

March 11, 2024

Ms. Susan Kane

Executive Director

PSRS of the City of St. Louis
3641 Olive Street, Suite 300

St. Louis, MO 63108-3601

Re: Public School Retirement System of the City of St. Louis - Section 105.665 Cost Statement for House Bill 2846, Senate Bill 1504, and other legislation containing the same provisions

Dear Members of the Public School Retirement System of the City of St. Louis Board:

The purpose of this letter is to provide the Public School Retirement System of the City of St. Louis Board with a cost statement required under the Missouri Revised Statute Section 105.665 in connection with the changes described below contained in House Bill 2846, Senate Bill 1504, or other legislation containing the same provisions.

A summary of our general understanding of the proposed changes in plan provisions are as follows:

- 1. Employer contribution rates will continue under current legislation through 2024
- 2. Employer contribution rates will increase to 14% for 2025
- 3. Member contribution rates will follow current legislation until 2026
- 4. Employer and member contributions rates for 2026 and thereafter are as follows:
 - If the retirement system's funded ratio is less than 100%, the employer contribution rate will be the
 greater of 14% or the difference between the total Actuarially Required Contribution (ARC) rate and
 the applicable member contribution rate
 - Employer contribution rate limited to an annual 1% increase or 0.5% decrease
 - Member contribution rate will equal 9%, except to the extent the member contribution was below 9% the prior year, in which case the member contribution increase will be subject to a limited annual increase of 1%, but will not exceed 9%
 - If the retirement system's funded ratio is greater than 100% and the ARC rate is greater than 18%, the employer contribution rate will be the difference between the ARC rate and the applicable member contribution rate
 - Employer contribution rate limited to an annual 1% increase or 0.5% decrease



- Member contribution rate will equal 9%, except to the extent the member contribution was below 9% the prior year, in which case the member contribution increase will be subject to a limited annual increase of 1%, but will not exceed 9%
- If the retirement system's funded ratio is greater than 100% and the ARC rate is less than or equal to 18%, the total contribution rate will be allocated equally between the employer contribution rate and member contribution rate
 - If the ARC rate falls below 18% following a year in which the ARC rate was above 18%, the
 magnitude of the decrease in that year will not be limited and the employer and member
 contribution rates will be equal
 - Otherwise, employer and member contribution rates limited to an annual 1% increase or 0.5% decrease
- Employer and member contribution rates for a given calendar year are based on the ARC rate and
 funded ratio determined in the actuarial valuation as of the first day of the preceding calendar year.
 The funded ratio is the ratio of the actuarial value of assets over the actuarial accrued liability, where
 the actuarial accrued liability is based on the Entry Age Normal cost method with normal cost
 expressed as a percentage of covered compensation.

In Exhibit I of the attached, Scenario 1 (based on current provisions) and Scenario 3 (based on the proposed legislation) assume that the actual return on assets is 7.00% per year throughout the projection. Alternatively, Scenario 2 (based on current provisions) and Scenario 4 (based on the proposed legislation) assume that the actual return on assets is 5.50% per year for the first 10 years of the projection and 7.00% per year thereafter. Scenarios 2 and 4 demonstrate the impact on the retirement system's funded status and statutory contribution shortfall if adverse investment conditions occur.



Our cost statement, numbered to correspond with Section 105.665, follows below. Results below are based on estimated market value of assets as of December 31, 2023 of \$841,365,464 (prior to reduction of the expense reserve) as provided by PSRS of St. Louis by email dated February 29, 2024. All other results below have been projected from January 1, 2023, based on assumptions and methods defined in Exhibits II and III.

- 1. The level normal cost of plan benefits currently in effect is projected to be \$24,818,461 or 8.66% of expected covered payroll in 2024.
- 2. The contribution amount for the Unfunded Actuarial Accrued Liability in 2024 is projected to be \$42,151,643 or 14.71% of expected covered payroll. The amortization period used to determine this amount is a 15-year layered amortization.
- 3. The total employer required contribution amount from items one and two above, less expected member contributions, is projected to be \$41,840,141 or 14.60% of expected covered payroll. Expected member contributions are projected to be \$25,129,963, or 8.77% of payroll.
- 4. The total employer contribution rate defined in item 3 is not projected to be contributed under current legislation for 2024. The 14.60% actuarially required employer contribution rate is not satisfied by the current statutory rate for 2024 of 13.00% of covered payroll.
- 5. As of the most recent actuarial valuation, as of January 1, 2023, the plan's actuarial value of assets was \$940,664,216, the market value of assets excluding the expense and contingency reserve was \$805,285,795, the actuarial accrued liability under the Entry Age Normal cost method was \$1,284,040,175, and the funded ratio on an actuarial value basis was 73.3%. The plan's funded ratio on a market value basis was 62.7%.
 - For the purpose of the cost statement, estimated assets were used as of January 1, 2024 and liabilities were projected from the January 1, 2023 valuation. As of January 1, 2024, the plan's actuarial value of assets is estimated to be \$908,638,723, the market value of assets excluding the expense and contingency reserve is estimated to be \$827,629,866, the actuarial accrued liability under the Entry Age Normal cost method is projected to be \$1,277,229,893, and the funded ratio on an actuarial value basis is projected to be 71.1%. The plan's funded ratio on a market value basis is estimated to be 64.8%.
- 6. The total required post-change contribution amount for 2024 is \$41,840,141, or 14.60% of expected covered payroll under the proposed legislation. This amount remained unchanged from item 3 for 2024 as the proposed legislation would only require changes to contribution rates beginning with the 2025 calendar year.
- 7. A set of 15-year projections of annual plan costs and funded ratios is presented in Exhibit I with four different projection results shown based on: (1) current provisions and assumptions, (2) current provisions and assumptions, except assuming actual return on market value of assets of 5.50% for the first 10 years, (3) proposed provisions and current assumptions, and (4) proposed provisions and assumptions, except assuming actual return on market value of assets of 5.50% for the first 10 years.
- 8. The proposed provision mandates employer contribution rates to increase to 14% for plan year 2025. Thereafter, the employer contribution rates will generally be:
 - a. The greater of 14% or the difference between the ARC rate and the 9% member contribution rate if the funded ratio is less than 100%
 - b. The difference between the total ARC rate and the 9% member contribution rate if both the funded ratio exceeds 100% and the total ARC rate exceeds 18%
 - c. One half of the total ARC rate if both the funded ratio exceeds 100% and the total ARC rate is 18% or less (noting that the member would also contribute one half of the total ARC rate, rather than the current 9% rate)



- d. Employer and member contribution rates are generally limited to an annual 1% increase or 0.5% decrease
- 9. Through increases in required employer contributions, the proposed legislation helps ensure the retirement system is soundly financed and able to meet the obligation to pay benefits to its members, retirees and beneficiaries. The table below highlights the effect of the proposed legislation change versus current legislation by analyzing the impact on the Plan's entry age normal (EAN) funded ratio and cumulative contribution shortfall/(excess funding) between employer actuarially required contibutions and statutory contributions as of January 1, 2038.

	Projected 2038	Projected 2038
Scenarios	EAN Funded Ratio on Actuarial	Cumulative Contribution
(as shown in item 7 above)	Value of Assets Basis*	Shortfall/(Excess Funding)
1. Current: Achieve EROA	69.1%	485.5 million
2. Current: Adverse Inv. Conditions	53.3%	627.5 million
3. Proposed: Achieve EROA	98.3%	(7.4 million)
4. Proposed: Adverse Inv. Conditions	88.6%	20.4 million

^{*}Projected 2038 EAN Funded Ratio on Actuarial Value of Assets Basis equals the Projected 2038 EAN Funded Ratio on Market Value of Assets Basis

- 10. The actuarial assumptions used are presented in Exhibit II. Any assumptions used for the projections that are not listed in Exhibit II are included in Exhibit III. The assumptions are based on the results of an experience study completed in December 2021.
- 11. The Actuary's certification is below.
- 12. The actuarial funding method used in preparing the valuation along with the method applied in amortizing the Unfunded Actuarial Accrued Liability is described in Exhibit II. The actuarial funding method is based on the results of an experience study completed in December 2021.

In preparing these funding projections, we have relied on the the January 1, 2023 actuarial valuation. We have employed generally accepted actuarial methods and assumptions, in conjunction with member data and financial information provided to us by the System, to determine a sound value for the System liability. The member data has not been audited, but it has been reviewed and found to be consistent, both internally and with prior years' data. The validity of the funding analysis results is dependent upon the accuracy of the data and financial information provided.

In our opinion, the actuarial assumptions used are reasonable, taking into account the experience of the System and reasonable long-term expectations, and represent our best estimate of the anticipated long-term experience under the System. The actuary performs an analysis of System experience periodically and recommends changes if, in the opinion of the actuary, assumption changes are needed to more accurately reflect expected future experience. The Experience Study for the period January 1, 2016 to December 31, 2020 was prepared by Buck and approved by the Board for use beginning with the January 1, 2022 actuarial valuation and will remain in effect for valuation purposes until such time as the Board adopts revised assumptions. A summary of all assumptions and methods used are as described in Exhibit II.

Where presented, references to "funded ratio" and "unfunded accrued liability" typically are measured on an actuarial value of assets basis. It should be noted that the same measurements using market value of assets would result in different funded ratios and unfunded accrued liabilities. Moreover, the funded ratio presented is appropriate for



evaluating the need and level of future contributions but makes no assessment regarding the funded status of the plan if the plan were to settle (i.e. purchase annuities) for a portion or all of its liabilities.

Future actuarial measurements and contribution requirements may differ from those determined in the valuation because of:

- (1) differences between actual experience and anticipated experience based on the assumptions;
- (2) changes in actuarial assumptions or methods;
- (3) changes in statutory provisions;
- (4) differences between actuarially required contributions and actual contributions.

Buck prepared this cost statement for use by the Retirement System in reviewing the financial condition of the Retirement System, including the determination of implementing the proposed legislation. Any cost information provided is an estimate based on projected amounts for legislative change impact only and should not be used to determine the actual contributions for funding purposes. Projected valuation results are based on estimated market value of assets as of December 31, 2023, of \$841,365,464 (prior to reduction of the expense reserve) as provided by PSRS of St. Louis by email dated February 29, 2024. Use of this cost statement by other parties or for any other purpose may not be appropriate and may result in mistaken conclusions due to failure to understand applicable assumptions, methodologies, or the inapplicability of the cost statement for that purpose. Because of the risk of misinterpretation of actuarial results, Buck recommends requesting its advance review of any statement, document, or filing to be based on information contained in this cost statement. Buck will accept no liability for any such statement, document or filing made without its prior review.

Actuarial Standard of Practice No. 56 provides guidance to actuaries when performing actuarial services with respect to designing, developing, selecting, modifying, using, reviewing, or evaluating models. Buck uses third-party software in the performance of annual actuarial valuations and projections. The model is intended to calculate the liabilities associated with the provisions of the plan using data and assumptions as of the measurement date under the funding rules specified in this cost statement. The output from the third-party vendor software is used as input to an internally developed model that applies applicable funding rules to the derived liabilities and other inputs, such as plan assets and contributions, to generate many of the exhibits found in this cost statement. Buck has an extensive review process in which the results of the liability calculations are checked using detailed sample life output, changes from year to year are summarized by source, and significant deviations from expectations are investigated. Other funding outputs and the internal model are similarly reviewed in detail and at a higher level for accuracy, reasonability, and consistency with prior results. Buck also reviews the third-party model when significant changes are made to the software. This review is performed by experts within Buck who are familiar with applicable funding rules, as well as the manner in which the model generates its output. If significant changes are made to the internal model, extra checking and review are completed. Significant changes to the internal model that are applicable to multiple clients are generally developed, checked, and reviewed by multiple experts within Buck who are familiar with the details of the required changes.

Information about current plan risk can be found in the January 1, 2023 Valuation dated June 2023 under ASOP 51 Disclosure. However, the proposed legislation may reduce risk to the Retirement System from what is stated in such report. Specifically, this proposed legislation will help mitigate Contribution Risk and also demonstrate how Contribution Risk is more significant when Investment Risk is also present.



The undersigned meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein, and is available to answer questions regarding this cost statement.

We believe that the assumptions and methods used for funding purposes are individually and in aggregate, reasonable and in combination represent a best estimate of anticipated experience under the plan. We believe that this cost statement conforms with the requirements of the Missouri statutes, and where applicable, other federal and accounting laws, regulations and rules, as well as actuarial principles and practices in accordance with all applicable Actuarial Standards of Practice (ASOPs).

Sincerely,

Michael A. Ribble, FSA, EA, MAAA, FCA Principal, Wealth Consulting

Buck Global, LLC (Buck)

Matthew Staback, FSA, EA, MAAA, CERA, FCA Senior Consultant, Wealth Consulting



Scenario 1 – Current Plan Provisions: Achieve Expected Return on Assets (EROA) (7.00% Actual Asset Return) (amounts in thousands)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Liabilities															
Present Value of Future Benefits	1,422,055	1,423,032	1,425,028	1,427,631	1,429,683	1,433,349	1,437,139	1,443,573	1,450,954	1,459,989	1,469,357	1,480,196	1,490,332	1,503,302	1,518,446
Entry Age Normal (EAN) Accrued Liability	1,277,230	1,275,917	1,275,702	1,275,917	1,275,449	1,276,561	1,277,609	1,281,311	1,285,853	1,291,608	1,297,514	1,304,797	1,311,235	1,320,348	1,331,460
Entry Age Normal Funded Ratio - AVA	71.1%	69.3%	67.5%	65.7%	66.4%	66.8%	67.0%	67.3%	67.6%	67.8%	67.9%	68.1%	68.3%	68.7%	69.1%
Entry Age Normal Funded Ratio - MVA	64.8%	65.2%	65.7%	66.1%	66.4%	66.8%	67.0%	67.3%	67.6%	67.8%	67.9%	68.1%	68.3%	68.7%	69.1%
Salary															
Employees Hired before January 1, 2018	132,059	121,127	111,001	101,264	92,215	83,777	76,063	69,022	62,369	56,249	50,592	45,243	40,312	35,832	31,707
Employees Hired on or after January 1, 2018	112,446	93,032	79,955	70,422	63,502	58,323	53,924	49,928	46,242	42,883	39,840	37,101	34,507	32,069	29,750
New Employees	42,053	73,570	99,008	120,946	140,102	157,680	174,504	190,353	205,092	219,964	234,464	248,520	262,306	275,889	289,210
Total	286,558	287,729	289,964	292,632	295,819	299,780	304,491	309,303	313,703	319,096	324,896	330,864	337,125	343,790	350,667
Employee Contribution Rates															
Employees Hired before January 1, 2018	8.50%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
Employees Hired on or after January 1, 2018	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
Employer Contribution Rates															
Employer Actuarially Required Rate for Prior Year	13.41%	14.60%	15.81%	17.30%	18.87%	19.30%	19.97%	20.71%	21.58%	22.60%	23.71%	24.93%	26.25%	27.67%	18.81%
Statutory Rate for Current Year	13.00%	12.50%	12.00%	11.50%	11.00%	10.50%	10.00%	9.50%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
Shortfall in Statutory Rate - Board of Education	-0.09%	1.60%	3.31%	5.30%	7.37%	8.30%	9.47%	10.71%	12.08%	13.60%	14.71%	15.93%	17.25%	18.67%	9.81%
Shortfall in Statutory Rate - All Others	0.41%	2.10%	3.81%	5.80%	7.87%	8.80%	9.97%	11.21%	12.58%	13.60%	14.71%	15.93%	17.25%	18.67%	9.81%
Employee Contributions															
Legacy	21,345	19,274	17,186	15,452	14,015	12,789	11,699	10,706	9,775	8,922	8,139	7,411	6,734	6,111	5,531
New Employees	3,785	6,621	8,911	10,885	12,609	14,191	15,705	17,132	18.458	19,797	21,102	22,367	23,608	24.830	26,029
Total Employee Contributions	25,130	25,895	26,097	26,337	26,624	26,980	27,404	27,838	28,233	28,719	29,241	29,778	30,342	30,941	31,560
Employer Contributions															
Actuarially Required	38,427	42,008	45,843	50,625	55,821	57,858	60,807	64,057	67,697	72,116	77,033	82,484	88,495	95,127	65,960
Statutory	38,127	36,799	35,553	34,393	33,260	32,165	31,114	30,073	28,978	28,404	28,903	29,430	29,976	30,553	31,159
•	300	5,209	10,290	16,232	22,561	25,693	29,693	33,984	38,719	43,712	48,130	53,054	58,519	64,574	34,801
Shortfall/(Excess) in Statutory Contribution Cumulative Shortfall Amount/(Excess Funding)	300	5,209	15,799	32,031	54,592	80,285	109,978	143,962	182,681	226,393	274,523	327,577	386,096	450,670	485.471
Cumulative Shortian Amount/(Excess Funding)	300	3,309	15,799	32,031	34,392	00,203	109,976	143,902	102,001	220,393	274,323	321,311	300,090	430,070	403,471
Assets*															
Market Value (MVA)	827,630	832,226	837,656	842,968	847,097	852,189	856,626	862,800	868,875	875,074	880,887	888,552	895,980	906,613	919,876
Actuarial Value (AVA)	908,639	884,521	861,239	837,837	847,097	852,189	856,626	862,800	868,875	875,074	880,887	888,552	895,980	906,613	919,876
Contribution Development for															
Following Year															
Unfunded Actuarial Accrued Liability	368,591	391,396	414,464	438,081	428,352	424,372	420,983	418,512	416,978	416,534	416,627	416,245	415,256	413,735	411,584
Amortization of UAAL	40,750	44,916	49,403	54,274	56,088	58,761	61,817	65,326	69,335	73,907	79,040	84,686	90,893	63,190	64,870
Normal Cost	23,993	24,100	24,310	24,559	24,838	25,197	25,649	26,113	26,505	26,990	27,515	28,052	28,620	29,224	29,845
Interest Adjustment	2,228	2,375	2,536	2,712	2,784	2,889	3,010	3,146	3,298	3,472	3,666	3,879	4,112	3,180	3,259
Total Actuarially Required Contribution**	66,970	71,391	76,250	81,545	83,710	86,846	90,475	94,585	99,138	104,369	110,221	116,617	123,625	95,593	97,974
Employee Contributions	25,130	25,896	26,097	26,337	26,624	26,980	27,404	27,837	28,233	28,719	29,241	29,778	30,341	30,941	31,560
Total Employer Actuarially Required Contribution**	41,840	45,496	50,153	55,208	57,086	59,866	63,071	66,748	70,905	75,650	80,980	86,840	93,284	64,652	66,413
Employer Contribution Rate	14.60%	15.81%	17.30%	18.87%	19.30%	19.97%	20.71%	21.58%	22.60%	23.71%	24.93%	26.25%	27.67%	18.81%	18.94%

^{*}Assets excluding expense &contingency reserve

^{**} Totals may differ from summing due to rounding



Scenario 2 – Current Plan Provisions: Adverse Investment Conditions (5.50% Actual Asset Return for 10 years, then 7.00%) (amounts in thousands)

	2024	<u>2025</u>	<u>2026</u>	<u>2027</u>	2028	2029	2030	<u>2031</u>	2032	2033	2034	2035	2036	2037	2038
Liabilities															
Present Value of Future Benefits	1,422,055	1,423,032	1,425,028	1,427,631	1,429,683	1,433,349	1,437,139	1,443,573	1,450,954	1,459,989	1,469,357	1,480,196	1,490,332	1,503,302	1,518,446
Entry Age Normal (EAN) Accrued Liability	1,277,230	1,275,917	1,275,702	1,275,917	1,275,449	1,276,561	1,277,609	1,281,311	1,285,853	1,291,608	1,297,514	1,304,797	1,311,235	1,320,348	1,331,460
Entry Age Normal Funded Ratio - AVA	71.1%	69.1%	66.9%	64.3%	64.1%	63.2%	62.2%	61.2%	60.0%	58.7%	57.2%	56.0%	54.9%	54.0%	53.3%
Entry Age Normal Funded Ratio - MVA	64.8%	64.3%	63.7%	63.0%	62.3%	61.4%	60.4%	59.4%	58.2%	57.0%	55.6%	55.0%	54.4%	53.8%	53.3%
Salary															
Employees Hired before January 1, 2018	132,059	121,127	111,001	101,264	92,215	83,777	76,063	69,022	62,369	56,249	50,592	45,243	40,312	35,832	31,707
Employees Hired on or after January 1, 2018	112,446	93,032	79,955	70,422	63,502	58,323	53,924	49,928	46,242	42,883	39,840	37,101	34,507	32,069	29,750
New Employees	42,053	73,570	99,008	120,946	140,102	157,680	174,504	190,353	205,092	219,964	234,464	248,520	262,306	275,889	289,210
Total	286,558	287,729	289,964	292,632	295,819	299,780	304,491	309,303	313,703	319,096	324,896	330,864	337,125	343,790	350,667
Employee Contribution Rates															
Employees Hired before January 1, 2018	8.50%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
Employees Hired on or after January 1, 2018	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
Employer Contribution Rates															
Employer Actuarially Required Rate for Prior Year	13.41%	14.60%	15.90%	17.60%	19.50%	20.39%	21.64%	23.01%	24.54%	26.29%	28.16%	30.19%	32.31%	34.52%	26.40%
Statutory Rate for Current Year	13.00%	12.50%	12.00%	11.50%	11.00%	10.50%	10.00%	9.50%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
Shortfall in Statutory Rate - Board of Education	-0.09%	1.60%	3.40%	5.60%	8.00%	9.39%	11.14%	13.01%	15.04%	17.29%	19.16%	21.19%	23.31%	25.52%	17.40%
Shortfall in Statutory Rate - All Others	0.41%	2.10%	3.90%	6.10%	8.50%	9.89%	11.64%	13.51%	15.54%	17.29%	19.16%	21.19%	23.31%	25.52%	17.40%
Employee Contributions															
Legacy	21,345	19,274	17,186	15,452	14,015	12,789	11,699	10,706	9,775	8,922	8,139	7,411	6,734	6,111	5,531
New Employees	3,785	6,621	8,911	10,885	12,609	14,191	15,705	17,132	18,458	19,797	21,102	22,367	23,608	24,830	26,029
Total Employee Contributions	25,130	25,895	26,097	26,337	26,624	26,980	27,404	27,838	28,233	28,719	29,241	29,778	30,342	30,941	31,560
Employer Contributions															
Actuarially Required	38,427	42,008	46,104	51,503	57,685	61,125	65,892	71,171	76,983	83,890	91,491	99,888	108,925	118,676	92,576
Statutory	38,127	36,799	35,553	34,393	33,260	32,165	31,114	30,073	28,978	28,404	28,903	29,430	29,976	30,553	31,159
Shortfall/(Excess) in Statutory Contribution	300	5,209	10,551	17,110	24,425	28,960	34,778	41,098	48,005	55,486	62,588	70,458	78,949	88,123	61,417
Cumulative Shortfall Amount/(Excess Funding)	300	5,509	16,060	33,170	57,595	86,555	121,333	162,431	210,436	265,922	328,510	398,968	477,917	566,040	627,457
Assets*															
Market Value (MVA)	827,630	820,156	812,759	804,440	794,104	783,857	772,034	760,970	748,764	735,579	720,848	717,310	712,751	710,557	710,097
Actuarial Value (AVA)	908,639	882,107	853,169	820,836	817,858	807,373	795,278	783,915	771,393	757,874	742,782	730,400	719,258	712,714	710,097
Contribution Development for															
Following Year															
Unfunded Actuarial Accrued Liability	368,591	393,810	422,533	455,081	457,591	469,188	482,330	497,396	514,460	533,734	554,732	574,398	591,977	607,634	621,363
Amortization of UAAL	40,750	45,164	50,241	56,062	59,206	63,610	68,573	74,183	80,506	87,628	95,570	104,096	113,203	88,443	93,133
Normal Cost	23,993	24,100	24,310	24,559	24,838	25,197	25,649	26,113	26,505	26,990	27,515	28,052	28,620	29,224	29,845
Interest Adjustment	2,228	2,383	2,565	2,774	2,892	3,056	3,242	3,451	3,682	3,944	4,235	4,547	4,880	4,049	4,231
Total Actuarially Required Contribution**	66,970	71,647	77,116	83,395	86,936	91,862	97,464	103,747	110,693	118,561	127,320	136,695	146,703	121,716	127,209
Employee Contributions	25,130	25,896	26,097	26,337	26,624	26,980	27,404	27,837	28,233	28,719	29,241	29,778	30,341	30,941	31,560
Total Employer Actuarially Required Contribution**	41,840	45,752	51,020	57,058	60,312	64,882	70,060	75,910	82,460	89,843	98,079	106,918	116,362	90,775	95,649
Employer Contribution Rate	14.60%	15.90%	17.60%	19.50%	20.39%	21.64%	23.01%	24.54%	26.29%	28.16%	30.19%	32.31%	34.52%	26.40%	27.28%

^{*}Assets excluding expense &contingency reserve

^{**} Totals may differ from summing due to rounding



Scenario 3 – Proposed Plan Provisions: Achieve Expected Return on Assets (EROA) (7.00% Actual Asset Return) (amounts in thousands)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Liabilities															
Present Value of Future Benefits	1,422,055	1,423,032	1,425,028	1,427,631	1,429,683	1,433,349	1,437,139	1,443,573	1,450,954	1,459,989	1,469,357	1,480,196	1,490,332	1,503,302	1,518,446
Entry Age Normal (EAN) Accrued Liability	1,277,230	1,275,917	1,275,702	1,275,917	1,275,449	1,276,561	1,277,609	1,281,311	1,285,853	1,291,608	1,297,514	1,304,797	1,311,235	1,320,348	1,331,460
Entry Age Normal Funded Ratio - AVA	71.1%	69.3%	67.6%	66.3%	67.9%	69.5%	71.5%	74.0%	76.8%	79.8%	83.1%	86.5%	90.2%	94.1%	98.3%
Entry Age Normal Funded Ratio - MVA	64.8%	65.2%	65.8%	66.7%	67.9%	69.5%	71.5%	74.0%	76.8%	79.8%	83.1%	86.5%	90.2%	94.1%	98.3%
Salary															
Employees Hired before January 1, 2018	132,059	121,127	111,001	101,264	92,215	83,777	76,063	69,022	62,369	56,249	50,592	45,243	40,312	35,832	31,707
Employees Hired on or after January 1, 2018	112,446	93,032	79,955	70,422	63,502	58,323	53,924	49,928	46,242	42,883	39,840	37,101	34,507	32,069	29,750
New Employees	42,053	73,570	99,008	120,946	140,102	157,680	174,504	190,353	205,092	219,964	234,464	248,520	262,306	275,889	289,210
Total	286,558	287,729	289,964	292,632	295,819	299,780	304,491	309,303	313,703	319,096	324,896	330,864	337,125	343,790	350,667
Employee Contribution Rates															
Employees Hired before January 1, 2018	8.50%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
Employees Hired on or after January 1, 2018	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
Employer Contribution Rates															
Employer Actuarially Required Rate for Prior Year	13.41%	14.60%	15.81%	17.24%	18.59%	18.62%	18.69%	18.63%	18.47%	18.28%	18.02%	17.74%	17.46%	17.17%	6.48%
Statutory Rate for Current Year	13.00%	14.00%	15.00%	16.00%	17.00%	18.00%	18.69%	18.63%	18.47%	18.28%	18.02%	17.74%	17.46%	<u>17.17%</u>	16.67%
Shortfall in Statutory Rate - Board of Education	-0.09%	1.60%	1.81%	2.24%	2.59%	1.62%	0.69%	-0.06%	-0.16%	-0.19%	-0.26%	-0.28%	-0.28%	-0.29%	-10.69%
Shortfall in Statutory Rate - All Others	0.41%	0.60%	0.81%	1.24%	1.59%	0.62%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	-10.19%
Employee Contributions															
Legacy	21,345	19,274	17,186	15,452	14,015	12,789	11,699	10,706	9,775	8,922	8,139	7,411	6,734	6,111	5,531
New Employees	3,785	6,621	8,911	10,885	12,609	14,191	15,705	17,132	18,458	19,797	21,102	22,367	23,608	24,830	26,029
Total Employee Contributions	25,130	25,895	26,097	26,337	26,624	26,980	27,404	27,838	28,233	28,719	29,241	29,778	30,342	30,941	31,560
Employer Contributions															
Actuarially Required	38,427	42,008	45,843	50,450	54,993	55,819	56,909	57,623	57,941	58,331	58,546	58,695	58,862	59,029	22,723
Statutory	38,127	38,321	41,415	44,668	48,044	51,584	55,000	57,161	57,735	58,078	58,407	58,599	58,754	58,921	58,827
Shortfall/(Excess) in Statutory Contribution	300	3,687	4,428	5,782	6,949	4,235	1,909	462	206	253	139	96	108	108	(36, 104)
Cumulative Shortfall Amount/(Excess Funding)	300	3,987	8,415	14,197	21,146	25,381	27,290	27,752	27,958	28,211	28,350	28,446	28,554	28,662	(7,442)
Assets*															
Market Value (MVA)	827,630	832,226	839,231	850,619	865,719	887,113	913,687	948,061	987,534	1,031,157	1,077,930	1,129,248	1,183,043	1,242,894	1,308,406
Actuarial Value (AVA)	908,639	884,521	862,813	845,488	865,719	887,113	913,687	948,061	987,534	1,031,157	1,077,930	1,129,248	1,183,043	1,242,894	1,308,406
Contribution Development for															
Following Year															
Unfunded Actuarial Accrued Liability	368,591	391,396	412,890	430,429	409,731	389,447	363,922	333,250	298,318	260,451	219,584	175,550	128,192	77,454	23,054
Amortization of UAAL	40,750	44,916	49,242	53,482	54,139	55,059	55,687	56,040	56,215	56,359	56,482	56,588	56,681	22,233	16,471
Normal Cost	23,993	24,100	24,310	24,559	24,838	25,197	25,649	26,113	26,505	26,990	27,515	28,052	28,620	29,224	29,845
Interest Adjustment	2,228	2,375	2,531	2,685	2,717	2,761	2,799	2,827	2,846	2,868	2,890	2,912	2,935	1,771	1,594
Total Actuarially Required Contribution**	66,970	71,391	76,083	80,726	81,694	83,017	84,135	84,980	85,566	86,216	86,887	87,553	88,236	53,228	47,909
Employee Contributions	25,130	25,896	26,097	26,337	26,624	26,980	27,404	27,837	28,233	28,719	29,241	29,778	30,341	30,941	31,560
Total Employer Actuarially Required Contribution**	41,840	45,496	49,986	54,389	55,070	56,036	56,731	57,142	57,333	57,498	57,647	57,775	57,895	22,286	16,349
Employer Contribution Rate	14.60%	15.81%	17.24%	18.59%	18.62%	18.69%	18.63%	18.47%	18.28%	18.02%	17.74%	17.46%	17.17%	6.48%	4.66%
* ^															

^{*}Assets excluding expense &contingency reserve

^{**} Totals may differ from summing due to rounding



Scenario 4 – Proposed Plan Provisions: Adverse Investment Conditions (5.50% Actual Asset Return for 10 years, then 7.00%) (amounts in thousands)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	<u>2034</u>	2035	2036	2037	2038
Liabilities		<u> </u>	<u> </u>		<u> </u>					<u> </u>				· <u></u> -	·
Present Value of Future Benefits	1,422,055	1,423,032	1,425,028	1,427,631	1,429,683	1,433,349	1,437,139	1,443,573	1,450,954	1,459,989	1,469,357	1,480,196	1,490,332	1,503,302	1,518,446
Entry Age Normal (EAN) Accrued Liability	1,277,230	1,275,917	1,275,702	1,275,917	1,275,449	1,276,561	1,277,609	1,281,311	1,285,853	1,291,608	1,297,514	1,304,797	1,311,235	1,320,348	1,331,460
Entry Age Normal Funded Ratio - AVA	71.1%	69.1%	67.0%	64.9%	65.6%	66.0%	66.7%	67.8%	69.3%	71.2%	73.5%	76.4%	79.9%	83.9%	88.6%
Entry Age Normal Funded Ratio - MVA	64.8%	64.3%	63.8%	63.6%	63.7%	64.1%	64.8%	65.9%	67.4%	69.2%	71.5%	75.2%	79.3%	83.7%	88.6%
Salary															
Employees Hired before January 1, 2018	132,059	121,127	111,001	101,264	92,215	83,777	76,063	69,022	62,369	56,249	50,592	45,243	40,312	35,832	31,707
Employees Hired on or after January 1, 2018	112,446	93,032	79,955	70,422	63,502	58,323	53,924	49,928	46,242	42,883	39,840	37,101	34,507	32,069	29,750
New Employees	42,053	73,570	99,008	120,946	140,102	157,680	174,504	190,353	205,092	219,964	234,464	248,520	262,306	275,889	289,210
Total	286,558	287,729	289,964	292,632	295,819	299,780	304,491	309,303	313,703	319,096	324,896	330,864	337,125	343,790	350,667
Employee Contribution Rates															
Employees Hired before January 1, 2018	8.50%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
Employees Hired on or after January 1, 2018	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
Employer Contribution Rates															
Employer Actuarially Required Rate for Prior Year	13.41%	14.60%	15.90%	17.54%	19.22%	19.71%	20.37%	20.94%	21.46%	21.93%	22.29%	22.56%	22.69%	22.68%	12.14%
Statutory Rate for Current Year	13.00%	14.00%	15.00%	16.00%	17.00%	18.00%	19.00%	20.00%	21.00%	21.93%	22.29%	22.56%	22.69%	22.68%	22.18%
Shortfall in Statutory Rate - Board of Education	-0.09%	1.60%	1.90%	2.54%	3.22%	2.71%	2.37%	1.94%	1.46%	0.93%	0.36%	0.27%	0.13%	-0.01%	-10.54%
Shortfall in Statutory Rate - All Others	0.41%	0.60%	0.90%	1.54%	2.22%	1.71%	1.37%	0.94%	0.46%	0.00%	0.00%	0.00%	0.00%	0.00%	-10.04%
Employee Contributions															
Legacy	21,345	19,274	17,186	15,452	14,015	12,789	11,699	10,706	9,775	8,922	8,139	7,411	6,734	6,111	5,531
New Employees	3,785	6,621	8,911	10,885	12,609	14,191	15,705	17,132	18,458	19,797	21,102	22,367	23,608	24,830	26,029
Total Employee Contributions	25,130	25,895	26,097	26,337	26,624	26,980	27,404	27,838	28,233	28,719	29,241	29,778	30,342	30,941	31,560
Employer Contributions															
Actuarially Required	38,427	42,008	46,104	51,328	56,856	59,087	62,025	64,768	67,321	69,978	72,419	74,643	76,494	77,972	42,571
Statutory	38,127	38,321	41,415	44,668	48,044	51,584	55,333	59,266	63,277	67,323	70,839	73,203	75,295	77,015	77,903
Shortfall/(Excess) in Statutory Contribution	300	3,687	4,689	6,660	8,812	7,503	6,692	5,502	4,044	2,655	1,580	1,440	1,199	957	(35,332)
Cumulative Shortfall Amount/(Excess Funding)	300	3,987	8,676	15,336	24,148	31,651	38,343	43,845	47,889	50,544	52,124	53,564	54,763	55,720	20,388
Assets*															
Market Value (MVA)	827,630	820,156	814,322	812,034	812,517	818,236	827,938	844,429	866,316	894,256	927,566	980,958	1,039,171	1,105,707	1,179,939
Actuarial Value (AVA)	908,639	882,107	854,741	828,473	836,421	842,118	851,901	868,603	890,852	919,318	953,320	996,550	1,047,045	1,108,360	1,179,939
Contribution Development for															
Following Year															
Unfunded Actuarial Accrued Liability	368,591	393,810	420,961	447,444	439,029	434,442	425,707	412,709	395,000	372,290	344,194	308,248	264,190	211,988	151,521
Amortization of UAAL	40,750	45,164	50,080	55,272	57,263	59,927	62,489	64,959	67,309	69,532	71,609	73,311	74,625	41,020	35,731
Normal Cost	23,993	24,100	24,310	24,559	24,838	25,197	25,649	26,113	26,505	26,990	27,515	28,052	28,620	29,224	29,845
Interest Adjustment	2,228	2,383	2,560	2,747	2,825	2,929	3,033	3,134	3,228	3,321	3,411	3,488	3,552	2,417	2,256
Total Actuarially Required Contribution**	66,970	71,647	76,950	82,578	84,926	88,052	91,171	94,205	97,042	99,843	102,535	104,850	106,797	72,661	67,832
Employee Contributions	25,130	25,896	26,097	26,337	26,624	26,980	27,404	27,837	28,233	28,719	29,241	29,778	30,341	30,941	31,560
Total Employer Actuarially Required Contribution**	41,840	45,752	50,853	56,241	58,302	61,072	63,767	66,368	68,809	71,124	73,294	75,073	76,456	41,720	36,272
Employer Contribution Rate	14.60%	15.90%	17.54%	19.22%	19.71%	20.37%	20.94%	21.46%	21.93%	22.29%	22.56%	22.69%	22.68%	12.14%	10.34%
*Assets excluding expense &contingency reserve															

^{*}Assets excluding expense &contingency reserve

^{**} Totals may differ from summing due to rounding



Summary of Methods and Assumptions

The following assumptions and methods were selected by the Board and used in this analysis. The plan's actuaries perform an experience study every 5 years and discuss anticipated future trends with the Public School Retirement System of the City of St. Louis, Missouri to ensure appropriate and reasonable assumptions and methods for the purpose of the measurement. The last experience study was completed in December 2021.

Investment Return

7.00% per annum, which includes a 2.50% allowance for inflation; 7.00% is net of investement expenses.

Participant account interest crediting rate

2.0% per annum.

Expenses

The rate of investment return assumed is net of investment expenses. Expected administrative expenses based on actual admistrative expenses in the prior year. Administrative expenses are paid out of the expenses and contingency reserve.

Mortality – Healthy Lives

PubG-2010 (Below Median) Mortality Table, amount weighted, projected fully generationally using projection scale MP-2021. The mortality assumption for retired participants receiving benefits is increased by 2% for males and 10% for females.

Beneficiary Mortality

PubG-2010 (Below Median) Mortality Table, amount weighted, projected fully generationally using projection scale MP-2021.

Disability Mortality

PubT/G-2010 Mortality Disability Table, amount weighted, projected fully generationally using projection scale MP-2021.

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Withdrawal

Withdrawals are assumed to occur at rates based on actual experience of the retirement system. During the first five years of membership, withdrawals are assumed to occur at the following rates:

Year of Membership	Non-charter school employees	Charter school employees
1 st	22.5%	35.0%
2 nd	22.5%	30.0%
3^{rd}	20.0%	25.0%
4 th	20.0%	20.0%
5 th	15.0%	20.0%

The rates used after the first five years of membership are shown in Table 1.

Salary scale

Salaries are assumed to increase at the rate of 5.0% per year for the first 5 years of employment and 3.50% thereafter.

Disability

Disabilities are assumed to occur at rates based on the actual experience of the retirement system. The rates used are shown in Table 3.

Retirement

Retirements occur at rates based on the actual experience of the retirement system. The age-related rates used are shown in Table 2. The rates are different for those eligible to retire under the Rule of 80 and those not eligible to retire under the Rule of 80.

Deferred Vested

The liability for deferred vested members with no benefit information provided in the member data by the System is assumed to be 125% of the member's total accumulated contributions.

Family Structure

The probability of a participant being married, and the probable number of children are based on a table constructed by the Social Security Administration, modified to reflect the experience of the retirement system. The rates used are shown in Table 4. For married participants, husbands are assumed to be 3 years older than their wives.

Gender

Members with no gender provided in the member data provided by the System are assumed to be female.



Usage of Cash-out Option

Participants terminating in vested status are given the option of taking a refund of their accumulated participant contributions instead of a deferred retirement benefit. Active members who terminate in the future with a vested benefit are assumed to take a deferred vested annuity, unless a refund of contributions and interest is greater than the actuarial present value of their vested deferred benefit.

Future Benefit Increases or Additional Benefits

When funding is adequate, the Board may authorize cost of living adjustments (COLAs), as noted in the summary of plan provisions. This valuation assumes that no future COLAs will be awarded.

Actuarial Valuation Method – Entry Age Normal

Entry Age Normal cost method. Under this method, the actuarial value of projected benefits for each individual participant is allocated as a level percentage of compensation over the working lifetime of the participant between the date of employment and assumed date of exit.

Amortization of Unfunded Liability

Amortization is based on a 15-year closed, level dollar amount. All future changes in the accrued liability due to amendments, experience gains and losses, and assumption changes are amortized over a 15-year closed, layered method. The initial amortization base was created for the unfunded actuarial accrued liability as of January 1, 2022.

Employer Contribution – interest adjustment

The total contributions include an interest adjustment of one-half year's interest at the valuation interest rate to better reflect timing of contributions.

Valuation of Assets

The actuarial value of assets is based upon a smoothed market value method. Under this method, asset returns in excess of or less than the expected investment return on market value of assets will be reflected in the actuarial value of assets over a five-year period. The plan's actuarial value of assets will be set equal to the plan's market value of assets less the expense and contingency reserve as of January 1, 2022. The calculation of the Actuarial Value of Assets is based on the following formula:

 $MV - 80\% \times G/(L)_1 - 60\% \times G/(L)_2 - 40\% \times G/(L)_3 - 20\% \times G/(L)_4 - Expense$ and Contingency Reserve

MV = the market value of assets as of the valuation date

 $G/(L)_i$ = the asset gain or (loss) for the i-th year preceding the valuation date



Expense and Contingency Reserve

Medical - Inactive

The medical portion of the Expense and Contingency Reserve is based on actual costs provided by the Plan as of January 1, 2023. The Plan's monthly cost for members who are not covered under Medical Advantage is assumed to remain the same in future years. The Plan's monthly cost for members covered under Medical Advantage are assumed to be as follows:

Year	Plan's Monthly Cost
2023-2025	\$ 0
2026	\$ 20
2027	\$ 40
2028	\$ 60
2029+	\$ 80

Dental and Vision - Inactive

The dental and vision portion of the Expense and Contingency Reserve is based on actual costs provided by the Plan as of January 1, 2023. It is assumed the costs in which the Plan will cover in the form of a subsidy will remain the same in future years.

Medical, Dental, and Vision - Active

50% of active members are assumed to elect medical, dental, and vision in the future. The total premium for these three equals \$89.10 based on current plan cost for members not in Medical Advantage. The 50% assumption is based the number of current inactive members who elected medical coverage.



Table 1 Withdrawal Rates Annual Rates Per 1,000 Members

Age	Rate	Age	Rate
20	170.0	45	76.0
21	170.0	46	73.0
22	170.0	47	70.0
23	170.0	48	69.0
24	170.0	49	68.0
25	167.0	50	67.0
26	164.0	51	67.0
27	161.0	52	65.0
28	158.0	53	60.0
29	155.0	54	55.0
30	152.0	55	50.0
31	149.0	56	47.0
32	145.0	57	45.0
33	141.0	58	43.0
34	137.0	59	41.0
35	133.0	60	39.0
36	129.0	61	0.0
37	120.0	62	0.0
38	111.0	63	0.0
39	102.0	64	0.0
40	93.0		
41	88.0		
42	85.0		
43	82.0		
44	79.0		





Table 2
Retirement Rates
Annual Rates Per 1,000 Members

Age	Rule of 80 Rate	Not Rule of 80 Rate
50 - 51	200.0	N/A
52 - 54	150.0	N/A
55	200.0	N/A
56 - 59	150.0	N/A
60	180.0	75.0
61 - 63	180.0	100.0
64	180.0	175.0
65	350.0	250.0
66 - 71	250.0	150.0
72	1,000.0	1,000.0



Table 3
Disability Rates
Annual Rates Per 1,000 Members

	R	ate		Ra	ate
Age	Males	Females	Age	Males	Females
20	0.00	0.00	45	1.50	1.00
21	0.00	0.00	46	1.60	1.10
22	0.00	0.00	47	1.70	1.20
23	0.00	0.00	48	1.80	1.30
24	0.00	0.00	49	1.90	1.40
25	0.00	0.00	50	2.00	1.50
26	0.00	0.00	51	2.30	1.70
27	0.00	0.00	52	2.50	1.90
28	0.00	0.00	53	2.80	2.10
29	0.00	0.00	54	3.00	2.50
30	0.40	0.40	55	3.30	3.00
31	0.40	0.40	56	3.50	3.50
32	0.40	0.40	57	3.80	4.00
33	0.40	0.40	58	4.00	4.00
34	0.40	0.40	59	4.50	4.00
35	0.40	0.40	60	5.00	4.00
36	0.50	0.45	61	5.50	4.00
37	0.50	0.50	62	6.00	4.00
38	0.60	0.60	63	6.00	4.00
39	0.70	0.70	64	6.00	4.00
40	0.80	0.75	65	6.00	4.00
41	1.00	0.80			
42	1.10	0.85			
43	1.30	0.90			
44	1.40	0.95			



Table 4
Family Structure

	Age	Age of	Average number	Probability of	Probability
Male	Female	youngest child	of children	being married	of children if married
20	17	2	.90	.30	.50
21	18	2	.90	.35	.50
22	19	2	.98	.40	.50
23	20	2	.98	.46	.53
24	21	3	1.05	.53	.56
25	22	3	1.13	.60	.59
26	23	4	1.20	.67	.62
27	24	4	1.28	.74	.65
28	25	4	1.35	.76	.67
29	26	5	1.43	.78	.69
30	27	5	1.50	.80	.71
31	28	6	1.58	.82	.73
32	29	6	1.65	.84	.75
33	30	7	1.80	.85	.76
34	31	7	1.95	.86	.77
35	32	8	2.10	.87	.78
36	33	8	2.10	.87	.79
37	34	9	2.10	.87	.80
38	35	9	2.30	.87	.79
39	36	10	1.95	.87	.78
40	37	10	1.88	.87	.77
41	38	11	1.80	.87	.76
42	39	11	1.73	.87	.75
43	40	11	1.73	.87	.72
44	41	12	1.65	.87	.69
45	42	12	1.65	.86	.66
46	43	12	1.58	.86	.63
47	44	12	1.58	.86	.60
48	45	12	1.50	.85	.56
49	46	12	1.43	.85	.52
50	47	13	1.43	.85	.48
51	48	13	1.35	.85	.44
52	49	13	1.35	.85	.40
53	50	13	1.35	.85	.37
54	51	13	1.35	.84	.34



Table 4
Family Structure (continued)

1	Age	Age of	A	Doob ability of	Probability
Male	Female	youngest child	Average number of children	Probability of being married	of children if married
55	52	13	1.28	.84	.31
56	53	13	1.28	.83	.28
57	54	13	1.28	.83	.25
58	55	13	1.28	.83	.23
59	56	13	1.20	.82	.21
60	57	13	1.20	.81	.19
61	58	13	1.20	.80	.17
62	59	13	1.20	.79	.15
63	60	13	1.20	.78	.13
64	61	13	1.20	.77	.11
65	62	13	1.13	.76	.09
66	63	13	1.13	.75	.07
67	64	13	1.13	.74	.05
68	65	13	1.13	.73	.04
69	66	13	1.05	.72	.03
70	67	13	1.05	.71	.02
71	68	13	1.05	.70	.01





Projection Assumptions

(1) New Entrants: Active membership assumed to stay at the January 1, 2023 level

throughout projection (4,940 active members). New active members entering the retirement system assumed to have the average characteristics of new active members over the last five years.

(2) Expenses: Plan administrative expenses in 2023 (\$1,320,000) increased by 2.50%

annual inflation

(3) Deferred Vested Members: Deferred vested members are assumed to receive 125% of their account

balance at age 65.

(4) Non-vested Terminated Members: Non-vested terminated members are assumed to receive 100% of their

account balance at age 65.

(5) Actual Return on Assets: Scenarios 1 and 3 assume that actual return on assets is 7.00% per year

through the projection. Scenarios 2 and 4 assume that actual return on assets is 5.50% per year for the first 10 years of the projection and

7.00% per year thereafter.

(6) Total Salary Amounts: Total salary amounts for active Board of Education members assumed to

remain constant as a percentage of total salary for all active members

based on January 1, 2023 salary.

(7) Board of Education Contributions: Employer contribution amounts received on behalf of the Board of

Education members assumed to be paid the following calendar year at

the end of the year.

(8) Retirement System and Charter

Schools Contributions:

Employer contribution amounts received on behalf of the Retirement

System and Charter School members assumed to be paid monthly.