FISCAL ESTIMATE WORKSHEET **Fiscal Note: 1448-01**
COMMENT MEMO **Bill No.: HB 609**

Please use this form to explain changes your agency feels would help to implement the proposal -such as pointing out ambiguous language, omissions, or possible changes that would make the proposal more administratively feasible, in your agency's view. **(Note: this information will be forwarded to the bill sponsor and the bill drafter.)**

Analyst:	Jessica Harris	**Date:**	2/28/19
Agency:	MPERS	**Telephone:**	573-298-6080
Division:	Retirement	**E-Mail**:	fiscalnotes@mpers.org

Comments:

The proposed legislation would, if enacted, modify who is eligible to elect a BackDROP payment in the 2011 Tier of the Year 2000 Plan under section 104.1091 RSMo. The BackDROP payment option provides for a benefit to be calculated as if the member elected to retire on a previous date, but at least two years (but no more than five years) beyond normal retirement eligibility. The member who elects BackDROP receives a lump sum payment equal to 90% of the life income annuity the member would have received during the BackDROP period. Currently, no member of the 2011 Tier is eligible to elect the BackDROP payment. This is an option only available to members of the Closed and Year 2000 plans. The proposed legislation would provide the election only for uniformed members of the Highway Patrol as defined in section 104.010 RSMo and radio personnel of the Highway Patrol as defined in section 43.010 RSMo. For the purposes of clarity, no other 2011 Tier members of the Highway Patrol (non-uniformed) or any 2011 Tier members of MoDOT or MPERS would eligible under the current proposal.

It should be noted that the proposed legislation could pose an equal protection question because it is only available to a select group of members, rather than to all members of the 2011 Tier. Under the Equal Protection Clause of the Fourteenth Amendment to the United States Constitution, there is a prohibition of a state against denying “to any person within its jurisdiction the equal protection of the laws.” U.S. Const. amend XIV, § 1. The purpose of the equal protection clause is to secure every person within the state’s jurisdiction against intentional and arbitrary discrimination. Sunday Lake Iron Co. v. Township of Wakefield, 247 U.S. 350, 352.

Other members of the 2011 Tier who are ineligible for the BackDROP election could argue that they are being discriminated against because they do not have the same options for retirement payments as the uniformed patrol members and the radio personnel.

The provisions of section 105.684 RSMo, prevent the adoption of lump sum benefit payments to participants when the plan's funded ratio is not at least 80% and the change to the plan provisions would increase the actuarial accrued liability. As of the most recent actuarial valuation MPERS funded status is 57.1%, falling below the statutorily required minimum funded status. Included with our commentary is the supplemental actuarial valuation related to this proposed legislative change. The valuation illustrates an increase in the actuarial accrued liability. Consequently, these changes could not be adopted or implemented if passed by the legislature.

MPERS
Supplemental Actuarial Valuation
as of June 30, 2018

Requested By: Ms. Greta Bassett-Seymour, General Counsel, Missouri Department of Transportation and Highway Patrol Employees' Retirement System

Date: February 1, 2019

Submitted By: Kenneth G. Alberts and Heidi G. Barry, ASA, MAAA, FCA
Gabriel, Roeder, Smith & Company

This report contains the results of a supplemental actuarial valuation of a proposed change to RSMo 104.1091 which would allow Tier 2011 Uniform members and Tier 2011 Non-uniform members who are considered Radio Personnel to participate in the BackDROP, as requested by MPERS. Heidi G. Barry is a Member of the American Academy of Actuaries (MAAA) and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. The signing individuals are independent of the plan sponsor.

The purpose of this report is to measure the financial effect on MPERS' funded status and computed employer contributions of the proposed system change. This report may be shared with other parties, but only in its entirety and only with the permission of the Board. This report should not be relied on for any purpose other than the purpose described below. GRS is not responsible for unauthorized use of this report.

Supplemental valuations do not predict the result of future actuarial valuations. Rather, supplemental valuations give an indication of the probable effect of the change only on future valuations without comment on the complete end result of the future valuations.

This valuation was based upon data as of May 31, 2018 (submitted for the June 30, 2018 actuarial valuation) and a list of Radio Personnel furnished by MPERS. There were six (6) members of the Radio Personnel who were hired after May 31, 2018 and were therefore excluded from this study. Actuarial methods and assumptions, except where otherwise noted, were the same as those used in the last regular annual actuarial valuation as of June 30, 2018. In particular:

- The assumed rate of interest was 7.00%.
- The valuation method was the entry-age actuarial cost method.
- The amortization period was 6 years for unfunded retiree liabilities and 21 years for unfunded active liability; amortizations were calculated assuming payroll would increase 3.00% per year before the changes.
- Price inflation is assumed to be 2.25% per year.

A brief summary of the data used in this valuation is presented on the next page.

Active Members in 2011 Tier

Group	Number	Covered Payroll	Average in Years: Age	Average in Years: Service
Non-Uniform CP				
Radio Personnel*	51	$ 2,127,358	35.6	3.7
Other	356	12,640,121	38.8	3.2
Non-Uniform HP	1,792	65,479,900	36.9	2.7
Uniform Patrol	314	15,534,256	29.5	4.1
Total	**2,513**	**$ 95,781,635**	**36.2**	**2.9**

* *There were six (6) additional members reported by MPERS staff as Radio Personnel hired after May 31, 2018 who were excluded from this study.*

The proposed changes do not apply to Retirees and Beneficiaries or Terminated Vested members.

See the Appendix for a summary of all current MPERS members as of June 30, 2018.

Proposed Changes to Retirement Provisions

Current Provision Affected:

The Closed Plan and Year 2000 Plan BackDROP Option (This option is not currently available to Tier 2011 members)

Legislation effective January 1, 2002 provides a Deferred Retirement Option Provision (BackDROP) to members of MPERS. It is available in both the Closed Plan and the Year 2000 Plan.

To be eligible to participate in the BackDROP, a member must have been eligible to retire under normal age and/or service conditions for at least two years. A retroactive starting date is established for BackDROP purposes which is the later of: 1) the member's normal retirement date; or 2) five years prior to the annuity starting date under the retirement plan selected by the member.

The BackDROP period for the accumulation of the BackDROP amount is from the retroactive starting date to the annuity starting date. This results in a BackDROP period of one to five years depending upon the individual situation.

A theoretical BackDROP account is accumulated that includes 90% of the value of the benefit payments that would have been paid during the BackDROP period had the member retired at the retroactive starting date. These payments include applicable post-retirement benefit increases. These payments do not include any reduction for spouse options during the BackDROP period. The member may choose the BackDROP period in twelve-month increments or their maximum period, not to exceed 60 months.

The member is paid the resulting lump sum value of the BackDROP account as of the annuity starting date or as three equal annual installments beginning at the annuity starting date.

The annuity benefit payable from the actual retirement date is computed with years of service and final average pay as of the retroactive starting date for the BackDROP. Post-retirement benefit increases that occurred during the BackDROP period are applied in the calculation of the monthly annuity.

Proposed Changes to Retirement Provisions

Proposed Provisions Under Consideration:

HB 609 states, "The provisions of subsection 6 of section 104.1024 shall not apply to members covered by this section, except for uniformed members of the highway patrol as defined in this chapter and radio personnel as defined in section 43.010."

Effectively, Tier 2011 Uniformed members or Non-uniformed Radio Personnel would be eligible to participate in the BackDROP.

Discussion

The actual cost of a BackDROP provision is related to 1) the reduction in benefits paid during the BackDROP period (10% in this case), 2) the reduction in lifetime benefits due to using FAP and credited service as of the BackDROP date elected, and 3) the change in behavior resulting from participants in the program (such as delaying retirement in order to participate in the BackDROP program).

Item 1) is defined by the BackDROP provisions and is easily modeled in the valuation. Item 2) is related to changes in salary and service over time and is already modeled in the regular valuation. Item 3) is a little more difficult. It is modeled by changing rates of retirement before and after the proposed plan. Since we have no Tier 2011 plan experience to study, we estimated the change in behavior based on our observation of the Closed Y2K plan experience as well as our observations of experience with other similar clients.

We are therefore showing cost estimates under two cases:

1. No change in retirement rates (i.e., no change in members' behavior), and
2. Changing retirement rates to reflect a delaying of retirement due to the proposed provision (lowering rates of retirement in the first 3-5 years and increasing rates thereafter).

MPERS
Supplemental Actuarial Valuation
as of June 30, 2018

Results

	Present Provisions	No Change in Assumed Member Retirement Behavior due to BackDROP: Proposed Provisions	No Change in Assumed Member Retirement Behavior due to BackDROP: Increase/ (Decrease)	Members Assumed to Delay Retirement due to BackDROP: Proposed Provisions	Members Assumed to Delay Retirement due to BackDROP: Increase/ (Decrease)
FY 2020 Contribution					
Normal Cost	10.55 %	10.58 %	0.03 %	10.57 %	0.02 %
Unfunded Liability	45.66	45.67	0.01	45.67	0.01
Expenses	1.26	1.26	0.00	1.26	0.00
Disability Insurance	0.53	0.53	0.00	0.53	0.00
Subtotal Employer Contribution Rate	58.00 %	58.04 %	0.04 %	58.03 %	0.03 %
Change in Stabilization Reserve Contributions*	0.00	(0.04)	(0.04)	(0.03)	(0.03)
Total Employer Contribution Rate	58.00 %	58.00 %	0.00 %	58.00 %	0.00 %
Employer Normal Cost ($ millions)	$ 39.3	$ 39.5	$ 0.2	$ 39.4	$ 0.1
Estimated Employer Contribution ($ millions)	$ 216.3	$ 216.3	$ -	$ 216.3	$ -
Valuation Results as of June 30, 2018 ($ millions)^					
Market Value of Assets (MVA)	$ 2,314.5	$ 2,314.5	$ -	$ 2,314.5	$ -
Actuarial Accrued Liability (AAL)	3,981.8	3,982.3	0.5	3,982.2	0.4
Actuarial Value of Assets (AVA)	2,274.2	2,274.2	-	2,274.2	-
Unfunded Actuarial Accrued Liability (UAAL)	$ 1,707.6	$ 1,708.1	$ 0.5	$ 1,708.0	$ 0.4
Percent Funded	57.1 %	57.1 %	0.0	57.1 %	0.0

* *At the September 25, 2014 Board Meeting, the Board adopted the use of a contributions stabilization reserve that would result in a MPERS employer contribution of 58% of payroll.*

^ ***May not add due to rounding.***

MPERS
Supplemental Actuarial Valuation
as of June 30, 2018
No Change in Assumed Retirement Behavior Due to Proposed BackDROP

	Current Provisions (Beginning of Year)				Proposed Provisions (Beginning of Year)				Projected Employer Contributions					
									Current		Est. Impact		Proposed	
Fiscal Year	Projected AAL	Projected AVA	Funded Ratio	Projected MVA	Projected AAL	Projected AVA	Funded Ratio	Projected MVA	Rate	Dollars	Rate	Dollars	Rate	Dollars
2019	$ 3,981,839	$ 2,274,248	57.1%	$ 2,314,530	$ 3,982,307	$ 2,274,248	57.1%	$ 2,314,530						
2020	4,025,747	2,403,859	59.7%	2,415,841	4,026,323	2,403,859	59.7%	2,415,841	58.00%	$ 216,284	0.00%	$ -	58.00%	$ 216,284
2021	4,062,270	2,519,206	62.0%	2,520,705	4,063,002	2,519,206	62.0%	2,520,705	51.93%	199,458	0.05%	192	51.98%	199,650
2022	4,090,771	2,604,713	63.7%	2,605,063	4,091,714	2,604,912	63.7%	2,605,262	51.13%	202,277	0.06%	237	51.19%	202,514
2023	4,110,294	2,687,369	65.4%	2,687,420	4,111,466	2,687,827	65.4%	2,687,878	50.62%	206,267	0.05%	204	50.67%	206,471
2024	4,119,756	2,768,434	67.2%	2,768,444	4,121,221	2,769,135	67.2%	2,769,146	50.12%	210,356	0.07%	294	50.19%	210,650
2025	4,117,940	2,847,724	69.2%	2,847,726	4,119,768	2,848,779	69.1%	2,848,780	49.61%	214,462	0.08%	346	49.69%	214,808
2026	4,103,609	2,924,722	71.3%	2,924,722	4,105,834	2,926,208	71.3%	2,926,209	49.10%	218,625	0.08%	356	49.18%	218,981
2027	4,075,333	2,998,881	73.6%	2,998,881	4,078,035	3,000,840	73.6%	3,000,840	48.55%	222,662	0.10%	459	48.65%	223,120
2028	4,031,650	3,069,401	76.1%	3,069,401	4,034,874	3,071,972	76.1%	3,071,972	48.00%	226,743	0.09%	425	48.09%	227,168
2029	3,970,882	3,135,587	79.0%	3,135,587	3,974,723	3,138,777	79.0%	3,138,777	47.39%	230,578	0.11%	535	47.50%	231,113

Projection results are before applying the contribution stabilization reserve fund or the minimum Employer Contribution Rate of 58% for FY 2021 and beyond.

Projections show the Employer rate adopted by the Board for FY 2020 before the proposed change. Employer rates for the proposed change are effective with FY 2021. The actual timing of rates based on the proposed changes would be a matter of Board Policy.

MPERS
Supplemental Actuarial Valuation
as of June 30, 2018
Members Assumed to Delay Retirement Due to Proposed BackDROP

	Current Provisions (Beginning of Year)				Proposed Provisions (Beginning of Year)				Projected Employer Contributions					
Fiscal	Projected	Projected	Funded	Projected	Projected	Projected	Funded	Projected	Current		Est. Impact		Proposed	
Year	AAL	AVA	Ratio	MVA	AAL	AVA	Ratio	MVA	Rate	Dollars	Rate	Dollars	Rate	Dollars
2019	$ 3,981,839	$ 2,274,248	57.1%	$ 2,314,530	$ 3,982,236	$ 2,274,248	57.1%	$ 2,314,530						
2020	4,025,747	2,403,859	59.7%	2,415,841	4,026,246	2,403,859	59.7%	2,415,841	58.00%	$ 216,284	0.00%	$ -	58.00%	$ 216,284
2021	4,062,270	2,519,206	62.0%	2,520,705	4,062,920	2,519,206	62.0%	2,520,705	51.93%	199,458	0.04%	154	51.97%	199,611
2022	4,090,771	2,604,713	63.7%	2,605,063	4,091,626	2,604,872	63.7%	2,605,222	51.13%	202,277	0.06%	237	51.19%	202,514
2023	4,110,294	2,687,369	65.4%	2,687,420	4,111,372	2,687,784	65.4%	2,687,836	50.62%	206,267	0.05%	204	50.67%	206,471
2024	4,119,756	2,768,434	67.2%	2,768,444	4,121,078	2,769,090	67.2%	2,769,100	50.12%	210,356	0.06%	252	50.18%	210,608
2025	4,117,940	2,847,724	69.2%	2,847,726	4,119,529	2,848,686	69.2%	2,848,688	49.61%	214,462	0.06%	259	49.67%	214,722
2026	4,103,609	2,924,722	71.3%	2,924,722	4,105,488	2,926,020	71.3%	2,926,021	49.10%	218,625	0.06%	267	49.16%	218,892
2027	4,075,333	2,998,881	73.6%	2,998,881	4,077,574	3,000,546	73.6%	3,000,546	48.55%	222,662	0.07%	321	48.62%	222,983
2028	4,031,650	3,069,401	76.1%	3,069,401	4,034,285	3,071,515	76.1%	3,071,515	48.00%	226,743	0.07%	331	48.07%	227,074
2029	3,970,882	3,135,587	79.0%	3,135,587	3,973,995	3,138,191	79.0%	3,138,191	47.39%	230,578	0.08%	389	47.47%	230,967

Projection results are before applying the contribution stabilization reserve fund or the minimum Employer Contribution Rate of 58% for FY 2021 and beyond.

Projections show the Employer rate adopted by the Board for FY 2020 before the proposed change. Employer rates for the proposed change are effective with FY 2021. The actual timing of rates based on the proposed changes would be a matter of Board Policy.

Comments

Comment 1: Chapter 105 Section 684 prohibits MPERS from adopting or implementing a plan change if the enhancement increases the plans accrued liability and the plan is not at least 80% funded before the plan change. MPERS is 57.1% funded before the plan change. Our estimates indicate that the proposed change will increase the accrued liability.

Comment 2: The simplified projections on pages 6 and 7 show the possible total contributions in each of the next 10 years before and after the proposed change. These projections also account for the market gains and losses prior to June 30, 2018 that are scheduled to be recognized in the next two years. Due to time constraints, the simplified projection methods are based on:

- the June 30, 2018 covered payroll projected with wage inflation;
- a roll-forward technique to project payroll, distributions and benefits;
- computed contributions based on funding value and market value as of June 30, 2018;
- closed amortization periods that are the equivalent single amortization period for the specific group (Non-Uniform – 12.6 years on a valuation asset basis; Uniform – 20.2 years on a valuation asset basis);
- no future gains or losses (beyond the market gains and losses already experienced); and
- an additional 5% of payroll each year being covered by the 2011 Tier.

The projections do not reflect the Board's minimum Employer Contribution Rate or the Contribution Stabilization Reserve Fund after FY 2020.

Comment 3: The estimated cost of the proposal is shown in two ways: 1) No change in behavior due to the proposal and 2) a delaying of retirement, on average, due to the proposal (in general, rates for earlier ages were reduced by approximately 20% and rates for later ages were increased by approximately 20%). The retirement patterns for each of these analyses are shown in the appendix. If the proposal is adopted and allowed to be implemented under Chapter 105 section 684, we will use method 2 in subsequent valuations until such time as sufficient experience emerges to develop plan specific rates of retirement. Actual plan experience will dictate the cost of the proposed change and may be substantially different then shown herein. In particular, if the program does incentivize members to delay retirement substantially longer than modeled in method 2, on average, it could be cost neutral or cost positive.

Comment 4: We understand that the BackDROP provisions may have been designed to be cost neutral under the Y2K Plan for MOSERS. However, it is important to note a program of this nature can be cost neutral for one group under one set of plan provisions, demographic assumptions, and/or economic conditions, but could become cost positive or cost negative if the plan provisions, demographic assumptions or economic conditions change, or if applied to another group.

Comment 5: The Tier 2011 plan has not been in existence long enough to develop retirement patterns based on plan experience. The baseline assumptions were developed based on Closed and Y2K experience and an estimate of how that experience would change under the Tier 2011 plan provisions.

Comments

Comment 6: The supplemental valuation results assume that the proposed change would be effective on the valuation date. HB 609 does not have a specified effective date. Results of this supplemental valuation would not be materially different if a delayed effective date were modeled.

Comment 7: The Board has adopted a contribution policy that includes a Contribution Stabilization Reserve Fund. If the Contribution Stabilization Reserve Fund is maintained so as to keep the employer contribution level, the proposed benefit change would not have an impact on the projected contribution rates (or dollars) during the next 10 years, assuming no future gains or losses are experienced.

Comment 8: This calculation is based upon assumptions regarding future events, which may or may not materialize. It is also based upon present and proposed plan provisions that are outlined in the report. If you have reason to believe that the assumptions that were used are unreasonable, that the plan provisions are incorrectly described, that important plan provisions relevant to this proposal are not described, or that conditions have changed since the calculations were made, you should contact the authors of this report prior to relying on information in the report.

Comment 9: This report is intended to describe the financial effects of the proposed plan changes. No statement in this report is intended to be interpreted as a recommendation in favor of or in opposition to the proposed changes.

Comment 10: We recommend legal counsel perform a compliance review of the proposed change to confirm compliance with State and Federal laws and regulations.

Comment 11: In the event that more than one plan change is being considered, it is very important to remember that the results of separate actuarial valuations cannot generally be added together to produce a correct estimate of the combined effect of all of the changes. The total can be considerably greater than the sum of the parts due to the interaction of various plan provisions with each other, and with the assumptions that must be used.

Comment 12: If you have reason to believe that the information provided in this report is inaccurate, or is in any way incomplete, or if you need further information in order to make an informed decision on the subject matter of this report, please contact the author of the report prior to making such decision.

Comment 13: This report includes a measure of the AVA as a percent of AAL. Unless otherwise indicated, with regard to any such measurements in this report:

(1) This measurement is inappropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligations.
(2) The measurement is inappropriate for assessing the need for or amount of future employer contributions.

Comments

Comment 14: A determination regarding the ability of the Plan sponsor to make contributions necessary to fund the plan is not required by actuarial standards, is not within the actuarial skill set and is out of scope for this project. Consequently, the actuary performed no such determination.

Comment 15: Under Actuarial Standards of Practice Statement 51, we are required to assess risks in supplemental valuations if the proposed provision changes “significantly change the types or levels of risk of the pension plan.” While we do not believe this proposed change significantly changes the types or levels of risk of the plan, we have commented on several of the risks in measuring the cost of the proposed change.

Appendix

A summary of the data used in the June 30, 2018 actuarial valuation is shown below:

	Non-Uniformed				
	Patrol Employees	**MoDOT Employees**	**Non-Uniformed Total**	**Uniformed Patrol**	**Total**
Participants					
Active Members					
Closed Plan	284	1,605	1,889	534	2,423
Year 2000 Plan (also closed)	423	1,649	2,072	383	2,455
Year 2011 Tier (open)	407	1,792	2,199	314	2,513
Total Active Members	1,114	5,046	6,160	1,231	7,391
Total Active Members Prior Year	*1,119*	*5,073*	*6,192*	*1,264*	*7,456*
Retiree -- Regular Pensioners					
Closed Plan	488	3,426	3,914	942	4,856
Year 2000 Plan (also closed)	566	3,343	3,909	6	3,915
Year 2011 Tier (open)	1	0	1	0	1
Total Regular Pensioners	1,055	6,769	7,824	948	8,772
Self Insured Disability Pensioners	3	43	46	3	49
Fully Insured Disability Pensioners	13	77	90	5	95
Terminated Vested Members	218	1,604	1,822	158	1,980
Total	**2,403**	**13,539**	**15,942**	**2,345**	**18,287**
Active Member Valuation Payroll	$47,859,971	$219,664,025	$ 267,523,996	$ 83,972,559	$ 351,496,555
Active Mem. Val. Payroll Prior Year	*$46,882,549*	*$216,529,976*	*$ 263,412,525*	*$ 85,566,687*	*$ 348,979,212*
Unfunded Actuarial Accrued Liability	N/A	N/A	$1,247,028,653	$460,562,166	$1,707,590,819

Appendix

Current and adjusted rates of retirement to model the change in member behavior due to the proposed BackDROP are shown below:

Age	% of Active Participants Retiring					
	2011 Tier					
	Non-Uniformed Normal				Uniformed	
	Age & Service		Rule of 90		Normal	
	Current	Adjusted	Current	Adjusted*	Current	Adjusted
50						
51						
52						
53						
54						
55			30%	ABME@	30%	24%
56			30%	ABME@	30%	24%
57			30%	ABME@	30%	24%
58			30%	ABME@	30%	40%
59			30%	ABME@	30%	40%
60			30%	ABME@	100%	100%
61			30%	ABME@	100%	100%
62			30%	ABME@	100%	100%
63			30%	ABME@	100%	100%
64			30%	ABME@	100%	100%
65			30%	ABME@	100%	100%
66			30%	ABME@	100%	100%
67	50%	40%	30%	ABME@	100%	100%
68	50%	40%	30%	ABME@	100%	100%
69	50%	60%	30%	ABME@	100%	100%
70	100%	75%	100%	100%	100%	100%
71	100%	75%	100%	100%	100%	100%
72	100%	100%	100%	100%	100%	100%
73	100%	100%	100%	100%	100%	100%
74	100%	100%	100%	100%	100%	100%

@ Adjusted Based on Member's Eligibility.

** The adjusted rates of retirement under the Rule of 90 provision were decreased by 20% for the first 5 years of eligibility and increased for the next 5 years of eligibility. These members were assumed to retire no later than age 70.*