



Rules of
Retirement Systems
Division 20—Missouri Local Government Employees’
Retirement System (LAGERS)
Chapter 4—Actuarial Assumptions

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Title 16—RETIREMENT SYSTEMS
Division 20—Missouri Local Government
Employees' Retirement System
(LAGERS)
Chapter 4—Actuarial Assumptions

16 CSR 20-4.010 Actuarial Assumptions

PURPOSE: This rule complies with the provisions of section 70.605.14., RSMo 1986, regarding the adoption of mortality and other tables of experience relative to employees.

(1) The investment return rate used in making the valuations is seven and twenty-five hundredths percent (7.25%) per year, 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 wage inflation rate. Considering other financial assumptions, the seven and twenty-five hundredths percent (7.25%) investment return rate translates to an assumed real rate of return of four percent (4.00%). Adopted 2016.

(2) The mortality table used in evaluating allowances to be paid is RP-2014 Healthy Annuitant Table (adjusted backward to 2006) with base year of 2017 for males and 2006 for females. Future mortality improvements are assumed each year based on the two- (2-) dimensional sex-distinct mortality improvement scale MP-2015. Adopted 2016.

(3) The probabilities of retirement with an age and service allowance are shown in Table 1, included herein. Adopted 2016.

(4) The probabilities of withdrawal from service together with individual pay increase assumptions are shown in Table 2, included herein. Adopted 2016.

(5) Total active member payroll is assumed to increase three and twenty-five hundredths percent (3.25%) per year, which is the portion of the individual pay increase assumptions attributable to inflation. In effect, this assumes no change in the number of active members per employer. Adopted 2016.

(6) An individual entry-age normal cost method of valuation is used in determining age and service allowance actuarial liabilities and normal cost. Adopted 1986.

(7) The actuarial valuation computations are made by or under the supervision of a Member of the American Academy of Actuaries (MAAA).



Table 1 **PERCENT OF ELIGIBLE ACTIVE MEMBERS RETIRING WITHIN THE NEXT YEAR**

| Ages | Without Rule of 80 Eligibility | | | | With Rule of 80 Eligibility | | | |
|------|--------------------------------|-------|---------|-------|-----------------------------|-------|--------|-------|
| | General* | | Police* | Fire* | General | | Police | Fire |
| | Men | Women | | | Men | Women | | |
| 50 | | | 2.5% | 2.5% | 15.0% | 15.0% | 25.0% | 25.0% |
| 51 | | | 2.5 | 2.5 | 15.0 | 15.0 | 25.0 | 20.0 |
| 52 | | | 2.5 | 2.5 | 15.0 | 15.0 | 15.0 | 20.0 |
| 53 | | | 2.5 | 2.5 | 15.0 | 15.0 | 15.0 | 20.0 |
| 54 | | | 2.5 | 2.5 | 15.0 | 15.0 | 15.0 | 20.0 |
| 55 | 3.0% | 3.0% | 10.0 | 13.0 | 15.0 | 15.0 | 15.0 | 20.0 |
| 56 | 3.0 | 3.0 | 10.0 | 13.0 | 15.0 | 15.0 | 15.0 | 20.0 |
| 57 | 3.0 | 3.0 | 10.0 | 13.0 | 15.0 | 15.0 | 15.0 | 25.0 |
| 58 | 3.0 | 3.0 | 10.0 | 13.0 | 15.0 | 15.0 | 15.0 | 25.0 |
| 59 | 3.0 | 3.0 | 10.0 | 13.0 | 15.0 | 15.0 | 15.0 | 25.0 |
| 60 | 10.0 | 10.0 | 10.0 | 15.0 | 15.0 | 15.0 | 15.0 | 35.0 |
| 61 | 10.0 | 10.0 | 10.0 | 15.0 | 15.0 | 15.0 | 25.0 | 35.0 |
| 62 | 25.0 | 15.0 | 25.0 | 20.0 | 30.0 | 15.0 | 30.0 | 45.0 |
| 63 | 20.0 | 15.0 | 20.0 | 20.0 | 30.0 | 15.0 | 30.0 | 45.0 |
| 64 | 20.0 | 15.0 | 20.0 | 20.0 | 30.0 | 20.0 | 30.0 | 45.0 |
| 65 | 25.0 | 25.0 | 100.0 | 100.0 | 30.0 | 25.0 | 100.0 | 100.0 |
| 66 | 25.0 | 25.0 | | | 30.0 | 25.0 | | |
| 67 | 20.0 | 25.0 | | | 30.0 | 25.0 | | |
| 68 | 20.0 | 25.0 | | | 30.0 | 25.0 | | |
| 69 | 20.0 | 20.0 | | | 30.0 | 25.0 | | |
| 70 | 100.0 | 100.0 | | | 100.0 | 100.0 | | |

*First 5 years of retirement pattern only apply to early retirement. Early retirement rates are also applicable if Rule of 80 is adopted.



Table 2

| All Divisions Separations from Active Employment Before Age & Service Retirement & Individual Pay Increase Assumptions | | | | | | | | | | | | | |
|------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------|-------|-------------------------|-------|--------|-------|--------|--------|--------|--------|------------------------------------------------------------------------|---------------------|
| Percent of Active Members Separating within the Next Year | | | | | | | | | | | | Pay Increase Assumptions for an Individual Employee ³ | |
| Sample Ages | Years of Service | Death ¹ | | Disability ² | | | | Other | | | | Fire | Others ³ |
| | | Men | Women | Men | Women | Police | Fire | Men | Women | Police | Fire | | |
| 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 | 0.06% | 0.01% | 0.09% | 0.02% | 0.10% | 0.06% | 7.30 | 10.80 | 9.80 | 5.00 | 7.15% | 6.55% |
| 30 | | 0.05 | 0.02 | 0.12 | 0.03 | 0.11 | 0.10 | 6.50 | 8.90 | 7.80 | 4.00 | 6.05 | 5.75 |
| 35 | | 0.06 | 0.03 | 0.15 | 0.06 | 0.16 | 0.23 | 5.00 | 7.40 | 6.10 | 2.80 | 5.15 | 5.25 |
| 40 | | 0.08 | 0.04 | 0.21 | 0.10 | 0.22 | 0.35 | 3.70 | 5.70 | 4.40 | 2.20 | 4.45 | 4.75 |
| 45 | | 0.13 | 0.06 | 0.30 | 0.16 | 0.34 | 0.56 | 3.00 | 4.20 | 3.20 | 1.80 | 4.15 | 4.25 |
| 50 | | 0.21 | 0.11 | 0.44 | 0.24 | 0.53 | 0.85 | 2.40 | 3.30 | 1.80 | 1.00 | 3.85 | 3.85 |
| 55 | | 0.31 | 0.17 | 0.68 | 0.34 | | | 1.80 | 2.50 | 1.00 | 0.50 | 3.65 | 3.65 |
| 60 | | 0.50 | 0.25 | | | | | 1.00 | 1.20 | 0.00 | 0.00 | 3.25 | 3.55 |
| 65 | | 0.97 | 0.37 | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 3.25 | 3.25 |

- 1 General, Police, Fire; Mortality rates for calendar year 2015. Future calendar year mortality rates incorporate mortality improvement factors from the 2-dimensional sex-distinct mortality improvement scale MP-2015.
- 2 General disabilities are assumed to be 70% non-duty related and 30% duty related. Police disabilities are assumed to be 55% non-duty related and 45% duty related. Fire disabilities are assumed to be 35% non-duty related and 65% duty related.
- 3 General, Police

AUTHORITY: section 70.605.14, RSMo 2016. Original rule filed Dec. 29, 1975, effective Jan. 8, 1976. Amended: Filed July 1, 1977, effective Oct. 13, 1977. Amended: Filed Oct. 31, 1979, effective Feb. 11, 1980. Amended: Filed Sept. 9, 1985, effective Dec. 15, 1985. Rescinded and readopted: Filed Aug. 3, 1987, effective Nov. 23, 1987. Amended: Filed Feb. 16, 1999, effective July 30, 1999. Amended: Filed Sept. 26, 2011, effective March 30, 2012. Amended: Filed July 29, 2016, effective Feb. 28, 2017.*

**16 CSR 20-4.020 Actuarial Assumptions—
Police and Fire Employees**
(Rescinded December 15, 1985)

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*Original authority 70.605, RSMo 1967, amended 1974, 1992, 2000, 2003, 2013.