April 21, 2021

Ms. Maria Walden
Director of Legislation and Policy
PSRS and PEERS of Missouri
3210 W. Truman Blvd.
Jefferson City, MO 65109

Re: Public School Retirement System of Missouri - Same-Sex Domestic Partner Pop Up and Successor Beneficiary Rights - SB 608

Dear Maria:

As requested and pursuant to our engagement letter with the Public School and Education Employee Retirement Systems of Missouri ("PSRS and PEERS of Missouri") dated July 11, 2019, we have estimated the fiscal impact of proposed changes to the Public School Retirement System ("PSRS", or "System"). The proposed changes are described in 2021 Senate Bill 608 ("SB 608"), a copy of which was provided to us by PSRS and PEERS of Missouri on March 31, 2021.

The remainder of this letter includes our understanding of the proposed changes, a description of the analysis we performed, and the results of our analysis. Our assessment of risk and summaries of the actuarial assumptions, actuarial methods, benefit provisions, and other disclosures related to our analysis can be found in the following enclosed exhibits:

- Exhibit I - Assessment and Disclosure of Risk
- Exhibit II - Summary of Actuarial Assumptions and Methods
- Exhibit III - Summary of Plan Provisions
- Exhibit IV - Disclosures

Summary of Proposed Changes

It is our understanding that the proposed changes would extend the options afforded to retired members who elected a reduced retirement allowance under Subsection 3 of Section 169.070 of the Revised Statutes of the State of Missouri ("RSMo") with his or her spouse as the nominated beneficiary to retired members who made a similar election prior to September 1, 2015 with a same-sex domestic partner as the nominated beneficiary. In particular, the proposed changes would allow:

1. Any retiree receiving a retirement allowance who, on or before September 1, 2015, elected a reduced retirement allowance under one of the joint-and-survivor or certain-and-life payment options of Subsection 3 of RSMo 169.070 with his or her same-sex domestic partner as the nominated beneficiary may have their retirement allowance "pop up" to the payment amount that would have applied under the single life annuity option, provided that:
   a) the retired person attests via affidavit that a same-sex domestic partnership existed at the time of the nomination of the beneficiary and that that partnership has since ended,
   b) the nominated beneficiary consents to immediate removal as nominated beneficiary and disclaims all rights to future benefits, or the parties obtain a court order that the benficiary can be removed, and
   c) if the retired person and the nominated beneficiary were legally married in a state that recognized same-sex marriage at the time of retirement, or have since become legally married, the marriage must be dissolved and the dissolution decree must provide for sole retention by the retired person of all rights in the retirement allowance.

Summary of Proposed Changes (continued)

2. Any retiree receiving a retirement allowance who, on or before September 1, 2015, elected a reduced retirement allowance under one of the joint-and-survivor or certain-and-life payment options under subsection 3 of RSMo 169.070 with his or her same-sex domestic partner as the nominated beneficiary may nominate a successor beneficiary, provided that:

   a) the nominated same-sex domestic partner precedes the retired person in death and the retired person attests via affidavit that a same-sex domestic partnership existed at the time of the nomination of the beneficiary, or

   b) the retired person attests via affidavit that a same-sex domestic partnership existed at the time of the nomination of the beneficiary and that that partnership has since ended and the nominated beneficiary consents to immediate removal as nominated beneficiary and disclaims all rights to future benefits, or the parties obtain a court order that the beneficiary can be removed, and

   c) in the instance of legal marriage at the time of, or after retirement, a marriage dissolution decree clearly states the retired member retains sole possession of his or her retirement benefits.

Any nomination of a successor beneficiary under these provisions must be filed within one year of September 1, 2021 or within one year of the marriage of the retired person and the successor beneficiary, whichever is later.

The above is our summary of the changes and is not intended to be a comprehensive outline of the provisions of the proposed bill.

We note that line 93 of the proposed language in SB 608 refers to "sections 169.600 to 169.712". It is our understanding that this is a drafting error and should refer to "sections 169.010 to 169.140", and that this error would be correct prior to finalization.

Analysis

System staff previously estimated the number of retired PSRS members potentially affected by the proposed changes to be 62 retired PSRS members.

We would expect the following impact as a result of each new option if made available to the group of retired members defined above.

- **Option 1 - Allowing a retiree the opportunity to pop-up their retirement allowance from a joint-and-survivor annuity to a single life annuity -** All annuity payment options available to PSRS members are actuarially equivalent in value, based on certain mortality and interest assumptions adopted by the Board of Trustees of PSRS and PEERS of Missouri. Both the joint-and-survivor and certain-and-life payment options provide a lower monthly payment to retired members, compared to the single life annuity payment option, to account for the fact that the member's spouse/beneficiary may continue to receive payments after the member is deceased. The reduction in monthly payment under these payment forms is, in effect, a life insurance premium paid by the member in exchange for the continuation of monthly benefits upon the member's death.

  Allowing a member's benefit to "pop up" to the life annuity payment amount sometime after commencement is equivalent to a member paying life insurance premiums for a benefit payable after they die, but then cancelling the life insurance policy prior to their death without receiving a refund of the premiums paid. This results in a small actuarial gain to PSRS equal to the difference between the original life annuity payment amount the member could have received and the reduced payment amount actually received for the period between the date of commencement and the date a "pop up" election is effective.

Analysis (Continued)

- **Option 2 - Allowing current retirees in a same-sex domestic partnership or in a same-sex marriage prior to September 1, 2015 to change nominated beneficiary upon a later marriage should certain criteria be met -** When this election is made, the benefit is adjusted actuarially to reflect the age of the new beneficiary, so we would expect this to be cost neutral.

In summary, we estimate the impact of the proposed provisions to be **an insignificant fiscal gain** to PSRS.

Please see the enclosed exhibits for summaries of identified risks associated with the proposed change and summaries of the assumptions, methods, and plan provisions reflected in our analysis.

Please call if you have any questions or if you require additional information.

Sincerely,

Cindy Fraterrigo

Cindy Fraterrigo, FSA, EA, MAAA

Brandon A. Robertson

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cc: Dearld Snider - PSRS and PEERS of Missouri
Anita Brand - PSRS and PEERS of Missouri
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Assessment and Disclosure of Risk

A. Assessment of Risk - June 30, 2020 Valuation

Please see the June 30, 2020 actuarial valuation report, dated November 12, 2020, for an assessment of the risks associated with the measurement of pension liability and contributions.

Assessment and Disclosure of Risk

B. Assessment of Risk - Same-Sex Domestic Partner Pop Up and Successor Beneficiary Rights

We do not believe the proposed changes would introduce new risks, or significantly alter the level of the risks, identified in our June 30, 2020 actuarial valuation report for the System overall. However, below is an assessment of risks specific to our estimation of the fiscal impact of the proposed changes.

- Demographic and Longevity Risk - Our estimated fiscal impact of the proposed change is a function of assumed mortality experience. The actual fiscal impact of the proposed change would be based on actual mortality behavior. Therefore, if the affected members make elections under the proposed options and then survive for a longer/shorter period than expected, the actual fiscal impact would be a fiscal loss or a smaller/larger fiscal gain. However, since the proposed changes affect such a small group, the fiscal impact would be insignificant, regardless of outcome.

Summary of Actuarial Assumptions and Methods

A. Actuarial Assumptions - June 30, 2020 Valuation

Please see the June 30, 2020 actuarial valuation report, dated November 12, 2020, for a complete disclosure of all actuarial assumptions.

Summary of Actuarial Assumptions and Methods

B. Actuarial Assumptions - Same-Sex Domestic Partner Pop Up and Successor Beneficiary Rights

All assumptions are the same as the June 30, 2020 valuation.

Summary of Actuarial Assumptions and Methods

C. Actuarial Methods - June 30, 2020 Valuation

Please see the June 30, 2020 actuarial valuation report, dated November 12, 2020, for a complete disclosure of all actuarial methods.

Summary of Actuarial Assumptions and Methods

D. Actuarial Methods - Same-Sex Domestic Partner Pop Up and Successor Beneficiary Rights

All methods are the same as the June 30, 2020 valuation.

Summary of Plan Provisions

A. Plan Provisions - BASELINE (June 30, 2020 Valuation)

Please see the June 30, 2020 actuarial valuation report, dated November 12, 2020, for a complete disclosure of all plan provisions that are pertinent to the valuation. Plan provisions reflected in the June 30, 2020 valuation that will be modified by the proposed changes, if any, are presented below to allow for comparison with the modified provisions.

Pop Up Annuities and Successor Beneficiaries

Pop Up

A married retired PSRS member may "pop up" a joint-and-survivor annuity or a certain-and-life annuity to a single life annuity if the following criteria is met:

1. The nominated beneficiary precedes the retired member in death; or
2. The marriage of the retired member and the nominated beneficiary is dissolved on or after September 1, 2017, and the dissolution decree provides for sole retention by the retired person of all rights in the retirement allowance; or
3. The marriage of the retired member and the nominated beneficiary is dissolved before September 1, 2017, and
   a. The dissolution decree provides for sole retention by the retired person of all rights in the retirement allowance, and the nominated spouse consents in writing to his or her immediate removal as the nominated beneficiary and disclaims all rights to future benefits
   b. The dissolution decree does not provide for sole retention by the retired person of all rights in the retirement allowance and the parties obtain an amended or modified dissolution decree which provides for sole retention by the retired person of all rights in the retirement allowance

In the instance that a pop-up occurs, retroactive benefits are not payable.

Successor Beneficiary

A married retired PSRS member may nominate a successor beneficiary to a joint-and-survivor annuity or a certain-and-life annuity to a single life annuity upon remarriage if the following criteria is met:

1. The nominated beneficiary precedes the retired member in death; or
2. The marriage of the retired member and the nominated beneficiary is dissolved, and the dissolution decree provides for sole retention by the retired person of all rights in the retirement allowance; and
3. Any nomination of a successor beneficiary is filed within 90 days of May 6, 1993, or within one year of remarriage, whichever is later. Upon receipt of the successor beneficiary nomination, the board shall adjust the retirement allowance actuarially to reflect the age of the new beneficiary.

Summary of Plan Provisions

B. Plan Provisions - Same-Sex Domestic Partner Pop Up and Successor Beneficiary Rights

Our understanding of the plan provisions, as modified by the proposed changes, are presented below.

Pop Up Annuities and Successor Beneficiaries

Pop Up

A married retired PSRS member or a retired PSRS member with a same-sex domestic partnership existing prior to September 1, 2015 may "pop up" a joint-and-survivor annuity or a certain-and-life annuity to a single life annuity if one of the following criteria is met:

1. The nominated beneficiary precedes the retired member in death

2. The marriage of the retired member and the nominated beneficiary is dissolved on or after September 1, 2017, and the dissolution decree provides for sole retention by the retired person of all rights in the retirement allowance

3. The marriage of the retired member and the nominated beneficiary is dissolved before September 1, 2017, and

    a. The dissolution decree provides for sole retention by the retired person of all rights in the retirement allowance, and the nominated spouse consents in writing to his or her immediate removal as the nominated beneficiary and disclaims all rights to future benefits; or
    b. The dissolution decree does not provide for sole retention by the retired person of all rights in the retirement allowance and the parties obtain an amended or modified dissolution decree which provides for sole retention by the retired person of all rights in the retirement allowance

4. In the case of a same-sex domestic partnership existing prior to September 1, 2015:

    a. A retired member executes an affidavit attesting to the existence of a same-sex domestic partnership at the time of the nomination of the beneficiary and that the same-sex domestic partnership has since ended;
    b. The nominated beneficiary consents to immediate removal as nominated beneficiary and disclaims all rights to future benefits, or the parties obtain a court order that the beneficiary can be removed; and
    c. In the instance of legal marriage at the time of retirement or after retirement, a marriage dissolution decree clearly states the retired member retains sole possession of his or her retirement benefits.

B. Plan Provisions - Same-Sex Domestic Partner Pop Up and Successor Beneficiary Rights (Continued)

Successor Beneficiary

A married retired PSRS member or a retired PSRS member with a same-sex domestic partnership existing prior to September 1, 2015 may nominate a successor beneficiary to a joint-and-survivor annuity or a certain-and-life annuity to a single life annuity upon remarriage if the following criteria is met:

1. The nominated beneficiary precedes the retired member in death; or

2. The marriage of the retired member and the nominated beneficiary is dissolved, and the dissolution decree provides for sole retention by the retired person of all rights in the retirement allowance; and

3. Any nomination of a successor beneficiary is filed within 90 days of May 6, 1993, or within one year of remarriage, whichever is later. Upon receipt of the successor beneficiary nomination, the board shall adjust the retirement allowance actuarially to reflect the age of the new beneficiary, and

4. In the case of a same-sex domestic partnership existing prior to September 1, 2015:

    a. The nominated beneficiary precedes the retired member in death and the retired person attests via affidavit that a same-sex domestic partnership existed at the time of the nomination of the beneficiary;
    b. The retired person attests via affidavit that a same-sex domestic partnership existed at the time of the nomination of the beneficiary and that that partnership has since ended and the nominated beneficiary consents to immediate removal as nominated beneficiary and disclaims all rights to future benefits, or the parties can obtain a court order that the beneficiary can be removed; and
    c. In the instance of legal marriage at the time of or after retirement, a marriage dissolution decree that clearly states the retired member retains sole possession of his or her retirement benefits; and

5. Any nomination of a successor beneficiary under the provisions of section 4 must be filed within one year of September 1, 2021 or within one year of the marriage of the retired person and the successor beneficiary, whichever is later.

Disclosures

The information herein has been prepared pursuant to our engagement letter with PSRS and PEERS of Missouri, dated July 11, 2019. Our analysis was performed based on our understanding of the current PSRS benefit provisions as set forth in RSMo Chapter 169, as well as the modification to those statutes proposed in SB 608.

Our analysis of the impact of SB 608 reflects the proposed changes in plan provisions and changes in actuarial assumptions shown in Exhibit II and III. Our analysis was performed by measuring the impact of the change at June 30, 2020, the most recent date that we collected member census data from PSRS and PEERS of Missouri and performed a valuation of PSRS. Our estimates do not incorporate the impact of future employees who may become members of PSRS. Please refer to our actuarial valuation report dated November 12, 2020 for a summary of the census data. Otherwise, our analysis reflects the same census data, assumptions, methods, and plan provisions used in the June 30, 2020 actuarial valuation of PSRS. While the scope of our engagement did not call for us to perform an audit or independent verification of this information, we have reviewed this information for reasonableness. The accuracy of the results presented in this letter is dependent upon the accuracy and completeness of the underlying information.

The results of our analysis presented herein were computed using assumptions and methods that are consistent with the funding policy adopted by the Board of Trustees of PSRS and PEERS of Missouri. The results do not reflect application of Governmental Accounting Standards applicable to pension plans.

Our analysis illustrates the estimated change in the Actuarially Determined Contribution Rate (“ADC Rate”), which may or may not affect the actual contribution rates set by the Board. Our analysis does not include any additional administrative cost that may be incurred by PSRS and PEERS of Missouri to implement this change. A stochastic model of potential results on a forecasted basis was not completed due to the limited scope of our engagement.

In preparing the results presented herein, we have used and evaluated actuarial models in accordance with Actuarial Standards of Practice (“ASOP”) No. 56. PwC uses the ProVal valuation system developed by Winklevoss Technologies, LLC in performing valuations of pension and postretirement benefit plans. We have utilized the ProVal software to prepare the valuation results presented herein. ProVal is used to value participant data through projecting retirement benefits and applying plan specific assumptions, methods and plan provisions under applicable accounting and funding standards. PwC is not aware of any material limitations or known weaknesses in the ProVal software.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan’s funded status); and changes in plan provisions or applicable law.

No statement in this letter is intended as a recommendation in favor, or in opposition, of the proposed changes. Except as otherwise noted, potential impacts on other benefit plans were not considered.

The analysis presented herein is based upon assumptions regarding future events. However, the plan’s long term costs will be determined by actual future events, which may differ materially from the assumptions that were made. The calculations are also based upon present and proposed plan provisions that are outlined in the letter. If you have reason to believe that the assumptions 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, please contact the author of this letter prior to relying on information in the letter.

If you have reason to believe that the information provided in this letter 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 letter, please contact the author of this letter prior to making such decision.

In the event that more than one plan change is being considered, it should be noted 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 or less 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.

Disclosures

To the best of our knowledge this actuarial statement is complete and accurate and has been prepared in accordance with generally accepted actuarial principles and practice and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. Our calculations are also consistent with our understanding of Missouri state law. The undersigned actuaries are members of the Society of Actuaries and other professional organizations, including the American Academy of Actuaries, and meet the Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States relating to pension plans. There is no relationship between the PwC practitioners involved in this engagement and PSRS and PEERS of Missouri that may impair our objectivity.

The content of this document is limited to the matters specifically addressed herein and does not address any other potential tax consequences, or the potential application of tax penalties, to any matter other than as set forth herein. Our conclusions are not binding upon any taxing authority or the courts and there is no assurance that any relevant taxing authority will not successfully assert a contrary position. In addition, no exceptions (including the reasonable cause exception) are available for any federal or state penalties imposed if any portion of a transaction is determined to lack economic substance or fails to satisfy any similar rule of law, and our advice will not protect you from any such penalties. This document supersedes all prior written or oral advice with respect to the issues addressed in this document and all such prior communications should not be relied upon by any person for any purpose. This document has been prepared pursuant to an engagement letter between PSRS and PEERS of Missouri and PwC, and is intended solely for the use and benefits of PSRS and PEERS of Missouri and not for reliance by any other person.