an employee covered by Social Security, an employee's estimated OASDI retirement benefit and is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 65 in 2016 - it does not include any amounts which might be payable to an eligible spouse or children.

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

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

Final Average Salary (FAS) <sup>1</sup>	LAGERS BENEFIT <sup>3</sup>	Estimated Social Security <sup>2</sup>	Estimated Monthly Total	
			\$	% of FAS
35 Years of Service:				
\$1,500	\$ 788	\$ 882	\$1,670	111%
2,000	1,050	1,028	2,078	104%
2,500	1,313	1,174	2,487	99%
3,000	1,575	1,320	2,895	97%
3,500	1,838	1,465	3,303	94%
4,000	2,100	1,611	3,711	93%
25 Years of Service:				
\$1,500	\$ 563	\$ 882	\$1,445	96%
2,000	750	1,028	1,778	89%
2,500	938	1,174	2,112	84%
3,000	1,125	1,320	2,445	82%
3,500	1,313	1,465	2,778	79%
4,000	1,500	1,611	3,111	78%
15 Years of Service:				
\$1,500	\$338	\$ 882	\$1,220	81%
2,000	450	1,028	1,478	74%
2,500	563	1,174	1,737	69%
3,000	675	1,320	1,995	67%
3,500	788	1,465	2,253	64%
4,000	900	1,611	2,511	63%

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

<sup>2</sup> "Estimated Social Security" means, for an employee covered by Social Security, an employee's estimated OASDI retirement benefit and is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 65 in 2016 - it does not include any amounts which might be payable to an eligible spouse or children.

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

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

Final Average Salary (FAS) <sup>1</sup>	LAGERS BENEFIT <sup>3</sup>	Estimated Social Security <sup>2</sup>	Estimated Monthly Total	
			\$	% of FAS
35 Years of Service:				
\$1,500	\$ 919	\$ 882	\$1,801	120%
2,000	1,225	1,028	2,253	113%
2,500	1,531	1,174	2,705	108%
3,000	1,838	1,320	3,158	105%
3,500	2,144	1,465	3,609	103%
4,000	2,450	1,611	4,061	102%
25 Years of Service:				
\$1,500	\$ 656	\$ 882	\$1,538	103%
2,000	875	1,028	1,903	95%
2,500	1,094	1,174	2,268	91%
3,000	1,313	1,320	2,633	88%
3,500	1,531	1,465	2,996	86%
4,000	1,750	1,611	3,361	84%
15 Years of Service:				
\$1,500	\$ 394	\$ 882	\$1,276	85%
2,000	525	1,028	1,553	78%
2,500	656	1,174	1,830	73%
3,000	788	1,320	2,108	70%
3,500	919	1,465	2,384	68%
4,000	1,050	1,611	2,661	67%

<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 2016 - it does not include any amounts which might be payable to an eligible spouse or children.

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

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

Final Average Salary (FAS) <sup>1</sup>	LAGERS BENEFIT <sup>3</sup>	Estimated Social Security <sup>2</sup>	Estimated Monthly Total	
			\$	% of FAS
35 Years of Service:				
\$1,500	\$1,050	\$ 882	\$1,932	129%
2,000	1,400	1,028	2,428	121%
2,500	1,750	1,174	2,924	117%
3,000	2,100	1,320	3,420	114%
3,500	2,450	1,465	3,915	112%
4,000	2,800	1,611	4,411	110%
25 Years of Service:				
\$1,500	\$ 750	\$ 882	\$1,632	109%
2,000	1,000	1,028	2,028	101%
2,500	1,250	1,174	2,424	97%
3,000	1,500	1,320	2,820	94%
3,500	1,750	1,465	3,215	92%
4,000	2,000	1,611	3,611	90%
15 Years of Service:				
\$1,500	\$ 450	\$ 882	\$1,332	89%
2,000	600	1,028	1,628	81%
2,500	750	1,174	1,924	77%
3,000	900	1,320	2,220	74%
3,500	1,050	1,465	2,515	72%
4,000	1,200	1,611	2,811	70%

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

<sup>2</sup> "Estimated Social Security" means, for an employee covered by Social Security, an employee's estimated OASDI retirement benefit and is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 65 in 2016 - it does not include any amounts which might be payable to an eligible spouse or children.

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

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

Final Average Salary (FAS) <sup>1</sup>	LAGERS BENEFIT <sup>3</sup>		Estimated Social Security <sup>2</sup>	Estimated Monthly Total		Percent of FAS	
	To 65	At 65		To 65	At 65	To 65	At 65
35 Years of Service:							
\$1,500	\$1,050	\$ 525	\$ 882	\$1,050	\$1,407	70%	94%
2,000	1,400	700	1,028	1,400	1,728	70%	86%
2,500	1,750	875	1,174	1,750	2,049	70%	82%
3,000	2,100	1,050	1,320	2,100	2,370	70%	79%
3,500	2,450	1,225	1,465	2,450	2,690	70%	77%
4,000	2,800	1,400	1,611	2,800	3,011	70%	75%
25 Years of Service:							
\$1,500	\$ 750	\$ 375	\$ 882	\$ 750	\$1,257	50%	84%
2,000	1,000	500	1,028	1,000	1,528	50%	76%
2,500	1,250	625	1,174	1,250	1,799	50%	72%
3,000	1,500	750	1,320	1,500	2,070	50%	69%
3,500	1,750	875	1,465	1,750	2,340	50%	67%
4,000	2,000	1,000	1,611	2,000	2,611	50%	65%
15 Years of Service:							
\$1,500	\$ 450	\$225	\$ 882	\$ 450	\$1,107	30%	74%
2,000	600	300	1,028	600	1,328	30%	66%
2,500	750	375	1,174	750	1,549	30%	62%
3,000	900	450	1,320	900	1,770	30%	59%
3,500	1,050	525	1,465	1,050	1,990	30%	57%
4,000	1,200	600	1,611	1,200	2,211	30%	55%

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

<sup>2</sup> "Estimated Social Security" means, for an employee covered by Social Security, an employee's estimated OASDI retirement benefit and is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 65 in 2016 - it does not include any amounts which might be payable to an eligible spouse or children.

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

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

Final Average Salary (FAS) <sup>1</sup>	LAGERS BENEFIT <sup>3</sup>		Estimated Social Security <sup>2</sup>	Estimated Monthly Total		Percent of FAS	
	To 65	At 65		To 65	At 65	To 65	At 65
35 Years of Service:							
\$1,500	\$1,050	\$ 656	\$ 882	\$1,050	\$1,538	70%	103%
2,000	1,400	875	1,028	1,400	1,903	70%	95%
2,500	1,750	1,094	1,174	1,750	2,268	70%	91%
3,000	2,100	1,313	1,320	2,100	2,633	70%	88%
3,500	2,450	1,531	1,465	2,450	2,996	70%	86%
4,000	2,800	1,750	1,611	2,800	3,361	70%	84%
25 Years of Service:							
\$1,500	\$ 750	\$ 469	\$ 882	\$ 750	\$1,351	50%	90%
2,000	1,000	625	1,028	1,000	1,653	50%	83%
2,500	1,250	781	1,174	1,250	1,955	50%	78%
3,000	1,500	938	1,320	1,500	2,258	50%	75%
3,500	1,750	1,094	1,465	1,750	2,559	50%	73%
4,000	2,000	1,250	1,611	2,000	2,861	50%	72%
15 Years of Service:							
\$1,500	\$ 450	\$281	\$ 882	\$ 450	\$1,163	30%	78%
2,000	600	375	1,028	600	1,403	30%	70%
2,500	750	469	1,174	750	1,643	30%	66%
3,000	900	563	1,320	900	1,883	30%	63%
3,500	1,050	656	1,465	1,050	2,121	30%	61%
4,000	1,200	750	1,611	1,200	2,361	30%	59%

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

<sup>2</sup> "Estimated Social Security" means, for an employee covered by Social Security, an employee's estimated OASDI retirement benefit and is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 65 in 2016 - it does not include any amounts which might be payable to an eligible spouse or children.

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

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

Final Average Salary (FAS) <sup>1</sup>	LAGERS BENEFIT <sup>3</sup>		Estimated Social Security <sup>2</sup>	Estimated Monthly Total		Percent of FAS	
	To 65	At 65		To 65	At 65	To 65	At 65
35 Years of Service:							
\$1,500	\$1,050	\$ 788	\$ 882	\$1,050	\$1,670	70%	111%
2,000	1,400	1,050	1,028	1,400	2,078	70%	104%
2,500	1,750	1,313	1,174	1,750	2,487	70%	99%
3,000	2,100	1,575	1,320	2,100	2,895	70%	97%
3,500	2,450	1,838	1,465	2,450	3,303	70%	94%
4,000	2,800	2,100	1,611	2,800	3,711	70%	93%
25 Years of Service:							
\$1,500	\$ 750	\$ 563	\$ 882	\$ 750	\$1,445	50%	96%
2,000	1,000	750	1,028	1,000	1,778	50%	89%
2,500	1,250	938	1,174	1,250	2,112	50%	84%
3,000	1,500	1,125	1,320	1,500	2,445	50%	82%
3,500	1,750	1,313	1,465	1,750	2,778	50%	79%
4,000	2,000	1,500	1,611	2,000	3,111	50%	78%
15 Years of Service:							
\$1,500	\$ 450	\$338	\$ 882	\$ 450	\$1,220	30%	81%
2,000	600	450	1,028	600	1,478	30%	74%
2,500	750	563	1,174	750	1,737	30%	69%
3,000	900	675	1,320	900	1,995	30%	67%
3,500	1,050	788	1,465	1,050	2,253	30%	64%
4,000	1,200	900	1,611	1,200	2,511	30%	63%

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

<sup>2</sup> "Estimated Social Security" means, for an employee covered by Social Security, an employee's estimated OASDI retirement benefit and is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 65 in 2016 - it does not include any amounts which might be payable to an eligible spouse or children.

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

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

Final Average Salary (FAS) <sup>1</sup>	LAGERS BENEFIT <sup>3</sup>		Estimated Social Security <sup>2</sup>	Estimated Monthly Total		Percent of FAS	
	To 65	At 65		To 65	At 65	To 65	At 65
35 Years of Service:							
\$1,500	\$1,050	\$ 919	\$ 882	\$1,050	\$1,801	70%	120%
2,000	1,400	1,225	1,028	1,400	2,253	70%	113%
2,500	1,750	1,531	1,174	1,750	2,705	70%	108%
3,000	2,100	1,838	1,320	2,100	3,158	70%	105%
3,500	2,450	2,144	1,465	2,450	3,609	70%	103%
4,000	2,800	2,450	1,611	2,800	4,061	70%	102%
25 Years of Service:							
\$1,500	\$ 750	\$ 656	\$ 882	\$ 750	\$1,538	50%	103%
2,000	1,000	875	1,028	1,000	1,903	50%	95%
2,500	1,250	1,094	1,174	1,250	2,268	50%	91%
3,000	1,500	1,313	1,320	1,500	2,633	50%	88%
3,500	1,750	1,531	1,465	1,750	2,996	50%	86%
4,000	2,000	1,750	1,611	2,000	3,361	50%	84%
15 Years of Service:							
\$1,500	\$ 450	\$ 394	\$ 882	\$ 450	\$1,276	30%	85%
2,000	600	525	1,028	600	1,553	30%	78%
2,500	750	656	1,174	750	1,830	30%	73%
3,000	900	788	1,320	900	2,108	30%	70%
3,500	1,050	919	1,465	1,050	2,384	30%	68%
4,000	1,200	1,050	1,611	1,200	2,661	30%	67%

<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 2016 - 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**

City of Ellsinore - General

July 31, 2016

By Attained Age and Years of Service

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
<b>Under 20</b>									
20-24									
25-29									
30-34									
35-39									
40-44	1							1	\$ 32,000
45-49									
50-54									
55-59									
60-64									
65-69									
<b>70 &amp; Over</b>									
<b>Totals</b>	<b>1</b>							<b>1</b>	<b>\$ 32,000</b>

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

Age: 40.0 years.

Benefit Service: 0.4 years.

Annual Pay: \$32,000.

City of Ellsinore - Police

July 31, 2016

By Attained Age and Years of Service

Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
<b>Under 20</b>									
20-24									
25-29	2							2	\$ 60,000
30-34									
35-39									
40-44									
45-49									
50-54									
55-59									
60-64									
65-69									
<b>70 &amp; Over</b>									
<b>Totals</b>	<b>2</b>							<b>2</b>	<b>\$ 60,000</b>

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

Age: 27.9 years.

Benefit Service: 1.0 years.

Annual Pay: \$30,000.



Gabriel Roeder Smith & Company  
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One Towne Square  
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Southfield, MI 48076-3723

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www.gabrielroeder.com

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September 14, 2016 E-mail

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

Dear Keith:

Enclosed is the report of the July 31, 2016 Initial Actuarial  
Valuation of LAGERS benefits for the employees of

City of Ellsinore

Sincerely,

A handwritten signature in black ink that reads 'Mita Drazilov'.

Mita D. Drazilov

MDD:adh

September 14, 2016

City of Ellsinore  
Ellsinore, Missouri

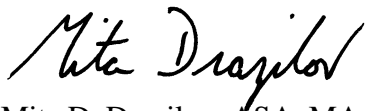
Ladies and Gentlemen:

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 July 31, 2016 Initial Valuation for the City of Ellsinore dated September 14, 2016.

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 29, 2016.

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 opinion herein.

Respectfully submitted,



Mita D. Drazilov, ASA, MAAA

City of Ellsinore - General

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

Regular Retirement Eligibility

Valuation Year	Estimated Projected Payroll	L-1 Benefit Program			L-3 Benefit Program			LT-4(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2016	\$ 32,000	4.3%	\$1,376	\$ -	6.1%	\$1,952	\$ -	5.1%	\$1,632	\$ -
2017	33,040	4.3	1,421	-	6.1	2,015	-	5.1	1,685	-
2018	34,114	4.3	1,467	-	6.1	2,081	-	5.1	1,740	-
2019	35,223	4.3	1,515	-	6.1	2,149	-	5.1	1,796	-
2020	36,368	4.3	1,564	-	6.1	2,218	-	5.1	1,855	-
2021	37,550	4.3	1,615	-	6.1	2,291	-	5.1	1,915	-
2022	38,770	4.3	1,667	-	6.1	2,365	-	5.1	1,977	-
2023	40,030	4.3	1,721	-	6.1	2,442	-	5.1	2,042	-
2024	41,331	4.3	1,777	-	6.1	2,521	-	5.1	2,108	-
2025	42,674	4.3	1,835	-	6.1	2,603	-	5.1	2,176	-

Valuation Year	Estimated Projected Payroll	LT-5(65) Benefit Program			L-7 Benefit Program			LT-8(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2016	\$ 32,000	6.6%	\$2,112	\$ -	7.7%	\$2,464	\$ 5	8.1%	\$2,592	\$ -
2017	33,040	6.6	2,181	-	7.7	2,544	5	8.1	2,676	-
2018	34,114	6.6	2,252	-	7.7	2,627	5	8.1	2,763	-
2019	35,223	6.6	2,325	-	7.7	2,712	5	8.1	2,853	-
2020	36,368	6.6	2,400	-	7.7	2,800	5	8.1	2,946	-
2021	37,550	6.6	2,478	-	7.7	2,891	5	8.1	3,042	-
2022	38,770	6.6	2,559	-	7.7	2,985	5	8.1	3,140	-
2023	40,030	6.6	2,642	-	7.7	3,082	5	8.1	3,242	-
2024	41,331	6.6	2,728	-	7.7	3,182	5	8.1	3,348	-
2025	42,674	6.6	2,816	-	7.7	3,286	5	8.1	3,457	-

Valuation Year	Estimated Projected Payroll	L-12 Benefit Program			LT-14(65) Benefit Program			L-6 Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2016	\$ 32,000	9.5%	\$3,040	\$ -	9.7%	\$3,104	\$ 5	11.2%	\$3,584	\$ 1
2017	33,040	9.5	3,139	-	9.7	3,205	5	11.2	3,700	1
2018	34,114	9.5	3,241	-	9.7	3,309	5	11.2	3,821	1
2019	35,223	9.5	3,346	-	9.7	3,417	5	11.2	3,945	1
2020	36,368	9.5	3,455	-	9.7	3,528	5	11.2	4,073	1
2021	37,550	9.5	3,567	-	9.7	3,642	5	11.2	4,206	1
2022	38,770	9.5	3,683	-	9.7	3,761	5	11.2	4,342	1
2023	40,030	9.5	3,803	-	9.7	3,883	5	11.2	4,483	1
2024	41,331	9.5	3,926	-	9.7	4,009	5	11.2	4,629	1
2025	42,674	9.5	4,054	-	9.7	4,139	5	11.2	4,779	1

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.

City of Ellsinore - General

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

Regular Retirement Eligibility

Valuation Year	Estimated Projected Payroll	L-1 Benefit Program			L-3 Benefit Program			LT-4(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2016	\$ 32,000	4.5%	\$1,440	\$ -	6.3%	\$2,016	\$ 8	5.3%	\$1,696	\$ 9
2017	33,040	4.5	1,487	-	6.3	2,082	8	5.3	1,751	9
2018	34,114	4.5	1,535	-	6.3	2,149	8	5.3	1,808	9
2019	35,223	4.5	1,585	-	6.3	2,219	8	5.3	1,867	9
2020	36,368	4.5	1,637	-	6.3	2,291	8	5.3	1,928	9
2021	37,550	4.5	1,690	-	6.3	2,366	8	5.3	1,990	9
2022	38,770	4.5	1,745	-	6.3	2,443	8	5.3	2,055	9
2023	40,030	4.5	1,801	-	6.3	2,522	8	5.3	2,122	9
2024	41,331	4.5	1,860	-	6.3	2,604	8	5.3	2,191	9
2025	42,674	4.5	1,920	-	6.3	2,688	8	5.3	2,262	9

Valuation Year	Estimated Projected Payroll	LT-5(65) Benefit Program			L-7 Benefit Program			LT-8(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2016	\$ 32,000	6.9%	\$2,208	\$ 4	8.1%	\$2,592	\$ -	8.5%	\$2,720	\$ -
2017	33,040	6.9	2,280	4	8.1	2,676	-	8.5	2,808	-
2018	34,114	6.9	2,354	4	8.1	2,763	-	8.5	2,900	-
2019	35,223	6.9	2,430	4	8.1	2,853	-	8.5	2,994	-
2020	36,368	6.9	2,509	4	8.1	2,946	-	8.5	3,091	-
2021	37,550	6.9	2,591	4	8.1	3,042	-	8.5	3,192	-
2022	38,770	6.9	2,675	4	8.1	3,140	-	8.5	3,295	-
2023	40,030	6.9	2,762	4	8.1	3,242	-	8.5	3,403	-
2024	41,331	6.9	2,852	4	8.1	3,348	-	8.5	3,513	-
2025	42,674	6.9	2,945	4	8.1	3,457	-	8.5	3,627	-

Valuation Year	Estimated Projected Payroll	L-12 Benefit Program			LT-14(65) Benefit Program			L-6 Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2016	\$ 32,000	9.9%	\$3,168	\$ -	10.1%	\$3,232	\$ -	11.7%	\$3,744	\$ 2
2017	33,040	9.9	3,271	-	10.1	3,337	-	11.7	3,866	2
2018	34,114	9.9	3,377	-	10.1	3,446	-	11.7	3,991	2
2019	35,223	9.9	3,487	-	10.1	3,558	-	11.7	4,121	2
2020	36,368	9.9	3,600	-	10.1	3,673	-	11.7	4,255	2
2021	37,550	9.9	3,717	-	10.1	3,793	-	11.7	4,393	2
2022	38,770	9.9	3,838	-	10.1	3,916	-	11.7	4,536	2
2023	40,030	9.9	3,963	-	10.1	4,043	-	11.7	4,684	2
2024	41,331	9.9	4,092	-	10.1	4,174	-	11.7	4,836	2
2025	42,674	9.9	4,225	-	10.1	4,310	-	11.7	4,993	2

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.

City of Ellsinore - General

Employer Contribution Rates (Non-Contributory Plan - 5 Year FAS)  
(0% member contributions are additional)

Regular Retirement Eligibility

Valuation Year	Estimated Projected Payroll	L-1 Benefit Program			L-3 Benefit Program			LT-4(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2016	\$ 32,000	7.9%	\$2,528	\$ 3	9.7%	\$3,104	\$ -	8.6%	\$2,752	\$ 4
2017	33,040	7.9	2,610	3	9.7	3,205	-	8.6	2,841	4
2018	34,114	7.9	2,695	3	9.7	3,309	-	8.6	2,934	4
2019	35,223	7.9	2,783	3	9.7	3,417	-	8.6	3,029	4
2020	36,368	7.9	2,873	3	9.7	3,528	-	8.6	3,128	4
2021	37,550	7.9	2,966	3	9.7	3,642	-	8.6	3,229	4
2022	38,770	7.9	3,063	3	9.7	3,761	-	8.6	3,334	4
2023	40,030	7.9	3,162	3	9.7	3,883	-	8.6	3,443	4
2024	41,331	7.9	3,265	3	9.7	4,009	-	8.6	3,554	4
2025	42,674	7.9	3,371	3	9.7	4,139	-	8.6	3,670	4

Valuation Year	Estimated Projected Payroll	LT-5(65) Benefit Program			L-7 Benefit Program			LT-8(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2016	\$ 32,000	10.3%	\$3,296	\$ -	11.4%	\$3,648	\$ 3	11.8%	\$3,776	\$ 7
2017	33,040	10.3	3,403	-	11.4	3,767	3	11.8	3,899	7
2018	34,114	10.3	3,514	-	11.4	3,889	3	11.8	4,025	7
2019	35,223	10.3	3,628	-	11.4	4,015	3	11.8	4,156	7
2020	36,368	10.3	3,746	-	11.4	4,146	3	11.8	4,291	7
2021	37,550	10.3	3,868	-	11.4	4,281	3	11.8	4,431	7
2022	38,770	10.3	3,993	-	11.4	4,420	3	11.8	4,575	7
2023	40,030	10.3	4,123	-	11.4	4,563	3	11.8	4,724	7
2024	41,331	10.3	4,257	-	11.4	4,712	3	11.8	4,877	7
2025	42,674	10.3	4,395	-	11.4	4,865	3	11.8	5,036	7

Valuation Year	Estimated Projected Payroll	L-12 Benefit Program			LT-14(65) Benefit Program			L-6 Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2016	\$ 32,000	13.2%	\$4,224	\$ -	13.4%	\$4,288	\$ -	15.0%	\$4,800	\$ 3
2017	33,040	13.2	4,361	-	13.4	4,427	-	15.0	4,956	3
2018	34,114	13.2	4,503	-	13.4	4,571	-	15.0	5,117	3
2019	35,223	13.2	4,649	-	13.4	4,720	-	15.0	5,283	3
2020	36,368	13.2	4,801	-	13.4	4,873	-	15.0	5,455	3
2021	37,550	13.2	4,957	-	13.4	5,032	-	15.0	5,633	3
2022	38,770	13.2	5,118	-	13.4	5,195	-	15.0	5,816	3
2023	40,030	13.2	5,284	-	13.4	5,364	-	15.0	6,005	3
2024	41,331	13.2	5,456	-	13.4	5,538	-	15.0	6,200	3
2025	42,674	13.2	5,633	-	13.4	5,718	-	15.0	6,401	3

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.

City of Ellsinore - General

Employer Contribution Rates (Non-Contributory Plan - 3 Year FAS)  
(0% member contributions are additional)

Regular Retirement Eligibility

Valuation Year	Estimated Projected Payroll	L-1 Benefit Program			L-3 Benefit Program			LT-4(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2016	\$ 32,000	8.1%	\$2,592	\$ 5	10.0%	\$3,200	\$ 9	8.9%	\$2,848	\$ -
2017	33,040	8.1	2,676	5	10.0	3,304	9	8.9	2,941	-
2018	34,114	8.1	2,763	5	10.0	3,411	9	8.9	3,036	-
2019	35,223	8.1	2,853	5	10.0	3,522	9	8.9	3,135	-
2020	36,368	8.1	2,946	5	10.0	3,637	9	8.9	3,237	-
2021	37,550	8.1	3,042	5	10.0	3,755	9	8.9	3,342	-
2022	38,770	8.1	3,140	5	10.0	3,877	9	8.9	3,451	-
2023	40,030	8.1	3,242	5	10.0	4,003	9	8.9	3,563	-
2024	41,331	8.1	3,348	5	10.0	4,133	9	8.9	3,678	-
2025	42,674	8.1	3,457	5	10.0	4,267	9	8.9	3,798	-

Valuation Year	Estimated Projected Payroll	LT-5(65) Benefit Program			L-7 Benefit Program			LT-8(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2016	\$ 32,000	10.6%	\$3,392	\$ 7	11.7%	\$3,744	\$ 3	12.1%	\$3,872	\$ 6
2017	33,040	10.6	3,502	7	11.7	3,866	3	12.1	3,998	6
2018	34,114	10.6	3,616	7	11.7	3,991	3	12.1	4,128	6
2019	35,223	10.6	3,734	7	11.7	4,121	3	12.1	4,262	6
2020	36,368	10.6	3,855	7	11.7	4,255	3	12.1	4,401	6
2021	37,550	10.6	3,980	7	11.7	4,393	3	12.1	4,544	6
2022	38,770	10.6	4,110	7	11.7	4,536	3	12.1	4,691	6
2023	40,030	10.6	4,243	7	11.7	4,684	3	12.1	4,844	6
2024	41,331	10.6	4,381	7	11.7	4,836	3	12.1	5,001	6
2025	42,674	10.6	4,523	7	11.7	4,993	3	12.1	5,164	6

Valuation Year	Estimated Projected Payroll	L-12 Benefit Program			LT-14(65) Benefit Program			L-6 Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2016	\$ 32,000	13.6%	\$4,352	\$ -	13.8%	\$4,416	\$ -	15.5%	\$4,960	\$ -
2017	33,040	13.6	4,493	-	13.8	4,560	-	15.5	5,121	-
2018	34,114	13.6	4,640	-	13.8	4,708	-	15.5	5,288	-
2019	35,223	13.6	4,790	-	13.8	4,861	-	15.5	5,460	-
2020	36,368	13.6	4,946	-	13.8	5,019	-	15.5	5,637	-
2021	37,550	13.6	5,107	-	13.8	5,182	-	15.5	5,820	-
2022	38,770	13.6	5,273	-	13.8	5,350	-	15.5	6,009	-
2023	40,030	13.6	5,444	-	13.8	5,524	-	15.5	6,205	-
2024	41,331	13.6	5,621	-	13.8	5,704	-	15.5	6,406	-
2025	42,674	13.6	5,804	-	13.8	5,889	-	15.5	6,614	-

Notes regarding the above projections:

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- 2) Estimated projected payroll is based upon the valuation payroll, increased each future year by 3.25%.
- 3) Due to the estimated nature of the above projections, certain but not all aspects of the Missouri LAGERS funding policy have been incorporated in the above projections.
- 4) Differences between the date of the initial valuation and the actuarial valuation date of February 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.

City of Ellsinore - General

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

Rule of 80 Retirement Eligibility

Valuation Year	Estimated Projected Payroll	L-1 Benefit Program			L-3 Benefit Program			LT-4(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2016	\$ 32,000	4.3%	\$1,376	\$ -	6.1%	\$1,952	\$ -	5.1%	\$1,632	\$ -
2017	33,040	4.3	1,421	-	6.1	2,015	-	5.1	1,685	-
2018	34,114	4.3	1,467	-	6.1	2,081	-	5.1	1,740	-
2019	35,223	4.3	1,515	-	6.1	2,149	-	5.1	1,796	-
2020	36,368	4.3	1,564	-	6.1	2,218	-	5.1	1,855	-
2021	37,550	4.3	1,615	-	6.1	2,291	-	5.1	1,915	-
2022	38,770	4.3	1,667	-	6.1	2,365	-	5.1	1,977	-
2023	40,030	4.3	1,721	-	6.1	2,442	-	5.1	2,042	-
2024	41,331	4.3	1,777	-	6.1	2,521	-	5.1	2,108	-
2025	42,674	4.3	1,835	-	6.1	2,603	-	5.1	2,176	-

Valuation Year	Estimated Projected Payroll	LT-5(65) Benefit Program			L-7 Benefit Program			LT-8(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2016	\$ 32,000	6.6%	\$2,112	\$ -	7.7%	\$2,464	\$ 5	8.1%	\$2,592	\$ -
2017	33,040	6.6	2,181	-	7.7	2,544	5	8.1	2,676	-
2018	34,114	6.6	2,252	-	7.7	2,627	5	8.1	2,763	-
2019	35,223	6.6	2,325	-	7.7	2,712	5	8.1	2,853	-
2020	36,368	6.6	2,400	-	7.7	2,800	5	8.1	2,946	-
2021	37,550	6.6	2,478	-	7.7	2,891	5	8.1	3,042	-
2022	38,770	6.6	2,559	-	7.7	2,985	5	8.1	3,140	-
2023	40,030	6.6	2,642	-	7.7	3,082	5	8.1	3,242	-
2024	41,331	6.6	2,728	-	7.7	3,182	5	8.1	3,348	-
2025	42,674	6.6	2,816	-	7.7	3,286	5	8.1	3,457	-

Valuation Year	Estimated Projected Payroll	L-12 Benefit Program			LT-14(65) Benefit Program			L-6 Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2016	\$ 32,000	9.5%	\$3,040	\$ -	9.7%	\$3,104	\$ 5	11.2%	\$3,584	\$ 1
2017	33,040	9.5	3,139	-	9.7	3,205	5	11.2	3,700	1
2018	34,114	9.5	3,241	-	9.7	3,309	5	11.2	3,821	1
2019	35,223	9.5	3,346	-	9.7	3,417	5	11.2	3,945	1
2020	36,368	9.5	3,455	-	9.7	3,528	5	11.2	4,073	1
2021	37,550	9.5	3,567	-	9.7	3,642	5	11.2	4,206	1
2022	38,770	9.5	3,683	-	9.7	3,761	5	11.2	4,342	1
2023	40,030	9.5	3,803	-	9.7	3,883	5	11.2	4,483	1
2024	41,331	9.5	3,926	-	9.7	4,009	5	11.2	4,629	1
2025	42,674	9.5	4,054	-	9.7	4,139	5	11.2	4,779	1

Notes regarding the above projections:

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- 2) Estimated projected payroll is based upon the valuation payroll, increased each future year by 3.25%.
- 3) Due to the estimated nature of the above projections, certain but not all aspects of the Missouri LAGERS funding policy have been incorporated in the above projections.
- 4) Differences between the date of the initial valuation and the actuarial valuation date of February 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.

City of Ellsinore - General

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

Rule of 80 Retirement Eligibility

Valuation Year	Estimated Projected Payroll	L-1 Benefit Program			L-3 Benefit Program			LT-4(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2016	\$ 32,000	4.5%	\$1,440	\$ -	6.3%	\$2,016	\$ 8	5.3%	\$1,696	\$ 9
2017	33,040	4.5	1,487	-	6.3	2,082	8	5.3	1,751	9
2018	34,114	4.5	1,535	-	6.3	2,149	8	5.3	1,808	9
2019	35,223	4.5	1,585	-	6.3	2,219	8	5.3	1,867	9
2020	36,368	4.5	1,637	-	6.3	2,291	8	5.3	1,928	9
2021	37,550	4.5	1,690	-	6.3	2,366	8	5.3	1,990	9
2022	38,770	4.5	1,745	-	6.3	2,443	8	5.3	2,055	9
2023	40,030	4.5	1,801	-	6.3	2,522	8	5.3	2,122	9
2024	41,331	4.5	1,860	-	6.3	2,604	8	5.3	2,191	9
2025	42,674	4.5	1,920	-	6.3	2,688	8	5.3	2,262	9

Valuation Year	Estimated Projected Payroll	LT-5(65) Benefit Program			L-7 Benefit Program			LT-8(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2016	\$ 32,000	6.9%	\$2,208	\$ 4	8.1%	\$2,592	\$ -	8.5%	\$2,720	\$ -
2017	33,040	6.9	2,280	4	8.1	2,676	-	8.5	2,808	-
2018	34,114	6.9	2,354	4	8.1	2,763	-	8.5	2,900	-
2019	35,223	6.9	2,430	4	8.1	2,853	-	8.5	2,994	-
2020	36,368	6.9	2,509	4	8.1	2,946	-	8.5	3,091	-
2021	37,550	6.9	2,591	4	8.1	3,042	-	8.5	3,192	-
2022	38,770	6.9	2,675	4	8.1	3,140	-	8.5	3,295	-
2023	40,030	6.9	2,762	4	8.1	3,242	-	8.5	3,403	-
2024	41,331	6.9	2,852	4	8.1	3,348	-	8.5	3,513	-
2025	42,674	6.9	2,945	4	8.1	3,457	-	8.5	3,627	-

Valuation Year	Estimated Projected Payroll	L-12 Benefit Program			LT-14(65) Benefit Program			L-6 Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2016	\$ 32,000	9.9%	\$3,168	\$ -	10.1%	\$3,232	\$ -	11.7%	\$3,744	\$ 2
2017	33,040	9.9	3,271	-	10.1	3,337	-	11.7	3,866	2
2018	34,114	9.9	3,377	-	10.1	3,446	-	11.7	3,991	2
2019	35,223	9.9	3,487	-	10.1	3,558	-	11.7	4,121	2
2020	36,368	9.9	3,600	-	10.1	3,673	-	11.7	4,255	2
2021	37,550	9.9	3,717	-	10.1	3,793	-	11.7	4,393	2
2022	38,770	9.9	3,838	-	10.1	3,916	-	11.7	4,536	2
2023	40,030	9.9	3,963	-	10.1	4,043	-	11.7	4,684	2
2024	41,331	9.9	4,092	-	10.1	4,174	-	11.7	4,836	2
2025	42,674	9.9	4,225	-	10.1	4,310	-	11.7	4,993	2

Notes regarding the above projections:

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- 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.
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City of Ellsinore - General

Employer Contribution Rates (Non-Contributory Plan - 5 Year FAS)  
(0% member contributions are additional)

Rule of 80 Retirement Eligibility

Valuation Year	Estimated Projected Payroll	L-1 Benefit Program			L-3 Benefit Program			LT-4(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2016	\$ 32,000	7.9%	\$2,528	\$ 3	9.7%	\$3,104	\$ -	8.6%	\$2,752	\$ 4
2017	33,040	7.9	2,610	3	9.7	3,205	-	8.6	2,841	4
2018	34,114	7.9	2,695	3	9.7	3,309	-	8.6	2,934	4
2019	35,223	7.9	2,783	3	9.7	3,417	-	8.6	3,029	4
2020	36,368	7.9	2,873	3	9.7	3,528	-	8.6	3,128	4
2021	37,550	7.9	2,966	3	9.7	3,642	-	8.6	3,229	4
2022	38,770	7.9	3,063	3	9.7	3,761	-	8.6	3,334	4
2023	40,030	7.9	3,162	3	9.7	3,883	-	8.6	3,443	4
2024	41,331	7.9	3,265	3	9.7	4,009	-	8.6	3,554	4
2025	42,674	7.9	3,371	3	9.7	4,139	-	8.6	3,670	4

Valuation Year	Estimated Projected Payroll	LT-5(65) Benefit Program			L-7 Benefit Program			LT-8(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2016	\$ 32,000	10.3%	\$3,296	\$ -	11.4%	\$3,648	\$ 3	11.8%	\$3,776	\$ 7
2017	33,040	10.3	3,403	-	11.4	3,767	3	11.8	3,899	7
2018	34,114	10.3	3,514	-	11.4	3,889	3	11.8	4,025	7
2019	35,223	10.3	3,628	-	11.4	4,015	3	11.8	4,156	7
2020	36,368	10.3	3,746	-	11.4	4,146	3	11.8	4,291	7
2021	37,550	10.3	3,868	-	11.4	4,281	3	11.8	4,431	7
2022	38,770	10.3	3,993	-	11.4	4,420	3	11.8	4,575	7
2023	40,030	10.3	4,123	-	11.4	4,563	3	11.8	4,724	7
2024	41,331	10.3	4,257	-	11.4	4,712	3	11.8	4,877	7
2025	42,674	10.3	4,395	-	11.4	4,865	3	11.8	5,036	7

Valuation Year	Estimated Projected Payroll	L-12 Benefit Program			LT-14(65) Benefit Program			L-6 Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2016	\$ 32,000	13.2%	\$4,224	\$ -	13.4%	\$4,288	\$ -	15.0%	\$4,800	\$ 3
2017	33,040	13.2	4,361	-	13.4	4,427	-	15.0	4,956	3
2018	34,114	13.2	4,503	-	13.4	4,571	-	15.0	5,117	3
2019	35,223	13.2	4,649	-	13.4	4,720	-	15.0	5,283	3
2020	36,368	13.2	4,801	-	13.4	4,873	-	15.0	5,455	3
2021	37,550	13.2	4,957	-	13.4	5,032	-	15.0	5,633	3
2022	38,770	13.2	5,118	-	13.4	5,195	-	15.0	5,816	3
2023	40,030	13.2	5,284	-	13.4	5,364	-	15.0	6,005	3
2024	41,331	13.2	5,456	-	13.4	5,538	-	15.0	6,200	3
2025	42,674	13.2	5,633	-	13.4	5,718	-	15.0	6,401	3

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.

City of Ellsinore - General

Employer Contribution Rates (Non-Contributory Plan - 3 Year FAS)  
(0% member contributions are additional)

Rule of 80 Retirement Eligibility

Valuation Year	Estimated Projected Payroll	L-1 Benefit Program			L-3 Benefit Program			LT-4(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2016	\$ 32,000	8.1%	\$2,592	\$ 5	10.0%	\$3,200	\$ 9	8.9%	\$2,848	\$ -
2017	33,040	8.1	2,676	5	10.0	3,304	9	8.9	2,941	-
2018	34,114	8.1	2,763	5	10.0	3,411	9	8.9	3,036	-
2019	35,223	8.1	2,853	5	10.0	3,522	9	8.9	3,135	-
2020	36,368	8.1	2,946	5	10.0	3,637	9	8.9	3,237	-
2021	37,550	8.1	3,042	5	10.0	3,755	9	8.9	3,342	-
2022	38,770	8.1	3,140	5	10.0	3,877	9	8.9	3,451	-
2023	40,030	8.1	3,242	5	10.0	4,003	9	8.9	3,563	-
2024	41,331	8.1	3,348	5	10.0	4,133	9	8.9	3,678	-
2025	42,674	8.1	3,457	5	10.0	4,267	9	8.9	3,798	-

Valuation Year	Estimated Projected Payroll	LT-5(65) Benefit Program			L-7 Benefit Program			LT-8(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2016	\$ 32,000	10.6%	\$3,392	\$ 7	11.7%	\$3,744	\$ 3	12.1%	\$3,872	\$ 6
2017	33,040	10.6	3,502	7	11.7	3,866	3	12.1	3,998	6
2018	34,114	10.6	3,616	7	11.7	3,991	3	12.1	4,128	6
2019	35,223	10.6	3,734	7	11.7	4,121	3	12.1	4,262	6
2020	36,368	10.6	3,855	7	11.7	4,255	3	12.1	4,401	6
2021	37,550	10.6	3,980	7	11.7	4,393	3	12.1	4,544	6
2022	38,770	10.6	4,110	7	11.7	4,536	3	12.1	4,691	6
2023	40,030	10.6	4,243	7	11.7	4,684	3	12.1	4,844	6
2024	41,331	10.6	4,381	7	11.7	4,836	3	12.1	5,001	6
2025	42,674	10.6	4,523	7	11.7	4,993	3	12.1	5,164	6

Valuation Year	Estimated Projected Payroll	L-12 Benefit Program			LT-14(65) Benefit Program			L-6 Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2016	\$ 32,000	13.6%	\$4,352	\$ -	13.8%	\$4,416	\$ -	15.5%	\$4,960	\$ -
2017	33,040	13.6	4,493	-	13.8	4,560	-	15.5	5,121	-
2018	34,114	13.6	4,640	-	13.8	4,708	-	15.5	5,288	-
2019	35,223	13.6	4,790	-	13.8	4,861	-	15.5	5,460	-
2020	36,368	13.6	4,946	-	13.8	5,019	-	15.5	5,637	-
2021	37,550	13.6	5,107	-	13.8	5,182	-	15.5	5,820	-
2022	38,770	13.6	5,273	-	13.8	5,350	-	15.5	6,009	-
2023	40,030	13.6	5,444	-	13.8	5,524	-	15.5	6,205	-
2024	41,331	13.6	5,621	-	13.8	5,704	-	15.5	6,406	-
2025	42,674	13.6	5,804	-	13.8	5,889	-	15.5	6,614	-

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.

City of Ellsinore - Police

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

Regular Retirement Eligibility

Valuation Year	Estimated Projected Payroll	L-1 Benefit Program			L-3 Benefit Program			LT-4(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability
		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars	
2016	\$ 60,000	3.6%	\$2,160	\$ 3,511	5.2%	\$3,120	\$ 4,771	4.9%	\$2,940	\$ 4,547
2017	61,950	3.6	2,230	3,559	5.2	3,221	4,836	4.9	3,036	4,609
2018	63,963	3.6	2,303	3,604	5.2	3,326	4,897	4.9	3,134	4,667
2019	66,042	3.6	2,378	3,645	5.2	3,434	4,953	4.9	3,236	4,720
2020	68,188	3.6	2,455	3,682	5.2	3,546	5,003	4.9	3,341	4,768
2021	70,404	3.6	2,535	3,714	5.2	3,661	5,047	4.9	3,450	4,810
2022	72,692	3.6	2,617	3,741	5.2	3,780	5,084	4.9	3,562	4,845
2023	75,054	3.6	2,702	3,762	5.2	3,903	5,113	4.9	3,678	4,872
2024	77,493	3.6	2,790	3,777	5.2	4,030	5,133	4.9	3,797	4,891
2025	80,012	3.6	2,880	3,784	5.2	4,161	5,143	4.9	3,921	4,900

Valuation Year	Estimated Projected Payroll	LT-5(65) Benefit Program			L-7 Benefit Program			LT-8(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability
		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars	
2016	\$ 60,000	6.1%	\$3,660	\$ 5,550	6.7%	\$4,020	\$ 5,945	7.4%	\$4,440	\$ 6,473
2017	61,950	6.1	3,779	5,626	6.7	4,151	6,026	7.4	4,584	6,562
2018	63,963	6.1	3,902	5,697	6.7	4,286	6,102	7.4	4,733	6,645
2019	66,042	6.1	4,029	5,762	6.7	4,425	6,172	7.4	4,887	6,721
2020	68,188	6.1	4,159	5,821	6.7	4,569	6,235	7.4	5,046	6,789
2021	70,404	6.1	4,295	5,872	6.7	4,717	6,290	7.4	5,210	6,849
2022	72,692	6.1	4,434	5,915	6.7	4,870	6,336	7.4	5,379	6,899
2023	75,054	6.1	4,578	5,948	6.7	5,029	6,372	7.4	5,554	6,938
2024	77,493	6.1	4,727	5,971	6.7	5,192	6,397	7.4	5,734	6,965
2025	80,012	6.1	4,881	5,982	6.7	5,361	6,409	7.4	5,921	6,978

Valuation Year	Estimated Projected Payroll	L-12 Benefit Program			LT-14(65) Benefit Program			L-6 Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability	Estimated Employer Contribution		Unfunded Actuarial Accrued Liability
		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars		As a % of Payroll	Annual Dollars	
2016	\$ 60,000	8.3%	\$4,980	\$ 7,122	8.6%	\$5,160	\$ 7,381	9.9%	\$5,940	\$ 8,262
2017	61,950	8.3	5,142	7,220	8.6	5,328	7,482	9.9	6,133	8,375
2018	63,963	8.3	5,309	7,311	8.6	5,501	7,576	9.9	6,332	8,481
2019	66,042	8.3	5,481	7,395	8.6	5,680	7,663	9.9	6,538	8,578
2020	68,188	8.3	5,660	7,470	8.6	5,864	7,741	9.9	6,751	8,665
2021	70,404	8.3	5,844	7,536	8.6	6,055	7,809	9.9	6,970	8,741
2022	72,692	8.3	6,033	7,591	8.6	6,252	7,866	9.9	7,197	8,805
2023	75,054	8.3	6,229	7,634	8.6	6,455	7,910	9.9	7,430	8,855
2024	77,493	8.3	6,432	7,664	8.6	6,664	7,941	9.9	7,672	8,889
2025	80,012	8.3	6,641	7,679	8.6	6,881	7,956	9.9	7,921	8,906

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.

City of Ellsinore - Police

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

Regular Retirement Eligibility

Valuation Year	Estimated Projected Payroll	L-1 Benefit Program			L-3 Benefit Program			LT-4(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	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
2016	\$ 60,000	3.9%	\$2,340	\$ 3,723	5.4%	\$3,240	\$ 5,017	5.2%	\$3,120	\$ 4,801
2017	61,950	3.9	2,416	3,774	5.4	3,345	5,086	5.2	3,221	4,867
2018	63,963	3.9	2,495	3,822	5.4	3,454	5,150	5.2	3,326	4,928
2019	66,042	3.9	2,576	3,866	5.4	3,566	5,209	5.2	3,434	4,984
2020	68,188	3.9	2,659	3,905	5.4	3,682	5,262	5.2	3,546	5,035
2021	70,404	3.9	2,746	3,939	5.4	3,802	5,308	5.2	3,661	5,079
2022	72,692	3.9	2,835	3,968	5.4	3,925	5,347	5.2	3,780	5,116
2023	75,054	3.9	2,927	3,990	5.4	4,053	5,377	5.2	3,903	5,145
2024	77,493	3.9	3,022	4,005	5.4	4,185	5,398	5.2	4,030	5,165
2025	80,012	3.9	3,120	4,013	5.4	4,321	5,408	5.2	4,161	5,175

Valuation Year	Estimated Projected Payroll	LT-5(65) Benefit Program			L-7 Benefit Program			LT-8(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2016	\$ 60,000	6.4%	\$3,840	\$ 5,826	7.0%	\$4,200	\$ 6,231	7.7%	\$4,620	\$ 6,759
2017	61,950	6.4	3,965	5,906	7.0	4,337	6,316	7.7	4,770	6,852
2018	63,963	6.4	4,094	5,980	7.0	4,477	6,396	7.7	4,925	6,938
2019	66,042	6.4	4,227	6,048	7.0	4,623	6,469	7.7	5,085	7,017
2020	68,188	6.4	4,364	6,109	7.0	4,773	6,535	7.7	5,250	7,088
2021	70,404	6.4	4,506	6,163	7.0	4,928	6,592	7.7	5,421	7,150
2022	72,692	6.4	4,652	6,208	7.0	5,088	6,640	7.7	5,597	7,202
2023	75,054	6.4	4,803	6,243	7.0	5,254	6,678	7.7	5,779	7,243
2024	77,493	6.4	4,960	6,267	7.0	5,425	6,704	7.7	5,967	7,271
2025	80,012	6.4	5,121	6,279	7.0	5,601	6,717	7.7	6,161	7,285

Valuation Year	Estimated Projected Payroll	L-12 Benefit Program			LT-14(65) Benefit Program			L-6 Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2016	\$ 60,000	8.7%	\$5,220	\$ 7,413	9.1%	\$5,460	\$ 7,680	10.4%	\$6,240	\$ 8,619
2017	61,950	8.7	5,390	7,515	9.1	5,637	7,785	10.4	6,443	8,737
2018	63,963	8.7	5,565	7,610	9.1	5,821	7,883	10.4	6,652	8,847
2019	66,042	8.7	5,746	7,697	9.1	6,010	7,973	10.4	6,868	8,948
2020	68,188	8.7	5,932	7,775	9.1	6,205	8,054	10.4	7,092	9,039
2021	70,404	8.7	6,125	7,843	9.1	6,407	8,125	10.4	7,322	9,118
2022	72,692	8.7	6,324	7,900	9.1	6,615	8,184	10.4	7,560	9,184
2023	75,054	8.7	6,530	7,945	9.1	6,830	8,230	10.4	7,806	9,236
2024	77,493	8.7	6,742	7,976	9.1	7,052	8,262	10.4	8,059	9,272
2025	80,012	8.7	6,961	7,991	9.1	7,281	8,278	10.4	8,321	9,290

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.

City of Ellsinore - Police

Employer Contribution Rates (Non-Contributory Plan - 5 Year FAS)  
(0% member contributions are additional)

Regular Retirement Eligibility

Valuation Year	Estimated Projected Payroll	L-1 Benefit Program			L-3 Benefit Program			LT-4(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	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
2016	\$ 60,000	7.4%	\$4,440	\$ 4,951	9.0%	\$5,400	\$ 6,176	8.7%	\$5,220	\$ 5,975
2017	61,950	7.4	4,584	5,019	9.0	5,576	6,261	8.7	5,390	6,057
2018	63,963	7.4	4,733	5,082	9.0	5,757	6,340	8.7	5,565	6,133
2019	66,042	7.4	4,887	5,140	9.0	5,944	6,412	8.7	5,746	6,203
2020	68,188	7.4	5,046	5,192	9.0	6,137	6,477	8.7	5,932	6,266
2021	70,404	7.4	5,210	5,238	9.0	6,336	6,534	8.7	6,125	6,321
2022	72,692	7.4	5,379	5,276	9.0	6,542	6,582	8.7	6,324	6,367
2023	75,054	7.4	5,554	5,306	9.0	6,755	6,619	8.7	6,530	6,403
2024	77,493	7.4	5,734	5,327	9.0	6,974	6,645	8.7	6,742	6,428
2025	80,012	7.4	5,921	5,337	9.0	7,201	6,658	8.7	6,961	6,440

Valuation Year	Estimated Projected Payroll	LT-5(65) Benefit Program			L-7 Benefit Program			LT-8(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2016	\$ 60,000	10.0%	\$6,000	\$ 6,953	10.6%	\$6,360	\$ 7,420	11.3%	\$6,780	\$ 7,932
2017	61,950	10.0	6,195	7,048	10.6	6,567	7,522	11.3	7,000	8,041
2018	63,963	10.0	6,396	7,137	10.6	6,780	7,617	11.3	7,228	8,142
2019	66,042	10.0	6,604	7,219	10.6	7,000	7,704	11.3	7,463	8,235
2020	68,188	10.0	6,819	7,292	10.6	7,228	7,782	11.3	7,705	8,319
2021	70,404	10.0	7,040	7,356	10.6	7,463	7,850	11.3	7,956	8,392
2022	72,692	10.0	7,269	7,410	10.6	7,705	7,907	11.3	8,214	8,453
2023	75,054	10.0	7,505	7,452	10.6	7,956	7,952	11.3	8,481	8,501
2024	77,493	10.0	7,749	7,481	10.6	8,214	7,983	11.3	8,757	8,534
2025	80,012	10.0	8,001	7,495	10.6	8,481	7,998	11.3	9,041	8,550

Valuation Year	Estimated Projected Payroll	L-12 Benefit Program			LT-14(65) Benefit Program			L-6 Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2016	\$ 60,000	12.2%	\$7,320	\$ 8,631	12.5%	\$7,500	\$ 8,893	13.8%	\$8,280	\$ 9,853
2017	61,950	12.2	7,558	8,749	12.5	7,744	9,015	13.8	8,549	9,988
2018	63,963	12.2	7,803	8,859	12.5	7,995	9,129	13.8	8,827	10,114
2019	66,042	12.2	8,057	8,960	12.5	8,255	9,233	13.8	9,114	10,230
2020	68,188	12.2	8,319	9,051	12.5	8,524	9,327	13.8	9,410	10,334
2021	70,404	12.2	8,589	9,130	12.5	8,801	9,409	13.8	9,716	10,425
2022	72,692	12.2	8,868	9,197	12.5	9,087	9,478	13.8	10,031	10,501
2023	75,054	12.2	9,157	9,249	12.5	9,382	9,532	13.8	10,357	10,560
2024	77,493	12.2	9,454	9,285	12.5	9,687	9,569	13.8	10,694	10,601
2025	80,012	12.2	9,761	9,303	12.5	10,002	9,587	13.8	11,042	10,621

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.

City of Ellsinore - Police

Employer Contribution Rates (Non-Contributory Plan - 3 Year FAS)  
(0% member contributions are additional)

Regular Retirement Eligibility

Valuation Year	Estimated Projected Payroll	L-1 Benefit Program			L-3 Benefit Program			LT-4(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2016	\$ 60,000	7.6%	\$4,560	\$ 5,116	9.3%	\$5,580	\$ 6,408	8.9%	\$5,340	\$ 6,192
2017	61,950	7.6	4,708	5,186	9.3	5,761	6,496	8.9	5,514	6,277
2018	63,963	7.6	4,861	5,251	9.3	5,949	6,578	8.9	5,693	6,356
2019	66,042	7.6	5,019	5,311	9.3	6,142	6,653	8.9	5,878	6,429
2020	68,188	7.6	5,182	5,365	9.3	6,341	6,721	8.9	6,069	6,494
2021	70,404	7.6	5,351	5,412	9.3	6,548	6,780	8.9	6,266	6,551
2022	72,692	7.6	5,525	5,451	9.3	6,760	6,829	8.9	6,470	6,599
2023	75,054	7.6	5,704	5,482	9.3	6,980	6,868	8.9	6,680	6,636
2024	77,493	7.6	5,889	5,503	9.3	7,207	6,895	8.9	6,897	6,662
2025	80,012	7.6	6,081	5,514	9.3	7,441	6,908	8.9	7,121	6,675

Valuation Year	Estimated Projected Payroll	LT-5(65) Benefit Program			L-7 Benefit Program			LT-8(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2016	\$ 60,000	10.3%	\$6,180	\$ 7,205	10.9%	\$6,540	\$ 7,689	11.6%	\$6,960	\$ 8,233
2017	61,950	10.3	6,381	7,304	10.9	6,753	7,794	11.6	7,186	8,346
2018	63,963	10.3	6,588	7,396	10.9	6,972	7,892	11.6	7,420	8,451
2019	66,042	10.3	6,802	7,481	10.9	7,199	7,982	11.6	7,661	8,548
2020	68,188	10.3	7,023	7,557	10.9	7,432	8,063	11.6	7,910	8,635
2021	70,404	10.3	7,252	7,623	10.9	7,674	8,134	11.6	8,167	8,711
2022	72,692	10.3	7,487	7,679	10.9	7,923	8,193	11.6	8,432	8,774
2023	75,054	10.3	7,731	7,722	10.9	8,181	8,239	11.6	8,706	8,824
2024	77,493	10.3	7,982	7,752	10.9	8,447	8,271	11.6	8,989	8,858
2025	80,012	10.3	8,241	7,767	10.9	8,721	8,287	11.6	9,281	8,875

Valuation Year	Estimated Projected Payroll	L-12 Benefit Program			LT-14(65) Benefit Program			L-6 Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2016	\$ 60,000	12.6%	\$7,560	\$ 8,966	13.0%	\$7,800	\$ 9,229	14.3%	\$8,580	\$ 10,247
2017	61,950	12.6	7,806	9,089	13.0	8,054	9,355	14.3	8,859	10,387
2018	63,963	12.6	8,059	9,204	13.0	8,315	9,473	14.3	9,147	10,518
2019	66,042	12.6	8,321	9,309	13.0	8,585	9,581	14.3	9,444	10,638
2020	68,188	12.6	8,592	9,404	13.0	8,864	9,678	14.3	9,751	10,746
2021	70,404	12.6	8,871	9,487	13.0	9,153	9,763	14.3	10,068	10,840
2022	72,692	12.6	9,159	9,556	13.0	9,450	9,834	14.3	10,395	10,919
2023	75,054	12.6	9,457	9,610	13.0	9,757	9,890	14.3	10,733	10,981
2024	77,493	12.6	9,764	9,647	13.0	10,074	9,928	14.3	11,081	11,023
2025	80,012	12.6	10,082	9,665	13.0	10,402	9,947	14.3	11,442	11,044

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.

City of Ellsinore - Police

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

Rule of 80 Retirement Eligibility

Valuation Year	Estimated Projected Payroll	L-1 Benefit Program			L-3 Benefit Program			LT-4(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	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
2016	\$ 60,000	4.0%	\$2,400	\$ 3,768	5.5%	\$3,300	\$ 5,067	5.8%	\$3,480	\$ 5,181
2017	61,950	4.0	2,478	3,820	5.5	3,407	5,136	5.8	3,593	5,252
2018	63,963	4.0	2,559	3,868	5.5	3,518	5,201	5.8	3,710	5,318
2019	66,042	4.0	2,642	3,912	5.5	3,632	5,260	5.8	3,830	5,379
2020	68,188	4.0	2,728	3,952	5.5	3,750	5,313	5.8	3,955	5,434
2021	70,404	4.0	2,816	3,987	5.5	3,872	5,360	5.8	4,083	5,482
2022	72,692	4.0	2,908	4,016	5.5	3,998	5,399	5.8	4,216	5,522
2023	75,054	4.0	3,002	4,039	5.5	4,128	5,430	5.8	4,353	5,553
2024	77,493	4.0	3,100	4,055	5.5	4,262	5,451	5.8	4,495	5,574
2025	80,012	4.0	3,200	4,063	5.5	4,401	5,461	5.8	4,641	5,585

Valuation Year	Estimated Projected Payroll	LT-5(65) Benefit Program			L-7 Benefit Program			LT-8(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2016	\$ 60,000	6.9%	\$4,140	\$ 6,131	7.2%	\$4,320	\$ 6,306	8.1%	\$4,860	\$ 7,012
2017	61,950	6.9	4,275	6,215	7.2	4,460	6,392	8.1	5,018	7,108
2018	63,963	6.9	4,413	6,293	7.2	4,605	6,473	8.1	5,181	7,198
2019	66,042	6.9	4,557	6,365	7.2	4,755	6,547	8.1	5,349	7,280
2020	68,188	6.9	4,705	6,430	7.2	4,910	6,614	8.1	5,523	7,354
2021	70,404	6.9	4,858	6,486	7.2	5,069	6,672	8.1	5,703	7,419
2022	72,692	6.9	5,016	6,533	7.2	5,234	6,721	8.1	5,888	7,473
2023	75,054	6.9	5,179	6,570	7.2	5,404	6,759	8.1	6,079	7,515
2024	77,493	6.9	5,347	6,595	7.2	5,579	6,785	8.1	6,277	7,544
2025	80,012	6.9	5,521	6,608	7.2	5,761	6,798	8.1	6,481	7,558

Valuation Year	Estimated Projected Payroll	L-12 Benefit Program			LT-14(65) Benefit Program			L-6 Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2016	\$ 60,000	8.9%	\$5,340	\$ 7,505	9.3%	\$5,580	\$ 7,870	10.6%	\$6,360	\$ 8,723
2017	61,950	8.9	5,514	7,608	9.3	5,761	7,978	10.6	6,567	8,843
2018	63,963	8.9	5,693	7,704	9.3	5,949	8,079	10.6	6,780	8,955
2019	66,042	8.9	5,878	7,792	9.3	6,142	8,171	10.6	7,000	9,057
2020	68,188	8.9	6,069	7,871	9.3	6,341	8,254	10.6	7,228	9,149
2021	70,404	8.9	6,266	7,940	9.3	6,548	8,326	10.6	7,463	9,229
2022	72,692	8.9	6,470	7,998	9.3	6,760	8,387	10.6	7,705	9,296
2023	75,054	8.9	6,680	8,043	9.3	6,980	8,434	10.6	7,956	9,349
2024	77,493	8.9	6,897	8,074	9.3	7,207	8,467	10.6	8,214	9,385
2025	80,012	8.9	7,121	8,089	9.3	7,441	8,483	10.6	8,481	9,403

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.

City of Ellsinore - Police

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

Rule of 80 Retirement Eligibility

Valuation Year	Estimated Projected Payroll	L-1 Benefit Program			L-3 Benefit Program			LT-4(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	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
2016	\$ 60,000	4.2%	\$2,520	\$ 3,983	5.8%	\$3,480	\$ 5,330	6.0%	\$3,600	\$ 5,447
2017	61,950	4.2	2,602	4,038	5.8	3,593	5,403	6.0	3,717	5,522
2018	63,963	4.2	2,686	4,089	5.8	3,710	5,471	6.0	3,838	5,592
2019	66,042	4.2	2,774	4,136	5.8	3,830	5,534	6.0	3,963	5,656
2020	68,188	4.2	2,864	4,178	5.8	3,955	5,590	6.0	4,091	5,713
2021	70,404	4.2	2,957	4,215	5.8	4,083	5,639	6.0	4,224	5,763
2022	72,692	4.2	3,053	4,246	5.8	4,216	5,680	6.0	4,362	5,805
2023	75,054	4.2	3,152	4,270	5.8	4,353	5,712	6.0	4,503	5,838
2024	77,493	4.2	3,255	4,287	5.8	4,495	5,734	6.0	4,650	5,861
2025	80,012	4.2	3,361	4,295	5.8	4,641	5,745	6.0	4,801	5,872

Valuation Year	Estimated Projected Payroll	LT-5(65) Benefit Program			L-7 Benefit Program			LT-8(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2016	\$ 60,000	7.2%	\$4,320	\$ 6,427	7.6%	\$4,560	\$ 6,581	8.5%	\$5,100	\$ 7,316
2017	61,950	7.2	4,460	6,515	7.6	4,708	6,671	8.5	5,266	7,416
2018	63,963	7.2	4,605	6,597	7.6	4,861	6,755	8.5	5,437	7,510
2019	66,042	7.2	4,755	6,672	7.6	5,019	6,832	8.5	5,614	7,596
2020	68,188	7.2	4,910	6,740	7.6	5,182	6,901	8.5	5,796	7,673
2021	70,404	7.2	5,069	6,799	7.6	5,351	6,962	8.5	5,984	7,740
2022	72,692	7.2	5,234	6,849	7.6	5,525	7,013	8.5	6,179	7,796
2023	75,054	7.2	5,404	6,888	7.6	5,704	7,053	8.5	6,380	7,840
2024	77,493	7.2	5,579	6,915	7.6	5,889	7,080	8.5	6,587	7,870
2025	80,012	7.2	5,761	6,928	7.6	6,081	7,094	8.5	6,801	7,885

Valuation Year	Estimated Projected Payroll	L-12 Benefit Program			LT-14(65) Benefit Program			L-6 Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2016	\$ 60,000	9.3%	\$5,580	\$ 7,866	9.8%	\$5,880	\$ 8,234	11.1%	\$6,660	\$ 9,115
2017	61,950	9.3	5,761	7,974	9.8	6,071	8,347	11.1	6,876	9,240
2018	63,963	9.3	5,949	8,075	9.8	6,268	8,452	11.1	7,100	9,357
2019	66,042	9.3	6,142	8,167	9.8	6,472	8,549	11.1	7,331	9,464
2020	68,188	9.3	6,341	8,250	9.8	6,682	8,636	11.1	7,569	9,560
2021	70,404	9.3	6,548	8,322	9.8	6,900	8,712	11.1	7,815	9,644
2022	72,692	9.3	6,760	8,383	9.8	7,124	8,775	11.1	8,069	9,714
2023	75,054	9.3	6,980	8,430	9.8	7,355	8,825	11.1	8,331	9,769
2024	77,493	9.3	7,207	8,463	9.8	7,594	8,859	11.1	8,602	9,807
2025	80,012	9.3	7,441	8,479	9.8	7,841	8,876	11.1	8,881	9,826

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.

City of Ellsinore - Police

Employer Contribution Rates (Non-Contributory Plan - 5 Year FAS)  
(0% member contributions are additional)

Rule of 80 Retirement Eligibility

Valuation Year	Estimated Projected Payroll	L-1 Benefit Program			L-3 Benefit Program			LT-4(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2016	\$ 60,000	7.7%	\$4,620	\$ 5,176	9.4%	\$5,640	\$ 6,463	9.5%	\$5,700	\$ 6,575
2017	61,950	7.7	4,770	5,247	9.4	5,823	6,552	9.5	5,885	6,665
2018	63,963	7.7	4,925	5,313	9.4	6,013	6,635	9.5	6,076	6,749
2019	66,042	7.7	5,085	5,374	9.4	6,208	6,711	9.5	6,274	6,826
2020	68,188	7.7	5,250	5,429	9.4	6,410	6,779	9.5	6,478	6,895
2021	70,404	7.7	5,421	5,477	9.4	6,618	6,839	9.5	6,688	6,956
2022	72,692	7.7	5,597	5,517	9.4	6,833	6,889	9.5	6,906	7,007
2023	75,054	7.7	5,779	5,548	9.4	7,055	6,928	9.5	7,130	7,047
2024	77,493	7.7	5,967	5,569	9.4	7,284	6,955	9.5	7,362	7,074
2025	80,012	7.7	6,161	5,580	9.4	7,521	6,968	9.5	7,601	7,088

Valuation Year	Estimated Projected Payroll	LT-5(65) Benefit Program			L-7 Benefit Program			LT-8(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2016	\$ 60,000	10.7%	\$6,420	\$ 7,530	11.1%	\$6,660	\$ 7,693	12.0%	\$7,200	\$ 8,464
2017	61,950	10.7	6,629	7,633	11.1	6,876	7,798	12.0	7,434	8,580
2018	63,963	10.7	6,844	7,729	11.1	7,100	7,896	12.0	7,676	8,688
2019	66,042	10.7	7,066	7,817	11.1	7,331	7,986	12.0	7,925	8,787
2020	68,188	10.7	7,296	7,896	11.1	7,569	8,067	12.0	8,183	8,876
2021	70,404	10.7	7,533	7,965	11.1	7,815	8,138	12.0	8,448	8,954
2022	72,692	10.7	7,778	8,023	11.1	8,069	8,197	12.0	8,723	9,019
2023	75,054	10.7	8,031	8,068	11.1	8,331	8,243	12.0	9,006	9,070
2024	77,493	10.7	8,292	8,099	11.1	8,602	8,275	12.0	9,299	9,105
2025	80,012	10.7	8,561	8,114	11.1	8,881	8,291	12.0	9,601	9,122

Valuation Year	Estimated Projected Payroll	L-12 Benefit Program			LT-14(65) Benefit Program			L-6 Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2016	\$ 60,000	12.8%	\$7,680	\$ 9,062	13.2%	\$7,920	\$ 9,411	14.5%	\$8,700	\$ 10,325
2017	61,950	12.8	7,930	9,186	13.2	8,177	9,540	14.5	8,983	10,466
2018	63,963	12.8	8,187	9,302	13.2	8,443	9,660	14.5	9,275	10,598
2019	66,042	12.8	8,453	9,408	13.2	8,718	9,770	14.5	9,576	10,719
2020	68,188	12.8	8,728	9,504	13.2	9,001	9,869	14.5	9,887	10,828
2021	70,404	12.8	9,012	9,587	13.2	9,293	9,956	14.5	10,209	10,923
2022	72,692	12.8	9,305	9,657	13.2	9,595	10,029	14.5	10,540	11,003
2023	75,054	12.8	9,607	9,712	13.2	9,907	10,086	14.5	10,883	11,065
2024	77,493	12.8	9,919	9,750	13.2	10,229	10,125	14.5	11,236	11,108
2025	80,012	12.8	10,242	9,769	13.2	10,562	10,144	14.5	11,602	11,129

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.

City of Ellsinore - Police

Employer Contribution Rates (Non-Contributory Plan - 3 Year FAS)  
(0% member contributions are additional)

Rule of 80 Retirement Eligibility

Valuation Year	Estimated Projected Payroll	L-1 Benefit Program			L-3 Benefit Program			LT-4(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	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
2016	\$ 60,000	7.9%	\$4,740	\$ 5,356	9.7%	\$5,820	\$ 6,702	9.7%	\$5,820	\$ 6,816
2017	61,950	7.9	4,894	5,429	9.7	6,009	6,794	9.7	6,009	6,909
2018	63,963	7.9	5,053	5,497	9.7	6,204	6,880	9.7	6,204	6,996
2019	66,042	7.9	5,217	5,560	9.7	6,406	6,959	9.7	6,406	7,076
2020	68,188	7.9	5,387	5,616	9.7	6,614	7,030	9.7	6,614	7,148
2021	70,404	7.9	5,562	5,665	9.7	6,829	7,092	9.7	6,829	7,211
2022	72,692	7.9	5,743	5,706	9.7	7,051	7,144	9.7	7,051	7,264
2023	75,054	7.9	5,929	5,738	9.7	7,280	7,184	9.7	7,280	7,305
2024	77,493	7.9	6,122	5,760	9.7	7,517	7,212	9.7	7,517	7,333
2025	80,012	7.9	6,321	5,771	9.7	7,761	7,226	9.7	7,761	7,347

Valuation Year	Estimated Projected Payroll	LT-5(65) Benefit Program			L-7 Benefit Program			LT-8(65) Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2016	\$ 60,000	11.1%	\$6,660	\$ 7,801	11.5%	\$6,900	\$ 8,068	12.4%	\$7,440	\$ 8,789
2017	61,950	11.1	6,876	7,908	11.5	7,124	8,179	12.4	7,682	8,909
2018	63,963	11.1	7,100	8,008	11.5	7,356	8,282	12.4	7,931	9,021
2019	66,042	11.1	7,331	8,100	11.5	7,595	8,377	12.4	8,189	9,124
2020	68,188	11.1	7,569	8,182	11.5	7,842	8,462	12.4	8,455	9,217
2021	70,404	11.1	7,815	8,254	11.5	8,096	8,536	12.4	8,730	9,298
2022	72,692	11.1	8,069	8,314	11.5	8,360	8,598	12.4	9,014	9,366
2023	75,054	11.1	8,331	8,361	11.5	8,631	8,647	12.4	9,307	9,419
2024	77,493	11.1	8,602	8,393	11.5	8,912	8,680	12.4	9,609	9,455
2025	80,012	11.1	8,881	8,409	11.5	9,201	8,697	12.4	9,921	9,473

Valuation Year	Estimated Projected Payroll	L-12 Benefit Program			LT-14(65) Benefit Program			L-6 Benefit Program		
		Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial	Estimated Employer Contribution		Unfunded Actuarial
		As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability	As a % of Payroll	Annual Dollars	Accrued Liability
2016	\$ 60,000	13.2%	\$7,920	\$ 9,401	13.7%	\$8,220	\$ 9,761	15.0%	\$9,000	\$ 10,743
2017	61,950	13.2	8,177	9,530	13.7	8,487	9,895	15.0	9,293	10,890
2018	63,963	13.2	8,443	9,650	13.7	8,763	10,020	15.0	9,594	11,027
2019	66,042	13.2	8,718	9,760	13.7	9,048	10,135	15.0	9,906	11,153
2020	68,188	13.2	9,001	9,859	13.7	9,342	10,238	15.0	10,228	11,266
2021	70,404	13.2	9,293	9,946	13.7	9,645	10,328	15.0	10,561	11,365
2022	72,692	13.2	9,595	10,018	13.7	9,959	10,403	15.0	10,904	11,448
2023	75,054	13.2	9,907	10,075	13.7	10,282	10,462	15.0	11,258	11,513
2024	77,493	13.2	10,229	10,114	13.7	10,617	10,502	15.0	11,624	11,558
2025	80,012	13.2	10,562	10,133	13.7	10,962	10,522	15.0	12,002	11,580

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.