



# Pleasant Hill Fire Protection District

Supplemental Actuarial Valuation of Alternate  
LAGERS Benefits  
February 28, 2018



# Table of Contents

|                                                 | Page |
|-------------------------------------------------|------|
| Actuary's Certification Letter.....             | 1    |
| Alternate Plan Employer Contribution Rates..... | 3    |
| Appendix I                                      |      |
| Summary of Financial Assumptions                |      |
| Appendix II                                     |      |
| Summary of LAGERS Provisions                    |      |
| Appendix III                                    |      |
| Benefit Illustrations                           |      |

November 7, 2018

Pleasant Hill Fire Protection District  
Pleasant Hill, Missouri

Ladies and Gentlemen:

Submitted in this report are the results of an actuarial valuation prepared to determine the employer contribution rates required to support, for your employees, certain 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 changes in LAGERS benefits by a political subdivision (Sections 105.660 - 105.685 RSMo).

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

The contribution requirement to pay for benefits likely to result from service rendered by your employees prior to the valuation date, the liability for which is not covered by present employer account balances, is described in this report as the prior service cost. The prior service cost is the rate of contribution designed to pay for any unfunded actuarial accrued liability.

Section 70.730 of the Revised Statutes of Missouri requires participating employers to contribute the current cost, disability cost, and prior service cost for the benefit plan in effect. These contributions are mandatory.

The actuarial assumptions and methods used to determine the stated costs are described in Appendix I of this report. In our opinion, they do produce results which, in the aggregate, are reasonable. Additional miscellaneous and technical assumptions as well as disclosures required by the actuarial standards of practice may be found in the LAGERS Compiled Annual Actuarial Valuation report as of February 28, 2018. Annual actuarial valuation results for the political subdivision and information pertaining to those results may be found in the political subdivision's annual actuarial valuation report as of February 28, 2018.

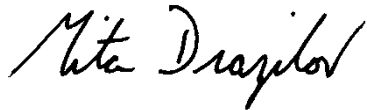
The computed contribution rates will permit the System to continue to operate in accordance with the actuarial principles of level cost financing and the state law which governs LAGERS. Summary provisions of the law as well as benefit illustrations can be found in Appendices II and III.

In accordance with 105.675 RSMo, 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 adopt an alternate benefit plan. 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. The statement of cost must also be provided to the Joint Committee on Public Employee Retirement. The statement can be mailed to the State Capitol, Room 219-A, Jefferson City, MO 65101 or e-mailed to [JCPER@senate.mo.gov](mailto:JCPER@senate.mo.gov).

The valuation was based on the same data as was used in your February 28, 2018 annual actuarial valuation. If you have any questions concerning this report or LAGERS in general, please contact the LAGERS office in Jefferson City.

Mita D. Drazilov is a Member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained 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, FCA, MAAA



## Alternate Plan Provisions Affecting Employer Contribution Rates

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

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

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

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

In total this allows for 72 different combinations of benefit plans, giving employers considerable latitude in designing the retirement program that 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 II of this report.

# Pleasant Hill Fire Protection District

## Computed Employer Contribution Rates - General Employees

### As of February 28, 2018

| <u>Benefit Plans</u>    | <u>Present</u>   | <u>Alternate</u> |
|-------------------------|------------------|------------------|
| # Benefit Program:      | L-3              | L-6              |
| Final Average Salary:   | 3 year           | 3 year           |
| Member Contributions:   | Non-Contributory | Non-Contributory |
| Retirement Eligibility: | Regular          | Regular          |

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| <u>Present Plan</u>                                             | <u>Rates</u>            |
|-----------------------------------------------------------------|-------------------------|
| Current Service Cost                                            | 10.9%                   |
| Disability Cost                                                 | 0.3                     |
| Prior Service Cost                                              | <u>(3.0)</u>            |
| Total                                                           | 8.2%                    |
| <br><u>Alternate Plan</u>                                       |                         |
| Current Service Cost                                            | 17.2%                   |
| Disability Cost                                                 | 0.5                     |
| Prior Service Cost*                                             | <u>1.1</u>              |
| Total                                                           | 18.8%                   |
| <br><b>Increase In Contribution<br/>Rate For Alternate Plan</b> | <br><u><b>10.6%</b></u> |

Employer contribution rates shown above are for the fiscal year beginning in 2019. If the alternate plan is adopted prior to the fiscal year beginning in 2019, 10.6% would be added to the employer contribution rate currently in effect.

# Change in provisions from present plan.

\* Adoption of the alternate plan would increase the actuarial accrued liability by \$20,470 which was amortized over a 20 year period to compute the increase in the Prior Service Cost.

# Pleasant Hill Fire Protection District

## Projected Estimated Employer Contribution Rates - General Employees

### As of February 28, 2018

| Valuation<br>Date<br>Feb. 28 | Estimated<br>Projected<br>Payroll | Present Plan                       |                   |                         | Alternate Plan                     |                   |                         | Change Due to Proposed Provisions  |                   |                         |
|------------------------------|-----------------------------------|------------------------------------|-------------------|-------------------------|------------------------------------|-------------------|-------------------------|------------------------------------|-------------------|-------------------------|
|                              |                                   | Estimated Employer<br>Contribution |                   | Estimated<br>Difference | Estimated Employer<br>Contribution |                   | Estimated<br>Difference | Estimated Employer<br>Contribution |                   | Estimated<br>Difference |
|                              |                                   | As a % of<br>Payroll               | Annual<br>Dollars | Between<br>AAL and AVA  | As a % of<br>Payroll               | Annual<br>Dollars | Between<br>AAL and AVA  | As a % of<br>Payroll               | Annual<br>Dollars | Between<br>AAL and AVA  |
| 2018                         | \$36,232                          | 8.2%                               | \$2,971           | \$(14,805)              | 18.8%                              | \$6,812           | \$5,665                 | 10.6%                              | \$3,841           | \$20,470                |
| 2019                         | 37,410                            | 8.2                                | 3,068             | (14,758)                | 18.8                               | 7,033             | 5,658                   | 10.6                               | 3,965             | 20,416                  |
| 2020                         | 38,626                            | 8.2                                | 3,167             | (14,672)                | 18.8                               | 7,262             | 5,637                   | 10.6                               | 4,095             | 20,309                  |
| 2021                         | 39,881                            | 8.2                                | 3,270             | (14,542)                | 18.8                               | 7,498             | 5,599                   | 10.6                               | 4,228             | 20,141                  |
| 2022                         | 41,177                            | 8.2                                | 3,377             | (14,363)                | 18.8                               | 7,741             | 5,546                   | 10.6                               | 4,364             | 19,909                  |
| 2023                         | 42,515                            | 8.2                                | 3,486             | (14,131)                | 18.8                               | 7,993             | 5,474                   | 10.6                               | 4,507             | 19,605                  |
| 2024                         | 43,897                            | 8.4                                | 3,687             | (13,841)                | 19.0                               | 8,340             | 5,380                   | 10.6                               | 4,653             | 19,221                  |
| 2025                         | 45,324                            | 8.5                                | 3,853             | (13,559)                | 19.1                               | 8,657             | 5,193                   | 10.6                               | 4,804             | 18,752                  |
| 2026                         | 46,797                            | 8.7                                | 4,071             | (13,285)                | 19.3                               | 9,032             | 4,902                   | 10.6                               | 4,961             | 18,187                  |
| 2027                         | 48,318                            | 8.8                                | 4,252             | (13,019)                | 19.4                               | 9,374             | 4,501                   | 10.6                               | 5,122             | 17,520                  |

AAL = Actuarial Accrued Liability

AVA = Actuarial Value of Assets

Notes regarding the above projections:

- 1) The purpose of the above projections is to comply with the requirements of Section 105.665 of the Revised Statutes of Missouri (RSMo). The projection results may not be applicable for other purposes.
- 2) For purposes of the above projections, it was assumed that all actuarial assumptions would be realized. In particular, it was assumed that the actuarial value of assets would earn 7.25% in each year.
- 3) Estimated projected payroll is based upon the valuation payroll, increased each future year by 3.25%.
- 4) 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.
- 5) Differences between fiscal end dates of the employer and the actuarial valuation date of February 28<sup>th</sup> have not been incorporated in the above results.
- 6) The actual employer contribution rates for future valuation dates will be based upon actual data as of the future valuation date.

Other disclosures required by Section 105.665 of the Revised Statutes of Missouri (RSMo):

- 1) As of February 28, 2018, the actuarial value of assets is \$48,924; the estimated market value of assets is \$50,909; the actuarial accrued liability is \$34,119; and the funded ratio is 143.4%. These results are based on the assets and liabilities associated with the Employer Accumulation Fund and the Member Deposit Fund for this division.
- 2) Under Section 70.730 of the Revised Statutes of Missouri, the computed employer contribution rate shall not exceed the contribution rate for the immediately preceding fiscal year by more than one percent (not including the effects of any benefit changes). As of February 28, 2018, there is no difference between the capped and uncapped employer contribution rate.

# Pleasant Hill Fire Protection District

## Computed Employer Contribution Rates - Fire Employees

### As of February 28, 2018

| <u>Benefit Plans</u>    | <u>Present</u>   | <u>Alternate</u> |
|-------------------------|------------------|------------------|
| # Benefit Program:      | L-3              | L-6              |
| Final Average Salary:   | 3 year           | 3 year           |
| Member Contributions:   | Non-Contributory | Non-Contributory |
| Retirement Eligibility: | Regular          | Regular          |

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| <u>Present Plan</u>                                         | <u>Rates</u>        |
|-------------------------------------------------------------|---------------------|
| Current Service Cost                                        | 9.9%                |
| Disability Cost                                             | 0.7                 |
| Prior Service Cost                                          | <u>0.4</u>          |
| Total                                                       | 11.0%               |
| <br>                                                        |                     |
| <u>Alternate Plan</u>                                       |                     |
| Current Service Cost                                        | 15.5%               |
| Disability Cost                                             | 1.0                 |
| Prior Service Cost*                                         | <u>4.7</u>          |
| Total                                                       | 21.2%               |
| <br>                                                        |                     |
| <b>Increase In Contribution<br/>Rate For Alternate Plan</b> | <u><u>10.2%</u></u> |

Employer contribution rates shown above are for the fiscal year beginning in 2019. If the alternate plan is adopted prior to the fiscal year beginning in 2019, 10.2% would be added to the employer contribution rate currently in effect.

# Change in provisions from present plan.

\* Adoption of the alternate plan would increase the actuarial accrued liability by \$321,684 which was amortized over a 20 year period to compute the increase in the Prior Service Cost.



# Pleasant Hill Fire Protection District

## Projected Estimated Employer Contribution Rates - Fire Employees

### As of February 28, 2018

| Valuation<br>Date<br>Feb. 28 | Estimated<br>Projected<br>Payroll | Present Plan                       |                   |                         | Alternate Plan                     |                   |                         | Change Due to Proposed Provisions  |                   |                         |
|------------------------------|-----------------------------------|------------------------------------|-------------------|-------------------------|------------------------------------|-------------------|-------------------------|------------------------------------|-------------------|-------------------------|
|                              |                                   | Estimated Employer<br>Contribution |                   | Estimated<br>Difference | Estimated Employer<br>Contribution |                   | Estimated<br>Difference | Estimated Employer<br>Contribution |                   | Estimated<br>Difference |
|                              |                                   | As a % of<br>Payroll               | Annual<br>Dollars | Between<br>AAL and AVA  | As a % of<br>Payroll               | Annual<br>Dollars | Between<br>AAL and AVA  | As a % of<br>Payroll               | Annual<br>Dollars | Between<br>AAL and AVA  |
| 2018                         | \$547,166                         | 11.0%                              | \$60,188          | \$34,565                | 21.2%                              | \$115,999         | \$356,249               | 10.2%                              | \$55,811          | \$321,684               |
| 2019                         | 564,949                           | 11.0                               | 62,144            | 35,085                  | 21.2                               | 119,769           | 355,923                 | 10.2                               | 57,625            | 320,838                 |
| 2020                         | 583,310                           | 11.0                               | 64,164            | 35,578                  | 21.2                               | 123,662           | 354,724                 | 10.2                               | 59,498            | 319,146                 |
| 2021                         | 602,268                           | 11.0                               | 66,249            | 36,040                  | 21.2                               | 127,681           | 352,560                 | 10.2                               | 61,432            | 316,520                 |
| 2022                         | 621,842                           | 11.0                               | 68,403            | 36,467                  | 21.2                               | 131,831           | 349,333                 | 10.2                               | 63,428            | 312,866                 |
| 2023                         | 642,052                           | 11.0                               | 70,626            | 36,854                  | 21.2                               | 136,115           | 344,937                 | 10.2                               | 65,489            | 308,083                 |
| 2024                         | 662,919                           | 11.0                               | 72,921            | 37,195                  | 21.2                               | 140,539           | 339,256                 | 10.2                               | 67,618            | 302,061                 |
| 2025                         | 684,464                           | 11.0                               | 75,291            | 37,362                  | 21.2                               | 145,106           | 332,042                 | 10.2                               | 69,815            | 294,680                 |
| 2026                         | 706,709                           | 11.0                               | 77,738            | 37,337                  | 21.2                               | 149,822           | 323,149                 | 10.2                               | 72,084            | 285,812                 |
| 2027                         | 729,677                           | 11.0                               | 80,264            | 37,101                  | 21.2                               | 154,692           | 312,420                 | 10.2                               | 74,428            | 275,319                 |

AAL = Actuarial Accrued Liability

AVA = Actuarial Value of Assets

Notes regarding the above projections:

- 1) The purpose of the above projections is to comply with the requirements of Section 105.665 of the Revised Statutes of Missouri (RSMo). The projection results may not be applicable for other purposes.
- 2) For purposes of the above projections, it was assumed that all actuarial assumptions would be realized. In particular, it was assumed that the actuarial value of assets would earn 7.25% in each year.
- 3) Estimated projected payroll is based upon the valuation payroll, increased each future year by 3.25%.
- 4) 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.
- 5) Differences between fiscal end dates of the employer and the actuarial valuation date of February 28<sup>th</sup> have not been incorporated in the above results.
- 6) The actual employer contribution rates for future valuation dates will be based upon actual data as of the future valuation date.

Other disclosures required by Section 105.665 of the Revised Statutes of Missouri (RSMo):

- 1) As of February 28, 2018, the actuarial value of assets is \$617,059; the estimated market value of assets is \$642,101; the actuarial accrued liability is \$651,624; and the funded ratio is 94.7%. These results are based on the assets and liabilities associated with the Employer Accumulation Fund and the Member Deposit Fund for this division.
- 2) Under Section 70.730 of the Revised Statutes of Missouri, the computed employer contribution rate shall not exceed the contribution rate for the immediately preceding fiscal year by more than one percent (not including the effects of any benefit changes). As of February 28, 2018, there is no difference between the capped and uncapped employer contribution rate.

# Pleasant Hill Fire Protection District

## Computed Employer Contribution Rates - General Employees

### As of February 28, 2018

| <u>Benefit Plans</u>    | <u>Present</u>   | <u>Alternate</u> |
|-------------------------|------------------|------------------|
| # Benefit Program:      | L-3              | L-6              |
| Final Average Salary:   | 3 year           | 3 year           |
| # Member Contributions: | Non-Contributory | Contributory     |
| Retirement Eligibility: | Regular          | Regular          |

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| <u>Present Plan</u>                                             | <u>Rates</u>           |
|-----------------------------------------------------------------|------------------------|
| Current Service Cost                                            | 10.9%                  |
| Disability Cost                                                 | 0.3                    |
| Prior Service Cost                                              | <u>(3.0)</u>           |
| Total                                                           | 8.2%                   |
| <br><u>Alternate Plan</u>                                       |                        |
| Current Service Cost                                            | 14.0%                  |
| Disability Cost                                                 | 0.5                    |
| Prior Service Cost*                                             | <u>1.0</u>             |
| Total                                                           | 15.5%                  |
| <br><b>Increase In Contribution<br/>Rate For Alternate Plan</b> | <br><u><b>7.3%</b></u> |

Employer contribution rates shown above are for the fiscal year beginning in 2019. If the alternate plan is adopted prior to the fiscal year beginning in 2019, 7.3% would be added to the employer contribution rate currently in effect.

# Change in provisions from present plan.

\* Adoption of the alternate plan would increase the actuarial accrued liability by \$19,766 which was amortized over a 20 year period to compute the increase in the Prior Service Cost.

# Pleasant Hill Fire Protection District

## Projected Estimated Employer Contribution Rates - General Employees

### As of February 28, 2018

| Valuation<br>Date<br>Feb. 28 | Estimated<br>Projected<br>Payroll | Present Plan                       |                   |                         | Alternate Plan                     |                   |                         | Change Due to Proposed Provisions  |                   |                         |
|------------------------------|-----------------------------------|------------------------------------|-------------------|-------------------------|------------------------------------|-------------------|-------------------------|------------------------------------|-------------------|-------------------------|
|                              |                                   | Estimated Employer<br>Contribution |                   | Estimated<br>Difference | Estimated Employer<br>Contribution |                   | Estimated<br>Difference | Estimated Employer<br>Contribution |                   | Estimated<br>Difference |
|                              |                                   | As a % of<br>Payroll               | Annual<br>Dollars | Between<br>AAL and AVA  | As a % of<br>Payroll               | Annual<br>Dollars | Between<br>AAL and AVA  | As a % of<br>Payroll               | Annual<br>Dollars | Between<br>AAL and AVA  |
| 2018                         | \$36,232                          | 8.2%                               | \$2,971           | \$(14,805)              | 15.5%                              | \$5,616           | \$4,961                 | 7.3%                               | \$2,645           | \$19,766                |
| 2019                         | 37,410                            | 8.2                                | 3,068             | (14,758)                | 15.5                               | 5,799             | 4,956                   | 7.3                                | 2,731             | 19,714                  |
| 2020                         | 38,626                            | 8.2                                | 3,167             | (14,672)                | 15.5                               | 5,987             | 4,938                   | 7.3                                | 2,820             | 19,610                  |
| 2021                         | 39,881                            | 8.2                                | 3,270             | (14,542)                | 15.5                               | 6,182             | 4,907                   | 7.3                                | 2,912             | 19,449                  |
| 2022                         | 41,177                            | 8.2                                | 3,377             | (14,363)                | 15.5                               | 6,382             | 4,861                   | 7.3                                | 3,005             | 19,224                  |
| 2023                         | 42,515                            | 8.2                                | 3,486             | (14,131)                | 15.5                               | 6,590             | 4,799                   | 7.3                                | 3,104             | 18,930                  |
| 2024                         | 43,897                            | 8.4                                | 3,687             | (13,841)                | 15.7                               | 6,892             | 4,719                   | 7.3                                | 3,205             | 18,560                  |
| 2025                         | 45,324                            | 8.5                                | 3,853             | (13,559)                | 15.8                               | 7,161             | 4,548                   | 7.3                                | 3,308             | 18,107                  |
| 2026                         | 46,797                            | 8.7                                | 4,071             | (13,285)                | 16.0                               | 7,488             | 4,277                   | 7.3                                | 3,417             | 17,562                  |
| 2027                         | 48,318                            | 8.8                                | 4,252             | (13,019)                | 16.1                               | 7,779             | 3,898                   | 7.3                                | 3,527             | 16,917                  |

AAL = Actuarial Accrued Liability

AVA = Actuarial Value of Assets

Notes regarding the above projections:

- 1) The purpose of the above projections is to comply with the requirements of Section 105.665 of the Revised Statutes of Missouri (RSMo). The projection results may not be applicable for other purposes.
- 2) For purposes of the above projections, it was assumed that all actuarial assumptions would be realized. In particular, it was assumed that the actuarial value of assets would earn 7.25% in each year.
- 3) Estimated projected payroll is based upon the valuation payroll, increased each future year by 3.25%.
- 4) 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.
- 5) Differences between fiscal end dates of the employer and the actuarial valuation date of February 28<sup>th</sup> have not been incorporated in the above results.
- 6) The actual employer contribution rates for future valuation dates will be based upon actual data as of the future valuation date.

Other disclosures required by Section 105.665 of the Revised Statutes of Missouri (RSMo):

- 1) As of February 28, 2018, the actuarial value of assets is \$48,924; the estimated market value of assets is \$50,909; the actuarial accrued liability is \$34,119; and the funded ratio is 143.4%. These results are based on the assets and liabilities associated with the Employer Accumulation Fund and the Member Deposit Fund for this division.
- 2) Under Section 70.730 of the Revised Statutes of Missouri, the computed employer contribution rate shall not exceed the contribution rate for the immediately preceding fiscal year by more than one percent (not including the effects of any benefit changes). As of February 28, 2018, there is no difference between the capped and uncapped employer contribution rate.

# Pleasant Hill Fire Protection District

## Computed Employer Contribution Rates - Fire Employees

### As of February 28, 2018

| <u>Benefit Plans</u>    | <u>Present</u>   | <u>Alternate</u> |
|-------------------------|------------------|------------------|
| # Benefit Program:      | L-3              | L-6              |
| Final Average Salary:   | 3 year           | 3 year           |
| # Member Contributions: | Non-Contributory | Contributory     |
| Retirement Eligibility: | Regular          | Regular          |

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| <u>Present Plan</u>                                         | <u>Rates</u>       |
|-------------------------------------------------------------|--------------------|
| Current Service Cost                                        | 9.9%               |
| Disability Cost                                             | 0.7                |
| Prior Service Cost                                          | <u>0.4</u>         |
| Total                                                       | 11.0%              |
| <br>                                                        |                    |
| <u>Alternate Plan</u>                                       |                    |
| Current Service Cost                                        | 11.8%              |
| Disability Cost                                             | 1.0                |
| Prior Service Cost*                                         | <u>4.5</u>         |
| Total                                                       | 17.3%              |
| <br>                                                        |                    |
| <b>Increase In Contribution<br/>Rate For Alternate Plan</b> | <u><b>6.3%</b></u> |

Employer contribution rates shown above are for the fiscal year beginning in 2019. If the alternate plan is adopted prior to the fiscal year beginning in 2019, 6.3% would be added to the employer contribution rate currently in effect.

# Change in provisions from present plan.

\* Adoption of the alternate plan would increase the actuarial accrued liability by \$311,525 which was amortized over a 20 year period to compute the increase in the Prior Service Cost.

# Pleasant Hill Fire Protection District

## Projected Estimated Employer Contribution Rates - Fire Employees

### As of February 28, 2018

| Valuation<br>Date<br>Feb. 28 | Estimated<br>Projected<br>Payroll | Present Plan                       |                   |                                                   | Alternate Plan                     |                   |                                                   | Change Due to Proposed Provisions  |                   |                                                   |
|------------------------------|-----------------------------------|------------------------------------|-------------------|---------------------------------------------------|------------------------------------|-------------------|---------------------------------------------------|------------------------------------|-------------------|---------------------------------------------------|
|                              |                                   | Estimated Employer<br>Contribution |                   | Estimated<br>Difference<br>Between<br>AAL and AVA | Estimated Employer<br>Contribution |                   | Estimated<br>Difference<br>Between<br>AAL and AVA | Estimated Employer<br>Contribution |                   | Estimated<br>Difference<br>Between<br>AAL and AVA |
|                              |                                   | As a % of<br>Payroll               | Annual<br>Dollars |                                                   | As a % of<br>Payroll               | Annual<br>Dollars |                                                   | As a % of<br>Payroll               | Annual<br>Dollars |                                                   |
| 2018                         | \$547,166                         | 11.0%                              | \$60,188          | \$34,565                                          | 17.3%                              | \$94,660          | \$346,090                                         | 6.3%                               | \$34,472          | \$311,525                                         |
| 2019                         | 564,949                           | 11.0                               | 62,144            | 35,085                                            | 17.3                               | 97,736            | 345,791                                           | 6.3                                | 35,592            | 310,706                                           |
| 2020                         | 583,310                           | 11.0                               | 64,164            | 35,578                                            | 17.3                               | 100,913           | 344,645                                           | 6.3                                | 36,749            | 309,067                                           |
| 2021                         | 602,268                           | 11.0                               | 66,249            | 36,040                                            | 17.3                               | 104,192           | 342,564                                           | 6.3                                | 37,943            | 306,524                                           |
| 2022                         | 621,842                           | 11.0                               | 68,403            | 36,467                                            | 17.3                               | 107,579           | 339,453                                           | 6.3                                | 39,176            | 302,986                                           |
| 2023                         | 642,052                           | 11.0                               | 70,626            | 36,854                                            | 17.3                               | 111,075           | 335,208                                           | 6.3                                | 40,449            | 298,354                                           |
| 2024                         | 662,919                           | 11.0                               | 72,921            | 37,195                                            | 17.3                               | 114,685           | 329,716                                           | 6.3                                | 41,764            | 292,521                                           |
| 2025                         | 684,464                           | 11.0                               | 75,291            | 37,362                                            | 17.3                               | 118,412           | 322,736                                           | 6.3                                | 43,121            | 285,374                                           |
| 2026                         | 706,709                           | 11.0                               | 77,738            | 37,337                                            | 17.3                               | 122,261           | 314,123                                           | 6.3                                | 44,523            | 276,786                                           |
| 2027                         | 729,677                           | 11.0                               | 80,264            | 37,101                                            | 17.3                               | 126,234           | 303,726                                           | 6.3                                | 45,970            | 266,625                                           |

AAL = Actuarial Accrued Liability

AVA = Actuarial Value of Assets

Notes regarding the above projections:

- 1) The purpose of the above projections is to comply with the requirements of Section 105.665 of the Revised Statutes of Missouri (RSMo). The projection results may not be applicable for other purposes.
- 2) For purposes of the above projections, it was assumed that all actuarial assumptions would be realized. In particular, it was assumed that the actuarial value of assets would earn 7.25% in each year.
- 3) Estimated projected payroll is based upon the valuation payroll, increased each future year by 3.25%.
- 4) 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.
- 5) Differences between fiscal end dates of the employer and the actuarial valuation date of February 28<sup>th</sup> have not been incorporated in the above results.
- 6) The actual employer contribution rates for future valuation dates will be based upon actual data as of the future valuation date.

Other disclosures required by Section 105.665 of the Revised Statutes of Missouri (RSMo):

- 1) As of February 28, 2018, the actuarial value of assets is \$617,059; the estimated market value of assets is \$642,101; the actuarial accrued liability is \$651,624; and the funded ratio is 94.7%. These results are based on the assets and liabilities associated with the Employer Accumulation Fund and the Member Deposit Fund for this division.
- 2) Under Section 70.730 of the Revised Statutes of Missouri, the computed employer contribution rate shall not exceed the contribution rate for the immediately preceding fiscal year by more than one percent (not including the effects of any benefit changes). As of February 28, 2018, there is no difference between the capped and uncapped employer contribution rate.

## **APPENDIX I**

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### **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 and disability from service, together with individual pay increase assumptions, are shown in Schedule 1. Adopted 2016.
4. The probabilities of retirement with an age and service allowance are shown in Schedule 2. Adopted 2016.
5. Post-retirement cost of living allowances are assumed to be 2.50% per year. Adopted 2016.
6. Total active member payroll is assumed to increase 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.

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

|                |                     | Percent of Active Members<br>Separating Within Next Year |            |            |            |            |            |            |            |
|----------------|---------------------|----------------------------------------------------------|------------|------------|------------|------------|------------|------------|------------|
| Sample<br>Ages | Years of<br>Service | General Members                                          |            |            |            | Police     |            | Fire       |            |
|                |                     | Men                                                      |            | Women      |            | Disability | Withdrawal | Disability | Withdrawal |
|                |                     | Disability                                               | Withdrawal | Disability | Withdrawal |            |            |            |            |
| All            | 0                   |                                                          | 19.00%     |            | 22.00%     |            | 18.00%     |            | 10.00%     |
|                | 1                   |                                                          | 17.00      |            | 20.00      |            | 17.00      |            | 8.00       |
|                | 2                   |                                                          | 15.00      |            | 17.00      |            | 16.00      |            | 7.00       |
|                | 3                   |                                                          | 13.00      |            | 14.00      |            | 13.00      |            | 6.00       |
|                | 4                   |                                                          | 11.00      |            | 13.00      |            | 12.00      |            | 6.00       |
| 25             | 5 & Over            | 0.09%                                                    | 7.30       | 0.02%      | 10.80      | 0.10%      | 9.80       | 0.06%      | 5.00       |
| 30             |                     | 0.12                                                     | 6.50       | 0.03       | 8.90       | 0.11       | 7.80       | 0.10       | 4.00       |
| 35             |                     | 0.15                                                     | 5.00       | 0.06       | 7.40       | 0.16       | 6.10       | 0.23       | 2.80       |
| 40             |                     | 0.21                                                     | 3.70       | 0.10       | 5.70       | 0.22       | 4.40       | 0.35       | 2.20       |
| 45             |                     | 0.30                                                     | 3.00       | 0.16       | 4.20       | 0.34       | 3.20       | 0.56       | 1.80       |
| 50             |                     | 0.44                                                     | 2.40       | 0.24       | 3.30       | 0.53       | 1.80       | 0.85       | 1.00       |
| 55             |                     | 0.68                                                     | 1.80       | 0.34       | 2.50       | 0.88       | 1.00       | 1.31       | 0.50       |
| 60             |                     | 1.02                                                     | 1.00       | 0.48       | 1.20       |            | 0.00       |            | 0.00       |
| 65             |                     |                                                          | 0.00       |            | 0.00       |            | 0.00       |            | 0.00       |

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



## Schedule 2.

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

#### Early Retirement

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

#### Normal Retirement

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

## Schedule 2. (Continued)

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

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

## **APPENDIX II**

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### **SUMMARY OF LAGERS PROVISIONS**

# Missouri Local Government Employees Retirement System

## Brief Summary of LAGERS

### Benefits and Conditions Evaluated and/or Considered as of February 28, 2018

#### (Section References are to RSMo)

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

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

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

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

|                            |                                      |
|----------------------------|--------------------------------------|
| L-1 Benefit Program:       | 1.00% for life                       |
| L-3 Benefit Program:       | 1.25% for life                       |
| L-7 Benefit Program:       | 1.50% for life                       |
| L-9 Benefit Program:       | 1.60% 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-10(65) Benefit Program: | 1.60% for life, plus 0.40% 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  $\frac{1}{2}$  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 otherwise 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 III**

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### **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                     |                      | Estimated             | Estimated     |          |
|---------------------------|----------------------|-----------------------|---------------|----------|
| Average                   | LAGERS               | Social                | Monthly Total |          |
| Salary (FAS) <sup>1</sup> | BENEFIT <sup>3</sup> | Security <sup>2</sup> | \$            | % of FAS |
| 35 Years of Service:      |                      |                       |               |          |
| \$1,500                   | \$ 525               | \$ 889                | \$1,414       | 94%      |
| 2,000                     | 700                  | 1,032                 | 1,732         | 87%      |
| 2,500                     | 875                  | 1,175                 | 2,050         | 82%      |
| 3,000                     | 1,050                | 1,318                 | 2,368         | 79%      |
| 3,500                     | 1,225                | 1,462                 | 2,687         | 77%      |
| 4,000                     | 1,400                | 1,604                 | 3,004         | 75%      |
| 25 Years of Service:      |                      |                       |               |          |
| \$1,500                   | \$ 375               | \$ 889                | \$1,264       | 84%      |
| 2,000                     | 500                  | 1,032                 | 1,532         | 77%      |
| 2,500                     | 625                  | 1,175                 | 1,800         | 72%      |
| 3,000                     | 750                  | 1,318                 | 2,068         | 69%      |
| 3,500                     | 875                  | 1,462                 | 2,337         | 67%      |
| 4,000                     | 1,000                | 1,604                 | 2,604         | 65%      |
| 15 Years of Service:      |                      |                       |               |          |
| \$1,500                   | \$225                | \$ 889                | \$1,114       | 74%      |
| 2,000                     | 300                  | 1,032                 | 1,332         | 67%      |
| 2,500                     | 375                  | 1,175                 | 1,550         | 62%      |
| 3,000                     | 450                  | 1,318                 | 1,768         | 59%      |
| 3,500                     | 525                  | 1,462                 | 1,987         | 57%      |
| 4,000                     | 600                  | 1,604                 | 2,204         | 55%      |

<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. The benefit is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 65 in 2018 - it does not include any amounts which might be payable to an eligible spouse or children.

<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                     |                      | Estimated             | Estimated     |          |
|---------------------------|----------------------|-----------------------|---------------|----------|
| Average                   | LAGERS               | Social                | Monthly Total |          |
| Salary (FAS) <sup>1</sup> | BENEFIT <sup>3</sup> | Security <sup>2</sup> | \$            | % of FAS |
| 35 Years of Service:      |                      |                       |               |          |
| \$1,500                   | \$ 656               | \$ 889                | \$1,545       | 103%     |
| 2,000                     | 875                  | 1,032                 | 1,907         | 95%      |
| 2,500                     | 1,094                | 1,175                 | 2,269         | 91%      |
| 3,000                     | 1,313                | 1,318                 | 2,631         | 88%      |
| 3,500                     | 1,531                | 1,462                 | 2,993         | 86%      |
| 4,000                     | 1,750                | 1,604                 | 3,354         | 84%      |
| 25 Years of Service:      |                      |                       |               |          |
| \$1,500                   | \$ 469               | \$ 889                | \$1,358       | 91%      |
| 2,000                     | 625                  | 1,032                 | 1,657         | 83%      |
| 2,500                     | 781                  | 1,175                 | 1,956         | 78%      |
| 3,000                     | 938                  | 1,318                 | 2,256         | 75%      |
| 3,500                     | 1,094                | 1,462                 | 2,556         | 73%      |
| 4,000                     | 1,250                | 1,604                 | 2,854         | 71%      |
| 15 Years of Service:      |                      |                       |               |          |
| \$1,500                   | \$281                | \$ 889                | \$1,170       | 78%      |
| 2,000                     | 375                  | 1,032                 | 1,407         | 70%      |
| 2,500                     | 469                  | 1,175                 | 1,644         | 66%      |
| 3,000                     | 563                  | 1,318                 | 1,881         | 63%      |
| 3,500                     | 656                  | 1,462                 | 2,118         | 61%      |
| 4,000                     | 750                  | 1,604                 | 2,354         | 59%      |

<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. The benefit is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 65 in 2018 - it does not include any amounts which might be payable to an eligible spouse or children.

<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                     |                      | Estimated             | Estimated     |          |
|---------------------------|----------------------|-----------------------|---------------|----------|
| Average                   | LAGERS               | Social                | Monthly Total |          |
| Salary (FAS) <sup>1</sup> | BENEFIT <sup>3</sup> | Security <sup>2</sup> | \$            | % of FAS |
| 35 Years of Service:      |                      |                       |               |          |
| \$1,500                   | \$ 788               | \$ 889                | \$1,677       | 112%     |
| 2,000                     | 1,050                | 1,032                 | 2,082         | 104%     |
| 2,500                     | 1,313                | 1,175                 | 2,488         | 100%     |
| 3,000                     | 1,575                | 1,318                 | 2,893         | 96%      |
| 3,500                     | 1,838                | 1,462                 | 3,300         | 94%      |
| 4,000                     | 2,100                | 1,604                 | 3,704         | 93%      |
| 25 Years of Service:      |                      |                       |               |          |
| \$1,500                   | \$ 563               | \$ 889                | \$1,452       | 97%      |
| 2,000                     | 750                  | 1,032                 | 1,782         | 89%      |
| 2,500                     | 938                  | 1,175                 | 2,113         | 85%      |
| 3,000                     | 1,125                | 1,318                 | 2,443         | 81%      |
| 3,500                     | 1,313                | 1,462                 | 2,775         | 79%      |
| 4,000                     | 1,500                | 1,604                 | 3,104         | 78%      |
| 15 Years of Service:      |                      |                       |               |          |
| \$1,500                   | \$338                | \$ 889                | \$1,227       | 82%      |
| 2,000                     | 450                  | 1,032                 | 1,482         | 74%      |
| 2,500                     | 563                  | 1,175                 | 1,738         | 70%      |
| 3,000                     | 675                  | 1,318                 | 1,993         | 66%      |
| 3,500                     | 788                  | 1,462                 | 2,250         | 64%      |
| 4,000                     | 900                  | 1,604                 | 2,504         | 63%      |

<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. The benefit is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 65 in 2018 - it does not include any amounts which might be payable to an eligible spouse or children.

<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-9 Benefit Program is Years of Credited Service times: 1.60% of FAS <sup>1</sup> )

| Final                     |                      | Estimated             | Estimated     |          |
|---------------------------|----------------------|-----------------------|---------------|----------|
| Average                   | LAGERS               | Social                | Monthly Total |          |
| Salary (FAS) <sup>1</sup> | BENEFIT <sup>3</sup> | Security <sup>2</sup> | \$            | % of FAS |
| 35 Years of Service:      |                      |                       |               |          |
| \$1,500                   | \$ 840               | \$ 889                | \$1,729       | 115%     |
| 2,000                     | 1,120                | 1,032                 | 2,152         | 108%     |
| 2,500                     | 1,400                | 1,175                 | 2,575         | 103%     |
| 3,000                     | 1,680                | 1,318                 | 2,998         | 100%     |
| 3,500                     | 1,960                | 1,462                 | 3,422         | 98%      |
| 4,000                     | 2,240                | 1,604                 | 3,844         | 96%      |
| 25 Years of Service:      |                      |                       |               |          |
| \$1,500                   | \$ 600               | \$ 889                | \$1,489       | 99%      |
| 2,000                     | 800                  | 1,032                 | 1,832         | 92%      |
| 2,500                     | 1,000                | 1,175                 | 2,175         | 87%      |
| 3,000                     | 1,200                | 1,318                 | 2,518         | 84%      |
| 3,500                     | 1,400                | 1,462                 | 2,862         | 82%      |
| 4,000                     | 1,600                | 1,604                 | 3,204         | 80%      |
| 15 Years of Service:      |                      |                       |               |          |
| \$1,500                   | \$360                | \$ 889                | \$1,249       | 83%      |
| 2,000                     | 480                  | 1,032                 | 1,512         | 76%      |
| 2,500                     | 600                  | 1,175                 | 1,775         | 71%      |
| 3,000                     | 720                  | 1,318                 | 2,038         | 68%      |
| 3,500                     | 840                  | 1,462                 | 2,302         | 66%      |
| 4,000                     | 960                  | 1,604                 | 2,564         | 64%      |

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

<sup>2</sup> "Estimated Social Security" means, for an employee covered by Social Security, an employee's estimated OASDI retirement benefit. The benefit is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 65 in 2018 - it does not include any amounts which might be payable to an eligible spouse or children.

<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                     |                      | Estimated             | Estimated     |          |
|---------------------------|----------------------|-----------------------|---------------|----------|
| Average                   | LAGERS               | Social                | Monthly Total |          |
| Salary (FAS) <sup>1</sup> | BENEFIT <sup>3</sup> | Security <sup>2</sup> | \$            | % of FAS |
| 35 Years of Service:      |                      |                       |               |          |
| \$1,500                   | \$ 919               | \$ 889                | \$1,808       | 121%     |
| 2,000                     | 1,225                | 1,032                 | 2,257         | 113%     |
| 2,500                     | 1,531                | 1,175                 | 2,706         | 108%     |
| 3,000                     | 1,838                | 1,318                 | 3,156         | 105%     |
| 3,500                     | 2,144                | 1,462                 | 3,606         | 103%     |
| 4,000                     | 2,450                | 1,604                 | 4,054         | 101%     |
| 25 Years of Service:      |                      |                       |               |          |
| \$1,500                   | \$ 656               | \$ 889                | \$1,545       | 103%     |
| 2,000                     | 875                  | 1,032                 | 1,907         | 95%      |
| 2,500                     | 1,094                | 1,175                 | 2,269         | 91%      |
| 3,000                     | 1,313                | 1,318                 | 2,631         | 88%      |
| 3,500                     | 1,531                | 1,462                 | 2,993         | 86%      |
| 4,000                     | 1,750                | 1,604                 | 3,354         | 84%      |
| 15 Years of Service:      |                      |                       |               |          |
| \$1,500                   | \$ 394               | \$ 889                | \$1,283       | 86%      |
| 2,000                     | 525                  | 1,032                 | 1,557         | 78%      |
| 2,500                     | 656                  | 1,175                 | 1,831         | 73%      |
| 3,000                     | 788                  | 1,318                 | 2,106         | 70%      |
| 3,500                     | 919                  | 1,462                 | 2,381         | 68%      |
| 4,000                     | 1,050                | 1,604                 | 2,654         | 66%      |

<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. The benefit is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 65 in 2018 - it does not include any amounts which might be payable to an eligible spouse or children.

<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                     |                      | Estimated             | Estimated     |          |
|---------------------------|----------------------|-----------------------|---------------|----------|
| Average                   | LAGERS               | Social                | Monthly Total |          |
| Salary (FAS) <sup>1</sup> | BENEFIT <sup>3</sup> | Security <sup>2</sup> | \$            | % of FAS |
| 35 Years of Service:      |                      |                       |               |          |
| \$1,500                   | \$1,050              | \$ 889                | \$1,939       | 129%     |
| 2,000                     | 1,400                | 1,032                 | 2,432         | 122%     |
| 2,500                     | 1,750                | 1,175                 | 2,925         | 117%     |
| 3,000                     | 2,100                | 1,318                 | 3,418         | 114%     |
| 3,500                     | 2,450                | 1,462                 | 3,912         | 112%     |
| 4,000                     | 2,800                | 1,604                 | 4,404         | 110%     |
| 25 Years of Service:      |                      |                       |               |          |
| \$1,500                   | \$ 750               | \$ 889                | \$1,639       | 109%     |
| 2,000                     | 1,000                | 1,032                 | 2,032         | 102%     |
| 2,500                     | 1,250                | 1,175                 | 2,425         | 97%      |
| 3,000                     | 1,500                | 1,318                 | 2,818         | 94%      |
| 3,500                     | 1,750                | 1,462                 | 3,212         | 92%      |
| 4,000                     | 2,000                | 1,604                 | 3,604         | 90%      |
| 15 Years of Service:      |                      |                       |               |          |
| \$1,500                   | \$ 450               | \$ 889                | \$1,339       | 89%      |
| 2,000                     | 600                  | 1,032                 | 1,632         | 82%      |
| 2,500                     | 750                  | 1,175                 | 1,925         | 77%      |
| 3,000                     | 900                  | 1,318                 | 2,218         | 74%      |
| 3,500                     | 1,050                | 1,462                 | 2,512         | 72%      |
| 4,000                     | 1,200                | 1,604                 | 2,804         | 70%      |

<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. The benefit is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 65 in 2018 - it does not include any amounts which might be payable to an eligible spouse or children.

<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-11 Benefit Program is Years of Credited Service  
times: 2.50% of FAS <sup>1</sup> )

| Final                     |                      | Estimated             | Estimated     |          |
|---------------------------|----------------------|-----------------------|---------------|----------|
| Average                   | LAGERS               | Social                | Monthly Total |          |
| Salary (FAS) <sup>1</sup> | BENEFIT <sup>3</sup> | Security <sup>2</sup> | \$            | % of FAS |
| 35 Years of Service:      |                      |                       |               |          |
| \$1,500                   | \$1,313              |                       | \$1,313       | 88%      |
| 2,000                     | 1,750                |                       | 1,750         | 88%      |
| 2,500                     | 2,188                |                       | 2,188         | 88%      |
| 3,000                     | 2,625                |                       | 2,625         | 88%      |
| 3,500                     | 3,063                |                       | 3,063         | 88%      |
| 4,000                     | 3,500                |                       | 3,500         | 88%      |
| 25 Years of Service:      |                      |                       |               |          |
| \$1,500                   | \$ 938               |                       | \$ 938        | 63%      |
| 2,000                     | 1,250                |                       | 1,250         | 63%      |
| 2,500                     | 1,563                |                       | 1,563         | 63%      |
| 3,000                     | 1,875                |                       | 1,875         | 63%      |
| 3,500                     | 2,188                |                       | 2,188         | 63%      |
| 4,000                     | 2,500                |                       | 2,500         | 63%      |
| 15 Years of Service:      |                      |                       |               |          |
| \$1,500                   | \$ 563               |                       | \$ 563        | 38%      |
| 2,000                     | 750                  |                       | 750           | 38%      |
| 2,500                     | 938                  |                       | 938           | 38%      |
| 3,000                     | 1,125                |                       | 1,125         | 38%      |
| 3,500                     | 1,313                |                       | 1,313         | 38%      |
| 4,000                     | 1,500                |                       | 1,500         | 38%      |

<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. The benefit is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 65 in 2018 - it does not include any amounts which might be payable to an eligible spouse or children.

<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(62) Benefit Program is Years of Credited Service  
times: 2.00% of FAS<sup>1</sup> to age 62)  
1.00% of FAS<sup>1</sup> at age 62)

| Final<br>Average<br>Salary (FAS) <sup>1</sup> | LAGERS<br>BENEFIT <sup>3</sup> |        | Estimated<br>Social<br>Security <sup>2</sup> | Estimated<br>Monthly Total |         | Percent<br>of FAS |       |
|-----------------------------------------------|--------------------------------|--------|----------------------------------------------|----------------------------|---------|-------------------|-------|
|                                               | To 62                          | At 62  |                                              | To 62                      | At 62   | To 62             | At 62 |
| 35 Years of Service:                          |                                |        |                                              |                            |         |                   |       |
| \$1,500                                       | \$1,050                        | \$ 525 | \$ 737                                       | \$1,050                    | \$1,262 | 70%               | 84%   |
| 2,000                                         | 1,400                          | 700    | 855                                          | 1,400                      | 1,555   | 70%               | 78%   |
| 2,500                                         | 1,750                          | 875    | 973                                          | 1,750                      | 1,848   | 70%               | 74%   |
| 3,000                                         | 2,100                          | 1,050  | 1,091                                        | 2,100                      | 2,141   | 70%               | 71%   |
| 3,500                                         | 2,450                          | 1,225  | 1,209                                        | 2,450                      | 2,434   | 70%               | 70%   |
| 4,000                                         | 2,800                          | 1,400  | 1,327                                        | 2,800                      | 2,727   | 70%               | 68%   |
| 25 Years of Service:                          |                                |        |                                              |                            |         |                   |       |
| \$1,500                                       | \$ 750                         | \$ 375 | \$ 737                                       | \$ 750                     | \$1,112 | 50%               | 74%   |
| 2,000                                         | 1,000                          | 500    | 855                                          | 1,000                      | 1,355   | 50%               | 68%   |
| 2,500                                         | 1,250                          | 625    | 973                                          | 1,250                      | 1,598   | 50%               | 64%   |
| 3,000                                         | 1,500                          | 750    | 1,091                                        | 1,500                      | 1,841   | 50%               | 61%   |
| 3,500                                         | 1,750                          | 875    | 1,209                                        | 1,750                      | 2,084   | 50%               | 60%   |
| 4,000                                         | 2,000                          | 1,000  | 1,327                                        | 2,000                      | 2,327   | 50%               | 58%   |
| 15 Years of Service:                          |                                |        |                                              |                            |         |                   |       |
| \$1,500                                       | \$ 450                         | \$225  | \$ 737                                       | \$ 450                     | \$ 962  | 30%               | 64%   |
| 2,000                                         | 600                            | 300    | 855                                          | 600                        | 1,155   | 30%               | 58%   |
| 2,500                                         | 750                            | 375    | 973                                          | 750                        | 1,348   | 30%               | 54%   |
| 3,000                                         | 900                            | 450    | 1,091                                        | 900                        | 1,541   | 30%               | 51%   |
| 3,500                                         | 1,050                          | 525    | 1,209                                        | 1,050                      | 1,734   | 30%               | 50%   |
| 4,000                                         | 1,200                          | 600    | 1,327                                        | 1,200                      | 1,927   | 30%               | 48%   |

<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. The benefit is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 62 in 2018 - 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<br>Average<br>Salary (FAS) <sup>1</sup> | LAGERS<br>BENEFIT <sup>3</sup> |        | Estimated<br>Social<br>Security <sup>2</sup> | Estimated<br>Monthly Total |         | Percent<br>of FAS |       |
|-----------------------------------------------|--------------------------------|--------|----------------------------------------------|----------------------------|---------|-------------------|-------|
|                                               | To 65                          | At 65  |                                              | To 65                      | At 65   | To 65             | At 65 |
| 35 Years of Service:                          |                                |        |                                              |                            |         |                   |       |
| \$1,500                                       | \$1,050                        | \$ 525 | \$ 889                                       | \$1,050                    | \$1,414 | 70%               | 94%   |
| 2,000                                         | 1,400                          | 700    | 1,032                                        | 1,400                      | 1,732   | 70%               | 87%   |
| 2,500                                         | 1,750                          | 875    | 1,175                                        | 1,750                      | 2,050   | 70%               | 82%   |
| 3,000                                         | 2,100                          | 1,050  | 1,318                                        | 2,100                      | 2,368   | 70%               | 79%   |
| 3,500                                         | 2,450                          | 1,225  | 1,462                                        | 2,450                      | 2,687   | 70%               | 77%   |
| 4,000                                         | 2,800                          | 1,400  | 1,604                                        | 2,800                      | 3,004   | 70%               | 75%   |
| 25 Years of Service:                          |                                |        |                                              |                            |         |                   |       |
| \$1,500                                       | \$ 750                         | \$ 375 | \$ 889                                       | \$ 750                     | \$1,264 | 50%               | 84%   |
| 2,000                                         | 1,000                          | 500    | 1,032                                        | 1,000                      | 1,532   | 50%               | 77%   |
| 2,500                                         | 1,250                          | 625    | 1,175                                        | 1,250                      | 1,800   | 50%               | 72%   |
| 3,000                                         | 1,500                          | 750    | 1,318                                        | 1,500                      | 2,068   | 50%               | 69%   |
| 3,500                                         | 1,750                          | 875    | 1,462                                        | 1,750                      | 2,337   | 50%               | 67%   |
| 4,000                                         | 2,000                          | 1,000  | 1,604                                        | 2,000                      | 2,604   | 50%               | 65%   |
| 15 Years of Service:                          |                                |        |                                              |                            |         |                   |       |
| \$1,500                                       | \$ 450                         | \$225  | \$ 889                                       | \$ 450                     | \$1,114 | 30%               | 74%   |
| 2,000                                         | 600                            | 300    | 1,032                                        | 600                        | 1,332   | 30%               | 67%   |
| 2,500                                         | 750                            | 375    | 1,175                                        | 750                        | 1,550   | 30%               | 62%   |
| 3,000                                         | 900                            | 450    | 1,318                                        | 900                        | 1,768   | 30%               | 59%   |
| 3,500                                         | 1,050                          | 525    | 1,462                                        | 1,050                      | 1,987   | 30%               | 57%   |
| 4,000                                         | 1,200                          | 600    | 1,604                                        | 1,200                      | 2,204   | 30%               | 55%   |

<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. The benefit is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 65 in 2018 - it does not include any amounts which might be payable to an eligible spouse or children.

<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(62) Benefit Program is Years of Credited Service  
times: 2.00% of FAS<sup>1</sup> to age 62)  
1.25% of FAS<sup>1</sup> at age 62)

| Final<br>Average<br>Salary (FAS) <sup>1</sup> | LAGERS<br>BENEFIT <sup>3</sup> |        | Estimated<br>Social<br>Security <sup>2</sup> | Estimated<br>Monthly Total |         | Percent<br>of FAS |       |
|-----------------------------------------------|--------------------------------|--------|----------------------------------------------|----------------------------|---------|-------------------|-------|
|                                               | To 62                          | At 62  |                                              | To 62                      | At 62   | To 62             | At 62 |
| 35 Years of Service:                          |                                |        |                                              |                            |         |                   |       |
| \$1,500                                       | \$1,050                        | \$ 656 | \$ 737                                       | \$1,050                    | \$1,393 | 70%               | 93%   |
| 2,000                                         | 1,400                          | 875    | 855                                          | 1,400                      | 1,730   | 70%               | 87%   |
| 2,500                                         | 1,750                          | 1,094  | 973                                          | 1,750                      | 2,067   | 70%               | 83%   |
| 3,000                                         | 2,100                          | 1,313  | 1,091                                        | 2,100                      | 2,404   | 70%               | 80%   |
| 3,500                                         | 2,450                          | 1,531  | 1,209                                        | 2,450                      | 2,740   | 70%               | 78%   |
| 4,000                                         | 2,800                          | 1,750  | 1,327                                        | 2,800                      | 3,077   | 70%               | 77%   |
| 25 Years of Service:                          |                                |        |                                              |                            |         |                   |       |
| \$1,500                                       | \$ 750                         | \$ 469 | \$ 737                                       | \$ 750                     | \$1,206 | 50%               | 80%   |
| 2,000                                         | 1,000                          | 625    | 855                                          | 1,000                      | 1,480   | 50%               | 74%   |
| 2,500                                         | 1,250                          | 781    | 973                                          | 1,250                      | 1,754   | 50%               | 70%   |
| 3,000                                         | 1,500                          | 938    | 1,091                                        | 1,500                      | 2,029   | 50%               | 68%   |
| 3,500                                         | 1,750                          | 1,094  | 1,209                                        | 1,750                      | 2,303   | 50%               | 66%   |
| 4,000                                         | 2,000                          | 1,250  | 1,327                                        | 2,000                      | 2,577   | 50%               | 64%   |
| 15 Years of Service:                          |                                |        |                                              |                            |         |                   |       |
| \$1,500                                       | \$ 450                         | \$281  | \$ 737                                       | \$ 450                     | \$1,018 | 30%               | 68%   |
| 2,000                                         | 600                            | 375    | 855                                          | 600                        | 1,230   | 30%               | 62%   |
| 2,500                                         | 750                            | 469    | 973                                          | 750                        | 1,442   | 30%               | 58%   |
| 3,000                                         | 900                            | 563    | 1,091                                        | 900                        | 1,654   | 30%               | 55%   |
| 3,500                                         | 1,050                          | 656    | 1,209                                        | 1,050                      | 1,865   | 30%               | 53%   |
| 4,000                                         | 1,200                          | 750    | 1,327                                        | 1,200                      | 2,077   | 30%               | 52%   |

<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. The benefit is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 62 in 2018 - 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<br>Average<br>Salary (FAS) <sup>1</sup> | LAGERS<br>BENEFIT <sup>3</sup> |        | Estimated<br>Social<br>Security <sup>2</sup> | Estimated<br>Monthly Total |         | Percent<br>of FAS |       |
|-----------------------------------------------|--------------------------------|--------|----------------------------------------------|----------------------------|---------|-------------------|-------|
|                                               | To 65                          | At 65  |                                              | To 65                      | At 65   | To 65             | At 65 |
| 35 Years of Service:                          |                                |        |                                              |                            |         |                   |       |
| \$1,500                                       | \$1,050                        | \$ 656 | \$ 889                                       | \$1,050                    | \$1,545 | 70%               | 103%  |
| 2,000                                         | 1,400                          | 875    | 1,032                                        | 1,400                      | 1,907   | 70%               | 95%   |
| 2,500                                         | 1,750                          | 1,094  | 1,175                                        | 1,750                      | 2,269   | 70%               | 91%   |
| 3,000                                         | 2,100                          | 1,313  | 1,318                                        | 2,100                      | 2,631   | 70%               | 88%   |
| 3,500                                         | 2,450                          | 1,531  | 1,462                                        | 2,450                      | 2,993   | 70%               | 86%   |
| 4,000                                         | 2,800                          | 1,750  | 1,604                                        | 2,800                      | 3,354   | 70%               | 84%   |
| 25 Years of Service:                          |                                |        |                                              |                            |         |                   |       |
| \$1,500                                       | \$ 750                         | \$ 469 | \$ 889                                       | \$ 750                     | \$1,358 | 50%               | 91%   |
| 2,000                                         | 1,000                          | 625    | 1,032                                        | 1,000                      | 1,657   | 50%               | 83%   |
| 2,500                                         | 1,250                          | 781    | 1,175                                        | 1,250                      | 1,956   | 50%               | 78%   |
| 3,000                                         | 1,500                          | 938    | 1,318                                        | 1,500                      | 2,256   | 50%               | 75%   |
| 3,500                                         | 1,750                          | 1,094  | 1,462                                        | 1,750                      | 2,556   | 50%               | 73%   |
| 4,000                                         | 2,000                          | 1,250  | 1,604                                        | 2,000                      | 2,854   | 50%               | 71%   |
| 15 Years of Service:                          |                                |        |                                              |                            |         |                   |       |
| \$1,500                                       | \$ 450                         | \$281  | \$ 889                                       | \$ 450                     | \$1,170 | 30%               | 78%   |
| 2,000                                         | 600                            | 375    | 1,032                                        | 600                        | 1,407   | 30%               | 70%   |
| 2,500                                         | 750                            | 469    | 1,175                                        | 750                        | 1,644   | 30%               | 66%   |
| 3,000                                         | 900                            | 563    | 1,318                                        | 900                        | 1,881   | 30%               | 63%   |
| 3,500                                         | 1,050                          | 656    | 1,462                                        | 1,050                      | 2,118   | 30%               | 61%   |
| 4,000                                         | 1,200                          | 750    | 1,604                                        | 1,200                      | 2,354   | 30%               | 59%   |

<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. The benefit is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 65 in 2018 - it does not include any amounts which might be payable to an eligible spouse or children.

<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(62) Benefit Program is Years of Credited Service  
times: 2.00% of FAS<sup>1</sup> to age 62)  
1.50% of FAS<sup>1</sup> at age 62)

| Final<br>Average<br>Salary (FAS) <sup>1</sup> | LAGERS<br>BENEFIT <sup>3</sup> |        | Estimated<br>Social<br>Security <sup>2</sup> | Estimated<br>Monthly Total |         | Percent<br>of FAS |       |
|-----------------------------------------------|--------------------------------|--------|----------------------------------------------|----------------------------|---------|-------------------|-------|
|                                               | To 62                          | At 62  |                                              | To 62                      | At 62   | To 62             | At 62 |
| 35 Years of Service:                          |                                |        |                                              |                            |         |                   |       |
| \$1,500                                       | \$1,050                        | \$ 788 | \$ 737                                       | \$1,050                    | \$1,525 | 70%               | 102%  |
| 2,000                                         | 1,400                          | 1,050  | 855                                          | 1,400                      | 1,905   | 70%               | 95%   |
| 2,500                                         | 1,750                          | 1,313  | 973                                          | 1,750                      | 2,286   | 70%               | 91%   |
| 3,000                                         | 2,100                          | 1,575  | 1,091                                        | 2,100                      | 2,666   | 70%               | 89%   |
| 3,500                                         | 2,450                          | 1,838  | 1,209                                        | 2,450                      | 3,047   | 70%               | 87%   |
| 4,000                                         | 2,800                          | 2,100  | 1,327                                        | 2,800                      | 3,427   | 70%               | 86%   |
| 25 Years of Service:                          |                                |        |                                              |                            |         |                   |       |
| \$1,500                                       | \$ 750                         | \$ 563 | \$ 737                                       | \$ 750                     | \$1,300 | 50%               | 87%   |
| 2,000                                         | 1,000                          | 750    | 855                                          | 1,000                      | 1,605   | 50%               | 80%   |
| 2,500                                         | 1,250                          | 938    | 973                                          | 1,250                      | 1,911   | 50%               | 76%   |
| 3,000                                         | 1,500                          | 1,125  | 1,091                                        | 1,500                      | 2,216   | 50%               | 74%   |
| 3,500                                         | 1,750                          | 1,313  | 1,209                                        | 1,750                      | 2,522   | 50%               | 72%   |
| 4,000                                         | 2,000                          | 1,500  | 1,327                                        | 2,000                      | 2,827   | 50%               | 71%   |
| 15 Years of Service:                          |                                |        |                                              |                            |         |                   |       |
| \$1,500                                       | \$ 450                         | \$338  | \$ 737                                       | \$ 450                     | \$1,075 | 30%               | 72%   |
| 2,000                                         | 600                            | 450    | 855                                          | 600                        | 1,305   | 30%               | 65%   |
| 2,500                                         | 750                            | 563    | 973                                          | 750                        | 1,536   | 30%               | 61%   |
| 3,000                                         | 900                            | 675    | 1,091                                        | 900                        | 1,766   | 30%               | 59%   |
| 3,500                                         | 1,050                          | 788    | 1,209                                        | 1,050                      | 1,997   | 30%               | 57%   |
| 4,000                                         | 1,200                          | 900    | 1,327                                        | 1,200                      | 2,227   | 30%               | 56%   |

<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. The benefit is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 62 in 2018 - 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<br>Average<br>Salary (FAS) <sup>1</sup> | LAGERS<br>BENEFIT <sup>3</sup> |        | Estimated<br>Social<br>Security <sup>2</sup> | Estimated<br>Monthly Total |         | Percent<br>of FAS |       |
|-----------------------------------------------|--------------------------------|--------|----------------------------------------------|----------------------------|---------|-------------------|-------|
|                                               | To 65                          | At 65  |                                              | To 65                      | At 65   | To 65             | At 65 |
| 35 Years of Service:                          |                                |        |                                              |                            |         |                   |       |
| \$1,500                                       | \$1,050                        | \$ 788 | \$ 889                                       | \$1,050                    | \$1,677 | 70%               | 112%  |
| 2,000                                         | 1,400                          | 1,050  | 1,032                                        | 1,400                      | 2,082   | 70%               | 104%  |
| 2,500                                         | 1,750                          | 1,313  | 1,175                                        | 1,750                      | 2,488   | 70%               | 100%  |
| 3,000                                         | 2,100                          | 1,575  | 1,318                                        | 2,100                      | 2,893   | 70%               | 96%   |
| 3,500                                         | 2,450                          | 1,838  | 1,462                                        | 2,450                      | 3,300   | 70%               | 94%   |
| 4,000                                         | 2,800                          | 2,100  | 1,604                                        | 2,800                      | 3,704   | 70%               | 93%   |
| 25 Years of Service:                          |                                |        |                                              |                            |         |                   |       |
| \$1,500                                       | \$ 750                         | \$ 563 | \$ 889                                       | \$ 750                     | \$1,452 | 50%               | 97%   |
| 2,000                                         | 1,000                          | 750    | 1,032                                        | 1,000                      | 1,782   | 50%               | 89%   |
| 2,500                                         | 1,250                          | 938    | 1,175                                        | 1,250                      | 2,113   | 50%               | 85%   |
| 3,000                                         | 1,500                          | 1,125  | 1,318                                        | 1,500                      | 2,443   | 50%               | 81%   |
| 3,500                                         | 1,750                          | 1,313  | 1,462                                        | 1,750                      | 2,775   | 50%               | 79%   |
| 4,000                                         | 2,000                          | 1,500  | 1,604                                        | 2,000                      | 3,104   | 50%               | 78%   |
| 15 Years of Service:                          |                                |        |                                              |                            |         |                   |       |
| \$1,500                                       | \$ 450                         | \$338  | \$ 889                                       | \$ 450                     | \$1,227 | 30%               | 82%   |
| 2,000                                         | 600                            | 450    | 1,032                                        | 600                        | 1,482   | 30%               | 74%   |
| 2,500                                         | 750                            | 563    | 1,175                                        | 750                        | 1,738   | 30%               | 70%   |
| 3,000                                         | 900                            | 675    | 1,318                                        | 900                        | 1,993   | 30%               | 66%   |
| 3,500                                         | 1,050                          | 788    | 1,462                                        | 1,050                      | 2,250   | 30%               | 64%   |
| 4,000                                         | 1,200                          | 900    | 1,604                                        | 1,200                      | 2,504   | 30%               | 63%   |

<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. The benefit is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 65 in 2018 - it does not include any amounts which might be payable to an eligible spouse or children.

<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-10(65) Benefit Program is Years of Credited Service  
times: 2.00% of FAS<sup>1</sup> to age 65)  
1.60% of FAS<sup>1</sup> at age 65)

| Final<br>Average<br>Salary (FAS) <sup>1</sup> | LAGERS<br>BENEFIT <sup>3</sup> |        | Estimated<br>Social<br>Security <sup>2</sup> | Estimated<br>Monthly Total |         | Percent<br>of FAS |       |
|-----------------------------------------------|--------------------------------|--------|----------------------------------------------|----------------------------|---------|-------------------|-------|
|                                               | To 65                          | At 65  |                                              | To 65                      | At 65   | To 65             | At 65 |
| 35 Years of Service:                          |                                |        |                                              |                            |         |                   |       |
| \$1,500                                       | \$1,050                        | \$ 840 | \$ 889                                       | \$1,050                    | \$1,729 | 70%               | 115%  |
| 2,000                                         | 1,400                          | 1,120  | 1,032                                        | 1,400                      | 2,152   | 70%               | 108%  |
| 2,500                                         | 1,750                          | 1,400  | 1,175                                        | 1,750                      | 2,575   | 70%               | 103%  |
| 3,000                                         | 2,100                          | 1,680  | 1,318                                        | 2,100                      | 2,998   | 70%               | 100%  |
| 3,500                                         | 2,450                          | 1,960  | 1,462                                        | 2,450                      | 3,422   | 70%               | 98%   |
| 4,000                                         | 2,800                          | 2,240  | 1,604                                        | 2,800                      | 3,844   | 70%               | 96%   |
| 25 Years of Service:                          |                                |        |                                              |                            |         |                   |       |
| \$1,500                                       | \$750                          | \$ 600 | \$ 889                                       | \$ 750                     | \$1,489 | 50%               | 99%   |
| 2,000                                         | 1,000                          | 800    | 1,032                                        | 1,000                      | 1,832   | 50%               | 92%   |
| 2,500                                         | 1,250                          | 1,000  | 1,175                                        | 1,250                      | 2,175   | 50%               | 87%   |
| 3,000                                         | 1,500                          | 1,200  | 1,318                                        | 1,500                      | 2,518   | 50%               | 84%   |
| 3,500                                         | 1,750                          | 1,400  | 1,462                                        | 1,750                      | 2,862   | 50%               | 82%   |
| 4,000                                         | 2,000                          | 1,600  | 1,604                                        | 2,000                      | 3,204   | 50%               | 80%   |
| 15 Years of Service:                          |                                |        |                                              |                            |         |                   |       |
| \$1,500                                       | \$ 450                         | \$360  | \$ 889                                       | \$ 450                     | \$1,249 | 30%               | 83%   |
| 2,000                                         | 600                            | 480    | 1,032                                        | 600                        | 1,512   | 30%               | 76%   |
| 2,500                                         | 750                            | 600    | 1,175                                        | 750                        | 1,775   | 30%               | 71%   |
| 3,000                                         | 900                            | 720    | 1,318                                        | 900                        | 2,038   | 30%               | 68%   |
| 3,500                                         | 1,050                          | 840    | 1,462                                        | 1,050                      | 2,302   | 30%               | 66%   |
| 4,000                                         | 1,200                          | 960    | 1,604                                        | 1,200                      | 2,564   | 30%               | 64%   |

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

<sup>2</sup> "Estimated Social Security" means, for an employee covered by Social Security, an employee's estimated OASDI retirement benefit. The benefit is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 65 in 2018 - it does not include any amounts which might be payable to an eligible spouse or children.

<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<br>Average<br>Salary (FAS) <sup>1</sup> | LAGERS<br>BENEFIT <sup>3</sup> |        | Estimated<br>Social<br>Security <sup>2</sup> | Estimated<br>Monthly Total |         | Percent<br>of FAS |       |
|-----------------------------------------------|--------------------------------|--------|----------------------------------------------|----------------------------|---------|-------------------|-------|
|                                               | To 65                          | At 65  |                                              | To 65                      | At 65   | To 65             | At 65 |
| 35 Years of Service:                          |                                |        |                                              |                            |         |                   |       |
| \$1,500                                       | \$1,050                        | \$ 919 | \$ 889                                       | \$1,050                    | \$1,808 | 70%               | 121%  |
| 2,000                                         | 1,400                          | 1,225  | 1,032                                        | 1,400                      | 2,257   | 70%               | 113%  |
| 2,500                                         | 1,750                          | 1,531  | 1,175                                        | 1,750                      | 2,706   | 70%               | 108%  |
| 3,000                                         | 2,100                          | 1,838  | 1,318                                        | 2,100                      | 3,156   | 70%               | 105%  |
| 3,500                                         | 2,450                          | 2,144  | 1,462                                        | 2,450                      | 3,606   | 70%               | 103%  |
| 4,000                                         | 2,800                          | 2,450  | 1,604                                        | 2,800                      | 4,054   | 70%               | 101%  |
| 25 Years of Service:                          |                                |        |                                              |                            |         |                   |       |
| \$1,500                                       | \$ 750                         | \$ 656 | \$ 889                                       | \$ 750                     | \$1,545 | 50%               | 103%  |
| 2,000                                         | 1,000                          | 875    | 1,032                                        | 1,000                      | 1,907   | 50%               | 95%   |
| 2,500                                         | 1,250                          | 1,094  | 1,175                                        | 1,250                      | 2,269   | 50%               | 91%   |
| 3,000                                         | 1,500                          | 1,313  | 1,318                                        | 1,500                      | 2,631   | 50%               | 88%   |
| 3,500                                         | 1,750                          | 1,531  | 1,462                                        | 1,750                      | 2,993   | 50%               | 86%   |
| 4,000                                         | 2,000                          | 1,750  | 1,604                                        | 2,000                      | 3,354   | 50%               | 84%   |
| 15 Years of Service:                          |                                |        |                                              |                            |         |                   |       |
| \$1,500                                       | \$ 450                         | \$ 394 | \$ 889                                       | \$ 450                     | \$1,283 | 30%               | 86%   |
| 2,000                                         | 600                            | 525    | 1,032                                        | 600                        | 1,557   | 30%               | 78%   |
| 2,500                                         | 750                            | 656    | 1,175                                        | 750                        | 1,831   | 30%               | 73%   |
| 3,000                                         | 900                            | 788    | 1,318                                        | 900                        | 2,106   | 30%               | 70%   |
| 3,500                                         | 1,050                          | 919    | 1,462                                        | 1,050                      | 2,381   | 30%               | 68%   |
| 4,000                                         | 1,200                          | 1,050  | 1,604                                        | 1,200                      | 2,654   | 30%               | 66%   |

<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. The benefit is based upon an estimated "average indexed monthly earnings" for an employee retiring at age 65 in 2018 - it does not include any amounts which might be payable to an eligible spouse or children.

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



November 7, 2018 E-mail

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

Dear Bob:

Enclosed is the report of the February 28, 2018 Supplemental Actuarial Valuation of LAGERS benefits for the employees of:

Pleasant Hill Fire Protection District

Sincerely,

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

Mita D. Drazilov, ASA, FCA, MAAA

MDD:rmg  
Enclosure