COMMITTEE ON LEGISLATIVE RESEARCH
OVERSIGHT DIVISION

FISCAL NOTE

L.R. No.: 1928-01
Bill No.: HB 918
Subject: Retirement Systems and Benefits - General; Public Officers
Type: Original
Date: April 10, 2017

Bill Summary: This proposal requires the actuary for each public employee retirement plan to use certain assumptions when performing the plan's actuarial valuation.

FISCAL SUMMARY

ESTIMATED NET EFFECT ON GENERAL REVENUE FUND			
FUND AFFECTED	FY 2018	FY 2019	FY 2020
General Revenue	(More than $73,440,000)	(More than $73,440,000)	(More than $73,440,000)
Total Estimated Net Effect on General Revenue	**(More than $73,440,000)**	**(More than $73,440,000)**	**(More than $73,440,000)**

ESTIMATED NET EFFECT ON OTHER STATE FUNDS			
FUND AFFECTED	FY 2018	FY 2019	FY 2020
Highway Funds	(More than $64,780,000)	(More than $64,780,000)	(More than $64,780,000)
Other State Funds	(More than $23,180,000)	(More than $23,180,000)	(More than $23,180,000)
Total Estimated Net Effect on Other State Funds	**(More than $87,960,000)**	**(More than $87,960,000)**	**(More than $87,960,000)**

Numbers within parentheses: ( ) indicate costs or losses.
This fiscal note contains 14 pages.

ESTIMATED NET EFFECT ON FEDERAL FUNDS			
FUND AFFECTED	FY 2018	FY 2019	FY 2020
Federal Funds	(More than $26,600,000)	(More than $26,600,000)	(More than $26,600,000)
Total Estimated Net Effect on All Federal Funds	**(More than $26,600,000)**	**(More than $26,600,000)**	**(More than $26,600,000)**

ESTIMATED NET EFFECT ON FULL TIME EQUIVALENT (FTE)			
FUND AFFECTED	FY 2018	FY 2019	FY 2020
Total Estimated Net Effect on FTE	**0**	**0**	**0**

☒ Estimated Net Effect (expenditures or reduced revenues) expected to exceed $100,000 in any of the three fiscal years after implementation of the act.

ESTIMATED NET EFFECT ON LOCAL FUNDS			
FUND AFFECTED	FY 2018	FY 2019	FY 2020
Local Government	**(Unknown)**	**(Unknown)**	**(Unknown)**

FISCAL ANALYSIS

ASSUMPTION

Officials from the **Joint Committee on Public Retirement** assume this legislation would create a "substantial proposed change" in future plan benefits as defined in section 105.660(10).

Officials from the **Office of Administration - Budget and Planning** assume this proposal will not impact TSR or the 18(e) calculation. However, it could impact the amount the state will pay for employee retirement benefits. Office of Administration - Budget and Planning defers to MOSERS and MPERS for any specific fiscal impact estimates.

Officials from the **Missouri State Employee's Retirement System (MOSERS)** assume the proposed legislation described in House Bill 918 (1928-01) would, if enacted, require Missouri's public pension plans, when performing a plan's actuarial valuation, to use a plan's expected investment return equal to the ten-year average of actual plan investment returns as of the plan's most recent plan year end as well as using assumptions that project future mortality improvements.

This provision would affect both the Missouri State Employees' Retirement System and the Judicial Retirement Plan (Judges). Currently, the plans utilize an actuarial investment assumption of 7.65%. The ten-year average of actual plan investment returns as of June 30, 2016 is equal to 5.89% which encompasses the great recession of 2008/2009.

While we do not have a projection outlining the effect on MOSERS using a 5.89% investment assumption, as part of our standard actuarial reporting, we do have information relative to 1% below the current assumption investment assumption (or 6.65%) which is represented below:

ASSUMPTION (continued)

	Current	Alternative
Interest Rate Assumption	7.65%	6.65%
Employer Contribution (As a % of payroll)	19.45%	24.65%
Employer Contribution ($ in millions)	$396.5	$502.5
Actuarial Accrued Liability ($ in millions)	$12,751.2	$14,221.6
Plan Funded Ratio	69.6%	62.4%

As the above table notes, this proposal would result in an increase in the employer contribution rate of, at least, $106 million and an increase of, at least, $1.47 billion in MOSERS' actuarial accrued liability.

It is important to note that public pension plans utilize long-term investment strategies. Since the inception of maintaining MOSERS' investment return data in 1981, MOSERS' investments have produced a long-term rate of return of 9.87% as of June 30, 2016.

Officials from the **MoDOT & Patrol Employees' Retirement System (MPERS)** assume the proposed legislation, if enacted, would require public plans to apply the plan's actual average ten year investment return for the most recent plan year end as the assumed rate of return and to use mortality rates that project future mortality improvements for the purpose of completing annual valuations that identify the actuarially determined contribution rates paid by covered employers. MPERS' current investment rate of return assumption is 7.75%.

There are a number of issues to consider with this proposal but this fiscal note will focus on only two. Before adopting such a proposal serious consideration should be given to the following matters:

ASSUMPTION (continued)

1. Using a rolling 10-year average return will greatly increase the volatility of employer contributions which will greatly impair budget planning and forecasting, and, 2. Using this approach will run counter to actuarial standards of practice (ASOP) not to mention specific statutory provisions covering MPERS, as well as MOSERS, under Section 104.1066, RSMo, which, in part, provides that public pensions are required to: a. Maintain intergenerational equity with respect to plan costs, and b. Support a stable pattern of contribution rates.

There are a number of assumptions that drive the funding equation for pension plans but none likely drive funding more so than the investment return assumption. Consequently, requiring a return assumption that can move erratically from one year to the next will make funding extremely volatile for covered employers. A look at past returns will illustrate this point.

The "tech bubble" in 2001-2002 and the Great Recession in 2008-2009 applied significant downward pressure on returns for any period which included those declines. Note in particular the 4% decline from 2008 to 2009 and almost the same incline from 2010 to 2012. That sort of volatility can be avoided by using long-term assumptions (usually 20- to 30-year expectations) rather than short-term (usually 5- to 10-year expectations).

Using a 10-year average would almost certainly result in specific individual year results that would be found "unreasonable" by the consulting actuary and need to be qualified with their valuation results. ASOP's require actuaries to apply assumptions that fall within a reasonable spectrum. If any 10-year period did not meet that reasonableness test, the actuary would not be able to sign off on the valuation results without qualifying the return assumption that deviated from the actuary's professional opinion. Without an officially approved valuation report from its retained actuary, the Board of Trustees would be prohibited from fulfilling its statutory obligations of ensuring the plan was properly funded.

The volatility noted above would also preclude intergenerational equity regarding plan costs. If the return assumption is too high, the current taxpayer pays too little. If the return assumption is too low, the current taxpayer pays too much.

With regard to mortality rates, MPERS has used tables that do project improvements. If, however, that were not the case, most larger plans utilize "experience studies" that periodically (usually every 5 years) assess all funding assumptions. Mortality assumptions (which are generally related to mortality improvements) are often updated with those studies and applied prospectively.

ASSUMPTION (continued)

MPERS' 10-year return for the period ending June 30, 2016, was 5.77%. Using that percentage as our assumed rate of return for our next valuation, which would set the fiscal year 2019 contributions, we estimate that our total employer contributions would increase by over $82 million. This results in a 41% increase from FY 2016 employer contributions. Our typical fiscal notes normally include a 10-year projection of anticipated payroll costs. For this proposal, that exercise seemed ineffectual given the large number of investment returns that could be recognized over that period, none of which can possibly be known at this time, or any reasonable estimate made. It is reasonable, however, to assume that future costs would become volatile and would not be equally distributed between generations of taxpayers.

Officials from the **Missouri Sheriffs' Retirement System** assume this legislation will increase the volatility of the interest rate from year to year, which directly impacts the annual costs of the retirement system.

Based on the historical returns of the System over the last twenty years it was determined that the interest rate over the 20 year period ranged from 10.25% all the way down to 2.37%, versus the current fixed interest rate used of 6.50%.

Accordingly, the interest rate for the next four years of costs under this legislation is projected to be:

2017 7.75%
2018 7.50%
2019 9.60%
2020 8.35%

Note: The negative returns experienced in 2008 dropped out of the 10 yr. averaging period in 2019 leading to a big jump in the interest rate.

It is assumed that the current 6.50% return assumption is still the best estimate for actual asset performance and assumed that the Retirement System would return this amount for the future years of the projection.

These higher interest rates result in a decrease in the annual cost. The approximate cost change for each year versus the baseline is as follows:

ASSUMPTION (continued)

2017 a decrease of $ 600,000
2018 a decrease of $ 600,000
2019 a decrease of $ 1,100,000
2020 a decrease of $ 900,000

Officials from the **Employees Retirement System of the City of St. Louis** assume this proposal directs two specific requirements in regard to the actuarial assumptions used for the annual actuarial valuation. These requirements include:

1) The plan's expected investment return shall equal the ten-year average of actual plan investment returns as of the plan's most recent plan year end; and

2) the plan's expected mortality rate shall be determined using assumptions that project future mortality improvements.

For plan year ending September 30, 2016, the ten-year compounded average rate of return is 5.17%. The net investment rate of return used for the October 1, 2016 was 7.50%. The lower discount rate increased the Actuarial Liability from $974.1 million to $1,231.7 million, an increase of 26.4%. This caused Funded Ratio to decrease from 81.3% to 64.8% and the Total Contribution Rate for the City to increase from 12.22% to 22.76%.

Officials from the **Firefighter's Retirement Plan of the City of St. Louis** assume this proposal directs two specific requirements in regard to the actuarial assumptions used for the annual actuarial valuation. These requirements include:

1) The plan's expected investment return shall equal the ten-year average of actual plan investment returns as of the plan's most recent plan year end; and

2) the plan's expected mortality rate shall be determined using assumptions that project future mortality improvements.

Implementation of this legislation would increase the Actuarial Liability from $216.9 million to $230.7 million, decrease the Funded Ratio from 20.8% to 19.6% and increase the City of St. Louis' contribution from $29.4 million to $31.3 million.

ASSUMPTION (continued)

Officials from the **Public School Retirement System of the City of St. Louis (PSRSSTL)** assume HB 918 contains provisions that concern the PSRSSTL, and which the PSRSSTL believes could damage its long term viability to adequately provide benefits to its beneficiaries. The proposals in HB 918 constitute a "substantial proposed change" to the funding of benefits (contributions) by the employers contributing to the PSRSSTL for members covered by the plan, and appears to materially affect the actuarial soundness of the plan.

Currently, §§ 169.450.15-17 provide actuarial mandates for the board of trustees regarding five year experience studies, actuarial valuations and certifications of contributions payable by the employers. The statutes are clear that the actuarial assumptions used to determine actuarial valuations are to be adopted by the board of trustees of the PSRSSTL based on five-year experience studies performed by the PSRSSTL's actuary. However, HB 918 mandates that the actuary must use an expected rate of investment return assumption based on a ten-year average of actual (market) returns instead of the expected rate of return assumption adopted by the board of trustees.

HB 918 also mandates that the plan's expected mortality rate assumption shall be determined using assumptions that project future mortality improvements. The proposal is unclear on what defines "mortality improvements." Further, the PSRSSTL actuary uses mortality tables mandated by the Pension Protection Act as specified in IRS regulations, 26 CFR 1.430(h)(3)1, applied on a static basis, projected 7 years from the valuation date for annuitants and 15 years for non-annuitants. Therefore, the mortality proposal in HB 918 may conflict with the Pension Protection Act but this too is unclear without further clarification regarding the absent definition referred to earlier.

A Cost Statement as required by § 105.665 RSMo.,1 before final legislative action may be taken. The additional costs of the proposed legislation to the PSRSSTL contributing employers is currently unknown.

ASSUMPTION (continued)

PSRSSTL recently completed a five-year experience study and, as a result of the study, lowered the expected rate of return assumption from 8% to 7.5%. This change in the expected rate of return increased the required employer contribution by 2.41%. The PSRSSTL 10-year average of actual investment returns was 5.1% (2.9% less than the 8% assumed rate of return) for the plan year ending December 31, 2015, the same end-date as the experience study. If one uses the ratio of 2.41:0.5 (a 2.41% increase in employer contributions for every 0.5% decrease in the assumed rate of return) from the experience study, the proposed change in HB 918 would have increased the employer contribution rate by approximately 13.9% (2.41/0.5*2.41%), well above the 0.25% increase in total contribution percent required to constitute a "substantial proposed change" under §105.660(10) RSMo.

Officials from the **Missouri Local Government Employees Retirement System (LAGERS)** annualized return since inception has been 8.3%. Using a fluctuating window of a historical ten-year return average would interject instability and volatility. Using the ten-year average approach based upon previous market periods would have mandated a range of investment assumptions from as low as 2.7% to as high as 14.3% causing dramatic swings in employer contribution rates.

Given the volatility and uncertainty of the periods future returns, the amount of additional fiscal cost is undeterminable and possibly substantial.

Officials from the **Kansas City Public School Retirement System (KCPSRS)** assume the provisions of HB 918 (1928-01) mandate the actuary for Missouri public pension plans, including the KCPSRS, to use the ten-year average of actual investment return as of the plan's most recent plan year end as the actuarial expected investment return in the actuarial valuation and to use a mortality rate that project future mortality improvements.

The fiscal impact of the change in the investment rate of return assumption from a long-term (30-year) assumption to an average based on the year end returns would cause the System to have a potential contribution shortfall of $80,198,080 for the next 10 years caused by the drop in the investment return assumption from 7.75% to the 10-year average (2007 - 2016) of 4.85%. During any given 10-year period, actual investment experience may be an entirely different outcome than the average due to the volatility of the actual returns incurred.

The fiscal impact of the use a mortality rate that project future mortality improvements is unknown. Our actuary uses a table that is created by projecting mortality improvements a specific number of years which varies for active versus retirees. Every year our actuary extends the date on the table by one year therefore the current method reflects mortality improvements.

ASSUMPTION (continued)

Officials from the **County Employees' Retirement Fund (CERF)** assume the provisions of this proposal would require generating a third actuarial valuation each year. The cost would total $20,000 each year.

For fiscal note purposes, **Oversight** will use the MOSERS and MPERS estimated increase in employer contribution.

Oversight assumes the contributions to MOSERS will be 60% General Revenue, 22% Federal and 18% Other State Funds.

Oversight will reflect the impact at "more than" the amounts listed below.

MOSERS	FY 2018	FY 2019	FY 2020
General Revenue (60%)	($63,600,000)	($63,600,000)	($63,600,000)
Federal Funds (22%)	($23,320,000)	($23,320,000)	($23,320,000)
Other State Funds (18%)	($19,080,000)	($19,080,000)	($19,080,000)
TOTAL	**($106,000,000)**	**($106,000,000)**	**($106,000,000)**

Oversight also assumes the contributions to MPERS will be 79% Highway Fund, 12% General Revenue, 5% Other State Funds and 4% Federal Funds.

MPERS	FY 2018	FY 2019	FY 2020
Highway Fund (79%)	($64,780,000)	($64,780,000)	($64,780,000)
General Revenue (12%)	($9,840,000)	($9,840,000)	($9,840,000)
Other State Funds (5%)	($4,100,000)	($4,100,000)	($4,100,000)
Federal Funds (4%)	($3,280,000)	($3,280,000)	($3,280,000)
TOTAL	**($82,000,000)**	**($82,000,000)**	**($82,000,000)**

ASSUMPTION (continued)

Oversight assumes this proposal will affect local political subdivisions (including all public school districts). Since Oversight only received responses from a portion of all the possible retirement systems that could have a potential fiscal impact, Oversight will assume an unknown fiscal impact to all local political subdivisions and public school districts.

If the actual 10 year return is lower than the investment rate of return used by retirement plans, the amount of employer contributions could increase substantially. Conversely, if the 10 year return is higher than the assumed investment rate of return, the employer contribution could decease. Since the current 10 year window would include the great recession of 2008 and 2009, **Oversight** will assume for the three year window of this fiscal note that the actual returns have been less than the expected return, causing an increase in employer contribution.

FISCAL IMPACT - State Government	FY 2018 (10 Mo.)	FY 2019	FY 2020
GENERAL REVENUE FUND			
Cost - MOSERS Increase in Employer Contributions	(More than $63,600,000)	(More than $63,600,000)	(More than $63,600,000)
Cost - MPERS Increase in Employer Contributions	(More than $9,840,000)	(More than $9,840,000)	(More than $9,840,000)
ESTIMATED NET EFFECT ON THE GENERAL REVENUE FUND	**(More than $73,440,000)**	**(More than $73,440,000)**	**(More than $73,440,000)**
HIGHWAY FUNDS			
Cost - MPERS Increase in Employer Contributions	(More than $64,780,000)	(More than $64,780,000)	(More than $64,780,000)
ESTIMATED NET EFFECT ON THE HIGHWAY FUNDS	**(More than $64,780,000)**	**(More than $64,780,000)**	**(More than $64,780,000)**

FISCAL IMPACT - State Government (continued)	FY 2018 (10 Mo.)	FY 2019	FY 2020
OTHER STATE FUNDS			
Cost - MOSERS Increase in Employer Contributions	(More than $19,080,000)	(More than $19,080,000)	(More than $19,080,000))
Cost - MPERS Increase in Employer Contributions	(More than $4,100,000)	(More than $4,100,000)	(More than $4,100,000)
ESTIMATED NET EFFECT ON OTHER STATE FUNDS	**(More than $23,180,000)**	**(More than $23,180,000)**	**(More than $23,180,000)**
FEDERAL FUNDS			
Cost - MOSERS Increase in Employer Contributions	(More than $23,320,000)	(More than $23,320,000)	(More than $23,320,000)
Cost - MPERS Increase in Employer Contributions	(More than $3,280,000)	(More than $3,280,000)	(More than $3,280,000)
ESTIMATED NET EFFECT ON FEDERAL FUNDS	**(More than $26,600,000)**	**(More than $26,600,000)**	**(More than $26,600,000)**

FISCAL IMPACT - Local Government	FY 2018 (10 Mo.)	FY 2019	FY 2020
LOCAL POLITICAL SUBDIVISIONS			
Cost - All Public Employee Retirement Plans Increase in Employer Contributions	(Unknown)	(Unknown)	(Unknown)
ESTIMATED NET EFFECT ON LOCAL POLITICAL SUBDIVISIONS	**(Unknown)**	**(Unknown)**	**(Unknown)**

FISCAL IMPACT - Local Government (continued)	FY 2018 (10 Mo.)	FY 2019	FY 2020
PUBLIC SCHOOL DISTRICTS			
Cost - All Public School District Retirement Systems Increase in Employer Contributions	(Unknown)	(Unknown)	(Unknown)
ESTIMATED NET EFFECT ON PUBLIC SCHOOL DISTRICTS	**(Unknown)**	**(Unknown)**	**(Unknown)**

FISCAL IMPACT - Small Business

No direct fiscal impact to small businesses would be expected as a result of this proposal.

FISCAL DESCRIPTION

This proposal requires the actuary for each public employee retirement plan to use certain assumptions when performing the plan's actuarial valuation.

This legislation is not federally mandated, would not duplicate any other program and would not require additional capital improvements or rental space.

SOURCES OF INFORMATION

Joint Committee on Public Retirement
Missouri State Employee's Retirement System
MoDOT & Patrol Employees' Retirement System
Office of Administration - Budget and Planning
Missouri Sheriffs' Retirement System
Employees Retirement System of the City of St. Louis
Firefighter's Retirement Plan of the City of St. Louis
Public School Retirement System of the City of St. Louis
Missouri Local Government Employees Retirement System
Kansas City Public School Retirement System
County Employees' Retirement Fund

Mickey Wilson, CPA

Director
April 10, 2017

Ross Strope
Assistant Director
April 10, 2017

KC:LR:OD