



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) Beginning with the Retirement System's July 2021-June 2022 fiscal year, the investment return rate used in making the valuations is seven percent (7.00%) 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 percent (7.00%) investment return rate translates to an assumed real rate of return of four and twenty-five hundredths percent (4.25%).

(2) Beginning with the Retirement System's July 2021-June 2022 fiscal year, the mortality table used in evaluating allowances to be paid is PubG-2010 Retiree Mortality Tables (published February 2019 by the Society of Actuaries Retirement Plans Experience Committee, 475 N. Martingale Road, Suite 600, Schaumburg, IL 60173, www.soa.org), increased by fifteen percent (15%). Future mortality improvements are assumed each year based on the two- (2-) dimensional sex-distinct mortality improvement scale MP-2020 (published October 2020 by the Society of Actuaries Retirement Plans Experience Committee, 475 N. Martingale Road, Suite 600, Schaumburg, IL 60173, www.soa.org). Both Society of Actuaries Retirement Plans Experience Committee documents referenced herein do not include any amendments or additions subsequent to the stated publish dates.

(3) Beginning with the Retirement System's July 2021-June 2022 fiscal year, the probabilities of general members' retirement with an age and service allowance are shown in Table 1, included herein and the probabilities of firefighters, police officers, and public safety personnel (as defined in section 70.631 RSMo) members' retirement with an age and service allowance are shown in Table 2, included herein.

(4) Beginning with the Retirement System's July 2021-June 2022 fiscal year, the probabilities of withdrawal from service together with

individual pay increase assumptions are shown in Table 3, included herein.

(5) Beginning with the Retirement System's July 2021-June 2022 fiscal year, total active member payroll is assumed to increase two and seventy-five hundredths percent (2.75%) 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.

(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 GENERAL MEMBERS RETIRING
WITHIN NEXT YEAR**

Age	Male			Female		
	Normal	Early	Rule of 80	Normal	Early	Rule of 80
50			20.00%			15.00%
51			20.00			15.00
52			15.00			15.00
53			15.00			15.00
54			15.00			15.00
55		3.00%	15.00		3.00%	15.00
56		3.00	15.00		3.00	15.00
57		3.00	15.00		3.00	15.00
58		3.00	15.00		3.00	15.00
59		3.00	15.00		3.00	15.00
60	10.00%		15.00	10.00%		15.00
61	10.00		15.00	10.00		15.00
62	25.00		25.00	15.00		15.00
63	20.00		25.00	15.00		15.00
64	20.00		25.00	15.00		20.00
65	25.00		30.00	25.00		25.00
66	25.00		30.00	30.00		25.00
67	20.00		20.00	25.00		25.00
68	20.00		20.00	25.00		25.00
69	20.00		20.00	20.00		25.00
70 & Over	100.00		100.00	100.00		100.00



Table 2

**PERCENT OF ELIGIBLE ACTIVE PUBLIC SAFETY MEMBERS
RETIRING WITHIN NEXT YEAR**

Age	Police and Public Safety			Fire		
	Normal	Early	Rule of 80	Normal	Early	Rule of 80
50		2.50%	25.00%		2.25%	25.00%
51		2.50	25.00		2.25	20.00
52		3.00	15.00		2.25	20.00
53		3.00	15.00		2.25	20.00
54		3.50	15.00		2.25	20.00
55	11.00%		15.00	13.00%		20.00
56	11.00		15.00	13.00		20.00
57	11.00		15.00	13.00		25.00
58	11.00		15.00	13.00		25.00
59	11.00		15.00	13.00		25.00
60	11.00		15.00	15.00		35.00
61	11.00		25.00	20.00		35.00
62	22.00		20.00	20.00		45.00
63	18.00		20.00	20.00		45.00
64	18.00		20.00	20.00		45.00
65 & Over	100.00		100.00	100.00		100.00

Table 3

**All Divisions
Separations from Active Employment Before Age & Service Retirement
& Individual Pay Increase Assumptions**

**Percent of
Active Members Separating
within the Next Year**

Sample Ages	Years of Service	Death ¹								Pay Increase Assumptions for an Individual Employee ³						
		Police, Fire and Public Safety				Disability ²				Other				Individual Employee ³		
		General Men	General Women	Public Safety Men	Public Safety Women	Others ³ Men	Others ³ Women	Police	Fire	Others ³ Men	Others ³ Women	Police	Fire	Police	Fire	Others ³
ALL	0									20.00%	23.00%	18.00%	12.00%			
	1									18.00	21.00	17.00	10.00			
	2									16.00	18.00	16.00	8.00			
	3									13.00	15.00	14.00	8.00			
	4									12.00	13.00	13.00	7.00			
25	5 & Over	0.02%	0.01%	0.03%	0.02%	0.07%	0.02%	0.10%	0.07%	8.80	12.40	10.80	6.00	6.55%	7.15%	6.75%
30		0.04	0.02	0.04	0.03	0.10	0.03	0.11	0.11	7.10	10.20	8.50	4.50	5.75	6.05	5.95
35		0.05	0.02	0.05	0.04	0.13	0.06	0.16	0.25	5.60	7.80	6.30	3.20	5.25	5.15	5.35
40		0.06	0.03	0.06	0.04	0.18	0.09	0.22	0.39	4.10	5.80	4.60	2.40	4.75	4.45	4.85
45		0.08	0.04	0.06	0.05	0.25	0.15	0.34	0.62	3.10	4.40	3.40	1.90	4.25	4.05	4.25
50		0.11	0.06	0.08	0.06	0.37	0.22	0.53	0.95	2.40	3.50	2.10	1.30	3.85	3.85	3.85
55		0.16	0.10	0.13	0.10	0.57	0.32			1.70	2.50	1.10	0.70	3.65	3.45	3.65
60		0.25	0.15	0.21	0.13					1.10	1.40	0.00	0.00	3.45	2.75	3.45
65		0.36	0.21	0.31	0.16					0.00	0.00	0.00	0.00	3.15	2.75	3.15

- 1 Mortality rates for calendar year 2020. Future calendar year mortality rates incorporate mortality improvement factors from the 2-dimensional sex-distinct mortality improvement scale MP-2020.
- 2 General and Public Safety disabilities are assumed to be 75% non-duty related and 25% duty related. Police disabilities are assumed to be 40% non-duty related and 60% duty related. Fire disabilities are assumed to be 25% non-duty related and 75% duty related.
- 3 General, Public Safety



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. Amended: Filed July 7, 2021, effective Jan. 30, 2022.*

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

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

AUTHORITY: section 70.605.14, RSMo 1969. 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. Rescinded: Filed Sept. 9, 1985, effective Dec. 15, 1985.