



# Commission on Government Forecasting and Accountability

## PENSION IMPACT NOTE *103<sup>RD</sup> General Assembly*

BILL NO: **HB 4098 (Revised)**

September 29, 2023

SPONSOR (S): Kifowit – Reick – Walker

SYSTEM: Five State-funded Retirement Systems (SERS, SURS, TRS, JRS, and GARS), and the Chicago Teachers’ Pension Fund

### FISCAL IMPACT

An actuarial study has been performed on the major provisions of **HB 4098** by the Commission’s consulting actuary, Segal Consultants. The change in State contributions to the Big 3 State Systems (TRS, SURS, and SERS) resulting from the benefit changes set forth in **HB 4098** is shown below for the first year of implementation, **FY 2026**. For the full actuarial study, please refer to **Appendix I**.

State Contribution (Savings)/Cost for FY 2026 (\$ in Millions)				
	TRS	SERS	SURS	Total
Baseline	-	-	-	-
Change #1 – Tier 2 Retirement Age	\$89	\$22	\$14	\$125
Change #2 – Tier 2 Salary Cap to SSWB	48	3	(1)	50
Change #3 – Tier 2 COLA Update	66	41	25	132
Change #5 – DROP Implementation	39	6	7	52
Change #6 – Additional \$500 M Contributions	(98)	(39)	(34)	(171)
Change #7 – 100% Funding Target by 2050 Plus Contribution Level to ADC	3,545	488	442	4,475
Combined Changes	3,857	561	476	4,894

\*Actuaries assume a full fiscal year for analysis, despite the effective date of January 1, 2025

**SUBJECT MATTER:** HB 4098 is a pension reform omnibus bill that adjusts various components of the Tier 2 benefit structure of the Five State-funded Retirement Systems and the Chicago Teachers' Pension Fund. The bill also provides for a new funding schedule for the State Systems. Each change is summarized below in the Comment Section.

**COMMENT:**

**\*All provisions of HB 4098 outlined below are effective January 1, 2025.**

**Adjustment of Tier 2 Age & Service Requirements in SERS, TRS, and SURS**

**Current Law**

- A Tier 2 member or participant is entitled to a retirement annuity upon written application if he or she has attained age 67 and has at least 10 years of service credit. Tier 2 members are eligible to retire at age 62, with annuities reduced by ½ of 1% for each month under age 67.

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- The bill makes changes to the age at which Tier 2 members in SERS, TRS, and SURS may retire with an unreduced annuity, as follows:
  - Age 62 with at least 35 years of service credit;
  - Attained age 64 with at least 20 years of service credit;
  - Attained age 67 with at least 10 years of service credit.
- The early retirement reduction for Tier 2 members who retire at age 62 under current law would remain in force.

**Increasing the Tier 2 Pensionable Salary Cap to Social Security Wage Base in SERS, SURS, TRS, GARS, JRS, and the Chicago Teachers' Pension Fund (CTPF)**

**Current Law**

- Currently, the Tier 2 pensionable salary cap is equal to \$123,489.18.
  - Members do not make contributions on wages above cap.
- The Tier 2 cap is increased annually by the lesser of:
  - 3%; or
  - ½ the increase in CPI-U for preceding 12 months.
    - If CPI-U = 0, no increase is paid.

**HB 4098**

Under HB 4098, the Tier 2 pensionable salary cap for the State Systems and CTPF is brought into line with the Social Security Wage Base, which as of 2023 was \$160,200. The bill provides an 8-year “ramp” from the current Tier 2 pensionable salary cap to the Social Security Wage Base, to take place during Calendar Years 2025 – 2032. Beginning in Jan. 1, 2032, the Tier 2 pensionable salary cap will be equal to the Social Security Wage base.

- The bill specifies that the “wage base adjustment” shall mean the product that results from multiplying the difference between the federal Social Security Wage Base for the coming calendar year and the then-current Tier 2 pensionable salary cap by the “smoothing factor” for that calendar year, as shown below:
  1. For calendar year 2025, 12.5%;
  2. For calendar year 2026, 25%;
  3. For calendar year 2027, 37.5%;
  4. For calendar year 2028, 50%;
  5. For calendar year 2029, 62.5%;
  6. For calendar year 2030, 75%; and
  7. For calendar year, 87.5%.

**Change to the Tier 2 Automatic Annual Increase for SERS, TRS & CTPF****Current Law**

- Each Tier 2 automatic annual increase is calculated at the lesser of:
  - 3%; or
  - ½ the annual unadjusted percentage increase (not less than zero) in the CPI-U.
  - If the increase in CPI-U is 0, no increase is payable.
  - Tier 2 COLA’s are not compounded in SERS, TRS, and CTPF.

**HB 4098**

- Beginning January 1, 2025, Tier 2 retirement annuities for both active and retired members shall be increased by the greater of the preceding 3-year rolling average of either:
  - 3%;
  - ½ the annual unadjusted percentage increase (not less than zero) in the CPI-U.
- Tier 2 retirement annuities will continue to be non-compounded in SERS, TRS and CTPF;
- The COLA change is prospective only; the bill does not provide for a recalculation of any Tier 2 COLA’s already paid.

Accelerated Pension Benefit for GARS & JRS

**Current Law**

- PA 100-0587 established parameters for an accelerated pension benefit payment in lieu of any pension benefit for SERS, SURS, & TRS (“Total Buyout”), as follows:
  - Inactive vested Tier 1 & Tier 2 members may elect to receive an accelerated pension payment equal to 60% of the present value of the member’s pension benefits in lieu of receiving a traditional retirement annuity.
- PA 100-0587 also established an accelerated pension benefit for a reduction in annual Tier 1 retirement annuity and survivor’s annuity increases in SERS, SURS, and TRS (“COLA Buyout”), as follows:
  - A member may elect to receive an accelerated pension benefit payment equal to 70% of the difference of the present value of the Tier One 3% compounded COLA and the present value of a reduced COLA (simple 1.5%);
- Upon receipt of either of these payments, accrued service credit is terminated;
- If an eligible member returns to service, all benefits earned are based solely on service after returning; the accelerated payment may not be repaid and credit cannot be reinstated;
- P.A. 102-0718 extended the sunset date of the two buyout programs to June 30, 2026.

**HB 4098**

- HB 4098 establishes both a “Total Buyout” and “COLA Buyout” plan within GARS & JRS;
- The buyout plans mirror the existing plans in SERS, SURS, & TRS, except that funding for buyout payments will come from the General Revenue Fund and not from proceeds from the State Pension Obligation Acceleration Bonds, as is the case with the existing buyout programs; and
- HB 4098 establishes June 30, 2026 as sunset date of the GARS and JRS buyout programs.

Deferred Retirement Option Plans (DROP) for GARS, SERS, SURS, TRS, JRS

**DROP Explanation**

- Deferred Retirement Option Plans (DROP) are designed to encourage continued employment past the eligible retirement age for a period of time (usually 3-5 years); below is a summary of the salient features of DROP plans:
  - Workers continue to draw a salary but are considered retired (for annuity purposes);

- The pension annuity amount the worker is entitled to starting at the date they are considered “retired” (DROP date) is credited to the member’s individual DROP account; and
- Upon completion of the DROP period, the member’s DROP account balance is available as Lump-Sum amount, which can be distributed in any of the following ways:
  - a one-time payment;
  - a payment plan over time;
  - a Payment rolled into an IRA.

### **HB 4098 DROP Provisions**

- Beginning January 1, 2025, a DROP plan will be made available in GARS, SERS, SURS, TRS, and JRS for both Tier 1 and Tier 2 members. Eligible participants must:
  - be in active service;
  - have attained an age within 5 years of retirement age; and
  - have at least 20 years of service credit in the pertinent system.
- Participation in the DROP must be elected by the participant within 3 years of meeting the aforementioned requirements;
- The DROP duration is 3 years;
- Individual DROP accounts shall consist of: 1) the monthly retirement annuity the participant would have been eligible to receive if the participant had terminated service on the date of participation in the DROP; 2) employee contributions paid by the participant during the DROP period, and 3) interest on the balance in the DROP account at the rate of 7% per year, paid and compounded monthly; and
- The member will receive the retirement annuity that they would have received had they retired on the date they entered the DROP, plus the balance in their individual DROP account.

### **Additional Funding to Pension Unfunded Liability Reduction Fund**

HB 4098 amends the General Obligation Bond Act, such that every fiscal year after all bonds authorized by PA 93-0002 are retired in FY 2033, the State Treasurer shall direct the State Comptroller to transfer \$500 million from the General Revenue Fund to the newly created Pension Unfunded Liability Reduction Fund for each fiscal year. This fund shall be used to make additional contributions to the five State-funded systems plus CPTF based on the pro rata share of the State’s annual obligation to each pension fund relative to the total contribution to all 6 pension funds for the ensuing fiscal year.

### **Adjustment of Funding Ramp to 100% in 2050 for the Five State Systems and Additional Contributions**

**Current Law (Five State Systems)**

- The State shall make contributions to the five State-funded Systems such that a 90% funded ratio shall be attained by FY 2045.
- Beginning in State FY 2046, the minimum State contribution for each FY shall be the amount needed to maintain the total assets of the System at 90% of total actuarial liabilities

**HB 4098 (Five State Systems)**

- The State shall make contributions to the State Systems to meet the cost of maintaining and administering the Systems on a **100%** funded ratio by **FY 2050**.
- Beginning in State FY 2025 and each fiscal year thereafter, there shall be an additional required State contribution of an amount equal to the difference between:
  - The required contribution under the new funding plan outlined above; and
  - The Actuarially Determined Contribution (ADC) for the fiscal year.

**Closure of GARS & JRS in 2025**

HB 4098 closes the window to join GARS & JRS after Jan 8, 2025; active participants in GARS may elect to terminate participation in GARS and transfer accumulated service credit from GARS to SERS. The payment amount required for such service credit transfers will be equal to the amount of employee and employer contributions that would have been required had the member participated in SERS, plus regular interest from the date of service to the date of payment.

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Appendix I

The full actuarial study for HB 4098 is shown on the following pages:

September 28, 2023

**Via Email**

Clayton Klenke  
Executive Director  
Commission on Government Forecasting and Accountability (CoGFA)  
703 Stratton Office Bldg.  
Springfield, IL 62706

**Re: Actuarial Impact Study – House Bill 4098 Request**

Dear Clayton:

As requested, we have analyzed the impact of various benefit changes contained in House Bill 4098 (HB 4098) on projected costs of the Teachers' Retirement System (TRS), the State Employees' Retirement System (SERS), and the State Universities Retirement System (SURS).

The following table provides a high-level summary of the impact of the individual and combined proposed changes outlined in HB 4098 on the present value of State contribution amounts through FY2050 for each System. Additional details are included later in the letter (*NRA = Normal Retirement Age, SSWB = Social Security Wage Base, ADC = Actuarially Determined Contribution and DROP = Deferred Retirement Option Plan*).

	TRS	SERS	SURS	Total
<b>(Savings)/Cost on Present Value of Total State Contributions through FYE 2050</b>				
Baseline	-	-	-	-
Change #1 – Tier 2 NRA Update	\$1,173	\$288	\$220	\$1,681
Change #2 – Tier 2 Salary Cap to SSWB	1,384	515	324	2,223
Change #3 – Tier 2 COLA Update	887	513	381	1,781
Change #5 – DROP Implementation	430	60	84	574
Change #6 – Additional \$500M Contributions	(1,020)	(407)	(392)	(1,819)
Change #7 – 100% Funding Target by 2050 Plus Contribution Level to ADC	3,139	967	912	5,018
<b>Combined Changes</b>	<b>7,216</b>	<b>2,237</b>	<b>1,747</b>	<b>11,200</b>

The Combined Changes scenarios shown throughout do not necessarily sum to the accumulations of individual change components as the items therein are not additive – the combination of certain individual changes result in dissimilar amounts than those individual components summed. For example, increasing a COLA on a benefit with an increased Salary Cap results in a higher cost than a COLA on the Baseline benefits.

This analysis is based on the provisions of the respective Plans. The information contained in this document, as well as the accompanying exhibits, were prepared using actuarial assumptions and methods consistent with those employed in the actuarial valuations of the Systems as of June 30, 2022 (dated January 9, 2023 for TRS, December 23, 2022 for SERS, and October 28, 2022 for SURS), except as otherwise noted below.



## Proposed Benefit Changes

We have analyzed the proposed benefit / provision changes per HB 4098, as summarized below. For this analysis, we have determined the impact of each change separately, as well as the total impact of all changes combined. Note that, due to constraints of available data, this analysis only considers the impact of benefit changes for the three Systems noted above, and, as such, some changes are not considered for this analysis (which are noted below).

1. Changes the eligibility for an unreduced retirement annuity for Tier 2 members of TRS, SERS, and SURS, effective January 1, 2025, to include additional combinations of age and service, as summarized below:
  - Age 67 and 10 years of service (current provision)
  - Age 64 and 20 years of service
  - Age 62 and 35 years of service

There is no change to the early retirement reduction that apply to Tier 2 members who retire prior to normal retirement age (NRA).

2. Revises the Tier 2 salary cap for TRS, SERS, and SURS to equal the Social Security Wage Base (SSWB). The difference between the projected Tier 2 salary cap and SSWB will be phased in uniformly over an 8-year period starting in calendar year 2025 and ending in calendar year 2032.
3. Updates the Tier 2 automatic annual increases for TRS, SERS, and SURS to be a 3-year rolling average of the greater of (i) 3% or (ii) one-half of the annual unadjusted percentage increase in the CPI-U, effective January 1, 2025.
4. Expands the existing pension buyout programs to the General Assembly Retirement System (GARS) and Judges' Retirement System of Illinois (JRS).  
*[Not included in this analysis]*
5. Extends the Deferred Retirement Option Plan (DROP), as implemented for Downstate Firefighters per House Bill 3004, to Tier 1 and Tier 2 members of TRS, SERS, SURS, GARS, and JRS, effective January 1, 2025.  
*[GARS and JRS not included in this analysis]*
6. Directs an annual \$500 million contribution from the General Revenue Fund (in addition to statutory requirements) to the newly created Pension Unfunded Liability Reduction Fund for each fiscal year starting July 1, 2033 through fiscal year ending June 30, 2045.  
These additional contributions will be allocated to TRS, SERS, SURS, GARS, JRS, and Chicago Teachers' Pension Fund (CTPF) based on each system's pro rata share of the total State statutory contribution requirement.  
*[GARS, JRS, and CTPF are not included in this analysis]*
7. Increases the funded percentage target from the current 90% to 100% and extends the target date from June 30, 2045, to June 30, 2050, effective for fiscal years beginning July 1, 2025. In addition, an additional contribution is required to make up any difference between the current statutory requirement and the System's actuarially determined contribution (ADC), effective for fiscal years beginning July 1, 2025.
8. Closes GARS and JRS to new entrants effective January 8, 2025.  
*[Not included in this analysis]*

## **Actuarial Analysis**

The analysis was based upon the census data and actuarial assumptions used in the June 30, 2022, actuarial valuations for TRS, SERS, and SURS. For purposes of this analysis, all changes are assumed to be effective as described in the 'Proposed Benefit Changes' noted above.

The following assumptions and methods were implemented for the purpose of determining the impact of the benefit and/or provision changes under the various elements of HB 4098. The numbering below corresponds with the numbers under the 'Proposed Benefit Changes' section:

1. To reflect the proposed change in retirement ages, the assumed retirement rate at age 67 (the current NRA) was applied for ages 64 and 62 for participants with 20-34 years of service at retirement and 35+ years of service at retirement, respectively.
2. No adjustments were made for TRS and SURS Tier 2 participants whose earnings are reported at the current cap (i.e., their actual earnings are unknown).

The analysis reflects the known Tier 2 salary limitations applicable for fiscal years ending June 30, 2023, and June 30, 2024 (\$119,892 and \$123,489, respectively), as well as the 2023 Social Security Wage Base of \$160,200.

The Tier 2 salary cap is assumed to annually increase by 1.25% for TRS and 1.125% for SERS and SURS (taking into account each System's inflation assumption) and the Social Security Wage Base is assumed to increase 2.50% per year for all Systems.

3. The current assumed inflation as of June 30, 2022, for TRS, SERS, and SURS is 2.50%, 2.25%, and 2.25%, respectively, which serves as a proxy for the annual unadjusted percentage increase in the CPI-U. As such, for purposes of this analysis, the Tier 2 automatic annual increases are assumed to be 3% per year, effective starting January 1, 2025.
4. *[Not included in this analysis]*
5. All active Tier 1 and Tier 2 members of TRS, SERS, and SURS are eligible to participate in the DROP upon attainment of 20 years of service credit. The DROP duration is 3 years, in which the member will receive 1) the retirement annuity that they would have received had they retired on the date they entered the DROP, 2) employee contributions paid by the participant during the DROP period, and 3) interest on the balance in the DROP account at 7% per year added to their individual DROP account.

Upon retirement, the member will begin receiving the retirement annuity they would have received had they retired on the date they entered the DROP, including any anticipated COLA increases during the 3-year period, plus the balance in their individual DROP account.

For purposes of this analysis, 20% of eligible actives are assumed to participate in the DROP.

*[GARS and JRS are not included in this analysis]*

### **Actuarial Analysis (continued)**

6. The pro rata share of the additional contributions allocated for each System was determined using the baseline projection of the statutory contribution amounts through FY2045 included in each System's respective June 30, 2022, valuation report. As a result, the average allocation amount and percentage of the \$500M additional contribution to each of the analyzed Systems is as follows:
  - TRS – \$261M, or 52%
  - SERS – \$100M, or 20%
  - SURS – \$93M, or 19%

For consistency with the other changes, the inclusion of the pro rata share of the \$500M additional contributions for purposes of determining the statutory contribution requirement is first effective with the FY2026 State contribution.

This analysis assumes that the additional \$500M contributions are treated in a similar manner as Federal Funds and School District contributions (i.e., a stream of projected contributions valued as of the valuation date), resulting in lower statutory contributions needed to attain 90% funded by 2045.

*[GARS, JRS, and CTPF are not included in this analysis, though it is assumed that these Systems collectively receive the remaining \$46M allocation of the total \$500M additional contribution amount]*

7. Upon attaining the 90% or 100% target funded percentage, projected contributions are determined to maintain the target funded percentage for all future years, as needed.

The contributions used in the fair value of assets projection for fiscal years beginning July 1, 2025, and thereafter were set to the greater of the statutory contribution requirement and the ADC (determined using the baseline projection from the June 30, 2022, valuation of each respective system). In general, the ADC was greater than statutory requirements (i.e., as if the ADC overrides the current statutory contribution and becomes the new required contribution). A brief description of how the ADC is determined for each System is included below:

- TRS – The ADC is calculated as the normal cost (on an entry age normal basis) plus a layered 20-year closed-period amortization of the Unfunded Actuarial Accrued Liability (UAAL), such that sources of UAAL that emerge subsequent to the initial June 30, 2015, amortization layer are amortized over additional closed 20-year periods. For FY2024, the statutory requirement was 63% of the ADC. Under this scenario, the ADC is projected to be greater than statutory contribution requirements through fiscal year ending June 30, 2044.
- SERS – The ADC is calculated as the normal cost (on a unit credit basis) plus a 25-year level percent of capped payroll closed-period amortization of the UAAL. As of June 30, 2022, the remaining period is 18 years. For FY2024, the statutory requirement was 83% of the ADC. Under this scenario, the ADC is projected to be greater than statutory contribution requirements through fiscal year ending June 30, 2041.

**Actuarial Analysis (continued)**

- SURS – The ADC is calculated as the normal cost (on a unit credit basis) plus a 30-year level percent of capped payroll closed-period amortization of the UAAL. As of June 30, 2022, the remaining period is 22 years. For FY2024, the statutory requirement was 83% of the ADC. Under this scenario, the ADC is projected to be greater than statutory contribution requirements through fiscal year ending June 30, 2034.

Note that the cost impact of reflecting the ADC for determining State contribution requirements is highly dependent on the difference between the ADC and statutory requirements as well as the length of time in which the ADC is greater than the statutory contribution.

8. *[Not included in this analysis]*

The following tables summarize the impact of the proposed benefit changes on the System's actuarial accrued liability (AAL) and projected State contribution amounts through FY2050. The attached exhibits show in greater detail the projected contributions, actuarial liabilities, actuarial assets, funded position, and benefit payments through 2050 reflecting the changes outlined above.

This analysis has been prepared at your request and is not to be considered a recommendation by Segal. Numbers shown have been rounded to the nearest million.

(\$ in millions)

**Summary of Results for All Systems<sup>1</sup>**

	TRS	SERS	SURS	Total
<b>Projected AAL as of June 30, 2045</b>				
Baseline	\$212,595	\$60,437	\$53,473	\$326,505
Change #1 – Tier 2 NRA Update	219,188	61,445	54,351	334,984
Change #2 – Tier 2 Salary Cap to SSWB	220,408	62,555	55,233	338,196
Change #3 – Tier 2 COLA Update	218,234	62,623	54,838	335,695
Change #5 – DROP Implementation	213,702	60,931	53,982	328,615
Change #6 – Additional \$500M Contributions	212,595	60,437	53,473	326,505
Change #7 – 100% Funding Target by 2050 Plus Contribution Level to ADC	212,595	60,437	53,473	326,505
Combined Changes	229,951	66,766	58,007	354,724
<b>Increase in Projected AAL as of June 30, 2045</b>				
Baseline	-	-	-	-
Change #1 – Tier 2 NRA Update	\$6,593	\$1,008	\$878	\$8,479
Change #2 – Tier 2 Salary Cap to SSWB	7,813	2,118	1,760	11,691
Change #3 – Tier 2 COLA Update	5,639	2,186	1,365	9,190
Change #5 – DROP Implementation	1,107	494	509	2,110
Change #6 – Additional \$500M Contributions	-	-	-	-
Change #7 – 100% Funding Target by 2050 Plus Contribution Level to ADC	-	-	-	-
Combined Changes	17,356	6,329	4,534	28,219
<b>State Contributions for FYE 2026</b>				
Baseline	\$6,448	\$2,524	\$2,264	\$11,236
Change #1 – Tier 2 NRA Update	6,537	2,546	2,278	11,361
Change #2 – Tier 2 Salary Cap to SSWB	6,496	2,527	2,263	11,286
Change #3 – Tier 2 COLA Update	6,514	2,565	2,289	11,368
Change #5 – DROP Implementation	6,487	2,530	2,271	11,288
Change #6 – Additional \$500M Contributions	6,350	2,485	2,230	11,065
Change #7 – 100% Funding Target by 2050 Plus Contribution Level to ADC	9,993	3,012	2,706	15,711
Combined Changes	10,305	3,085	2,740	16,130
<b>(Savings)/Cost on State Contribution for FYE 2026</b>				
Baseline	-	-	-	-
Change #1 – Tier 2 NRA Update	\$89	\$22	\$14	\$125
Change #2 – Tier 2 Salary Cap to SSWB	48	3	(1)	50
Change #3 – Tier 2 COLA Update	66	41	25	132
Change #5 – DROP Implementation	39	6	7	52
Change #6 – Additional \$500M Contributions	(98)	(39)	(34)	(171)
Change #7 – 100% Funding Target by 2050 Plus Contribution Level to ADC	3,545	488	442	4,475
Combined Changes	3,857	561	476	4,894

<sup>1</sup> Proposed Changes #4 and #8 are not included in this analysis

(\$ in millions)

**Summary of Results for All Systems<sup>1</sup>**

	TRS	SERS	SURS	Total
<b>Total State Contributions through FYE 2050</b>				
Baseline	\$191,947	\$75,654	\$71,022	\$338,623
Change #1 – Tier 2 NRA Update	195,505	76,483	71,671	343,659
Change #2 – Tier 2 Salary Cap to SSWB	196,834	77,414	72,122	346,370
Change #3 – Tier 2 COLA Update	194,634	77,062	72,121	343,817
Change #5 – DROP Implementation	193,005	75,796	71,212	340,013
Change #6 – Additional \$500M Contributions	189,566	74,728	70,142	334,436
Change #7 – 100% Funding Target by 2050 Plus Contribution Level to ADC	155,147	73,127	74,468	302,742
Combined Changes	167,088	75,851	76,541	319,480
<b>(Savings)/Cost on Total State Contributions through FYE 2050</b>				
Baseline	-	-	-	-
Change #1 – Tier 2 NRA Update	\$3,558	\$829	\$649	\$5,036
Change #2 – Tier 2 Salary Cap to SSWB	4,887	1,760	1,100	7,747
Change #3 – Tier 2 COLA Update	2,687	1,408	1,099	5,194
Change #5 – DROP Implementation	1,058	142	190	1,390
Change #6 – Additional \$500M Contributions	(2,381)	(926)	(880)	(4,187)
Change #7 – 100% Funding Target by 2050 Plus Contribution Level to ADC	(36,800)	(2,527)	3,446	(35,881)
Combined Changes	(24,859)	197	5,519	(19,143)
<b>Present Value of Total State Contributions through FYE 2050</b>				
Baseline	\$88,116	\$35,320	\$33,479	\$156,915
Change #1 – Tier 2 NRA Update	89,289	35,608	33,699	158,596
Change #2 – Tier 2 Salary Cap to SSWB	89,500	35,835	33,803	159,138
Change #3 – Tier 2 COLA Update	89,003	35,833	33,860	158,696
Change #5 – DROP Implementation	88,546	35,380	33,563	157,489
Change #6 – Additional \$500M Contributions	87,096	34,913	33,087	155,096
Change #7 – 100% Funding Target by 2050 Plus Contribution Level to ADC	91,255	36,287	34,391	161,933
Combined Changes	95,332	37,557	35,226	168,115
<b>(Savings)/Cost on Present Value of Total State Contributions through FYE 2050</b>				
Baseline	-	-	-	-
Change #1 – Tier 2 NRA Update	\$1,173	\$288	\$220	\$1,681
Change #2 – Tier 2 Salary Cap to SSWB	1,384	515	324	2,223
Change #3 – Tier 2 COLA Update	887	513	381	1,781
Change #5 – DROP Implementation	430	60	84	574
Change #6 – Additional \$500M Contributions	(1,020)	(407)	(392)	(1,819)
Change #7 – 100% Funding Target by 2050 Plus Contribution Level to ADC	3,139	967	912	5,018
Combined Changes	7,216	2,237	1,747	11,200

<sup>1</sup> Proposed Changes #4 and #8 are not included in this analysis

### **Comments about Projections**

Projections, by their nature, are not a guarantee of future results. The modeled projections are intended to serve as estimates of future financial outcomes that are based on the information available to us at the time the modeling is undertaken and completed, and the agreed-upon assumptions and methodologies described herein. Emerging results may differ significantly if the actual experience proves to be different from these assumptions or if alternative methodologies are used.

The assumptions for this projection and analysis are based on those listed in the 2022 actuarial valuation report for TRS, SERS, and SURS (except as otherwise noted in this letter). As noted, the results of these projections are based on all assumptions materializing as expected, including the 7.00% investment return for TRS, the 6.75% investment return for SERS, and the 6.50% investment return for SURS. To the extent there is adverse experience, the projection scenarios would generate larger required State contributions. Given the relatively low funded status of the Systems, investment returns that are less than expected represent a significant risk to the magnitude of the State's required contributions. Additionally, the proposed changes outlined in HB 4098 could affect actual patterns of decrement (e.g., termination, retirement) compared to the current assumptions, which may result in larger (or smaller) required State contributions.

Actual experience may differ due to such variables as demographic experience, the economy, stock market performance and the regulatory environment. The longer the projection period, the less predictable the projections become.

Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative, and client requirements. Deterministic cost projections are based on our proprietary forecasting model. Our Actuarial Technology and Systems unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility, and user control. The client team programs the assumptions and the plan provisions, validates the models, and reviews test lives and results, under the supervision of the responsible actuaries.

Segal is not a law firm and we cannot offer legal advice. Any party seeking a legal opinion should consult with appropriate legal counsel.

This analysis was performed under my supervision. I am a Member of the American Academy of Actuary and meet the *Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States* of the American Academy of Actuaries to render the actuarial opinion contained herein.

Clayton Klenke  
September 28, 2023  
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Please let us know if you have any questions.

Sincerely,

A handwritten signature in black ink that reads "Matthew A. Strom". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Matthew A. Strom, FSA, MAAA, EA  
Senior Vice President and Actuary



**Funding Projections for the Teachers' Retirement System**

Based on Laws in Effect on June 30, 2022, Baseline

Actuarially Assumed Rate of Return: 7.00%

(\$ in millions)

Fiscal Year Ending 6/30	Annual State Payroll*	Total State Contribution	State Contribution as Percent of Payroll	Total Employee Contribution	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Liability	Funded Ratio
2022					\$143,523.7	\$62,910.4	\$80,613.3	43.8%
2023	\$11,448.9	\$5,893.7	51.5%	\$1,051.4	147,495.4	66,184.8	81,310.6	44.9%
2024	11,893.2	6,043.2	50.8%	1,092.2	151,477.2	69,786.7	81,690.6	46.1%
2025	12,211.8	6,247.1	51.2%	1,121.5	155,459.8	74,248.5	81,211.4	47.8%
2026	12,528.4	6,447.6	51.5%	1,150.6	159,434.9	77,007.1	82,427.8	48.3%
2027	12,843.5	6,592.2	51.3%	1,179.5	163,572.9	80,993.9	82,579.0	49.5%
2028	13,142.4	6,809.6	51.8%	1,207.0	167,674.0	85,176.6	82,497.4	50.8%
2029	13,429.4	6,947.7	51.7%	1,233.3	171,716.8	89,473.6	82,243.2	52.1%
2030	13,718.6	7,074.5	51.6%	1,259.9	175,685.8	93,875.2	81,810.6	53.4%
2031	14,007.3	7,204.1	51.4%	1,286.4	179,563.0	98,383.5	81,179.5	54.8%
2032	14,296.0	7,351.4	51.4%	1,312.9	183,325.7	103,014.2	80,311.5	56.2%
2033	14,581.2	7,513.9	51.5%	1,339.1	186,946.7	107,779.6	79,167.1	57.7%
2034	14,857.2	8,280.2	55.7%	1,364.4	190,401.3	113,306.3	77,095.0	59.5%
2035	15,131.5	8,433.1	55.7%	1,389.6	193,665.6	119,006.2	74,659.4	61.4%
2036	15,409.5	8,588.0	55.7%	1,415.2	196,723.6	124,895.4	71,828.1	63.5%
2037	15,692.7	8,745.8	55.7%	1,441.2	199,562.4	130,995.5	68,566.9	65.6%
2038	15,987.8	8,910.3	55.7%	1,468.3	202,158.1	137,326.2	64,831.9	67.9%
2039	16,285.8	9,076.4	55.7%	1,495.6	204,486.0	143,907.8	60,578.2	70.4%
2040	16,586.5	9,244.0	55.7%	1,523.3	206,523.2	150,762.8	55,760.4	73.0%
2041	16,907.3	9,422.8	55.7%	1,552.7	208,263.4	157,941.2	50,322.2	75.8%
2042	17,244.3	9,610.6	55.7%	1,583.7	209,711.7	165,500.7	44,211.0	78.9%
2043	17,606.3	9,812.3	55.7%	1,616.9	210,888.2	173,518.4	37,369.8	82.3%
2044	17,997.2	10,030.2	55.7%	1,652.8	211,834.0	182,095.0	29,739.0	86.0%
2045	18,419.1	10,265.4	55.7%	1,691.6	212,595.4	191,335.8	21,259.5	90.0%
2046	18,879.6	1,498.8	7.9%	1,733.8	213,243.1	191,918.8	21,324.3	90.0%
2047	19,380.3	1,480.8	7.6%	1,779.8	213,847.7	192,463.0	21,384.8	90.0%
2048	19,910.6	1,472.9	7.4%	1,828.5	214,461.7	193,015.5	21,446.2	90.0%
2049	20,453.5	1,472.6	7.2%	1,878.4	215,122.6	193,610.3	21,512.3	90.0%
2050	20,995.4	1,477.7	7.0%	1,928.2	215,848.1	194,263.3	21,584.8	90.0%
Total		\$191,946.9		\$40,577.8				

\* Does not include Federal Payroll

**Funding Projections for the State Employees' Retirement System**  
 CoGFA Projections Based on Laws in Effect on June 30, 2022, Baseline  
 Actuarially Assumed Rate of Return: 6.75%  
 (\$ in millions)

Fiscal Year Ending 6/30	Annual Payroll	Total State Contribution	State Contribution as Percent of Payroll	Total Employee Contribution	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Liability	Funded Ratio
2022					\$52,049.7	\$22,892.7	\$29,157.0	44.0%
2023	\$4,851.8	\$2,475.6	51.0%	\$271.6	53,224.3	23,947.7	29,276.7	45.0%
2024	4,918.8	2,450.3	49.8%	273.4	54,324.6	24,938.4	29,386.2	45.9%
2025	4,989.6	2,487.0	49.8%	275.5	55,347.6	25,983.4	29,364.3	46.9%
2026	5,062.6	2,523.9	49.9%	277.8	56,285.4	26,303.5	29,981.9	46.7%
2027	5,139.2	2,557.3	49.8%	280.2	57,132.6	27,214.2	29,918.4	47.6%
2028	5,218.6	2,644.4	50.7%	282.9	57,889.7	28,145.1	29,744.5	48.6%
2029	5,305.6	2,667.3	50.3%	286.1	58,562.2	29,039.6	29,522.6	49.6%
2030	5,399.6	2,706.5	50.1%	289.7	59,153.3	29,918.4	29,234.9	50.6%
2031	5,499.1	2,749.7	50.0%	293.8	59,663.6	30,791.1	28,872.5	51.6%
2032	5,604.7	2,801.8	50.0%	298.0	60,092.9	31,671.0	28,421.9	52.7%
2033	5,713.7	2,861.2	50.1%	302.2	60,444.0	32,573.2	27,870.8	53.9%
2034	5,829.2	3,128.7	53.7%	306.8	60,721.0	33,722.8	26,998.2	55.5%
2035	5,948.8	3,192.9	53.7%	311.5	60,929.0	34,934.2	25,994.8	57.3%
2036	6,071.5	3,258.8	53.7%	316.2	61,068.1	36,218.2	24,849.9	59.3%
2037	6,196.8	3,326.1	53.7%	321.0	61,143.5	37,589.2	23,554.3	61.5%
2038	6,330.3	3,397.7	53.7%	326.3	61,165.0	39,069.3	22,095.7	63.9%
2039	6,470.9	3,473.2	53.7%	331.9	61,138.8	40,679.0	20,459.8	66.5%
2040	6,616.5	3,551.3	53.7%	337.7	61,070.8	42,439.4	18,631.4	69.5%
2041	6,769.6	3,633.5	53.7%	343.9	60,970.1	44,375.1	16,595.0	72.8%
2042	6,929.7	3,719.4	53.7%	350.4	60,848.3	46,511.5	14,336.8	76.4%
2043	7,097.0	3,809.2	53.7%	357.3	60,715.8	48,876.6	11,839.2	80.5%
2044	7,270.9	3,902.6	53.7%	364.6	60,577.7	51,495.7	9,082.0	85.0%
2045	7,448.3	3,997.8	53.7%	372.1	60,436.5	54,392.9	6,043.7	90.0%
2046	7,630.1	875.3	11.5%	379.7	60,296.0	54,266.4	6,029.6	90.0%
2047	7,751.2	867.2	11.2%	387.2	60,258.6	54,232.8	6,025.9	90.0%
2048	7,934.8	864.6	10.9%	396.4	60,228.2	54,205.4	6,022.8	90.0%
2049	8,119.2	864.9	10.7%	405.6	60,206.7	54,186.1	6,020.7	90.0%
2050	8,302.1	866.0	10.4%	414.7	60,195.2	54,175.7	6,019.5	90.0%
<b>Total</b>		<b>\$75,654.2</b>		<b>\$9,154.5</b>				



**Exhibit 1A – TRS Projection (Change #1 – Tier 2 NRA Update)**

**Funding Projections for the Teachers' Retirement System**  
 CoGFA Projections Based on Laws in Effect on June 30, 2022, Update Tier 2 NRA  
 Actuarially Assumed Rate of Return: 7.00%  
 (\$ in millions)

Fiscal Year Ending 6/30	Annual State Payroll*	Total State Contribution	Compared to Exhibit A		State Contribution as Percent of Payroll	Total Employee Contribution	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Liability	Funded Ratio
			(Reduction)/ Increase in State Contribution	Present Value of (Reduction)/ Increase in State Contribution						
2022							\$143,523.7	\$62,910.4	\$80,613.3	43.8%
2023	\$11,448.9	\$5,893.7	\$0.0	\$0.0	51.5%	\$1,051.4	147,495.4	66,184.8	81,310.6	44.9%
2024	11,893.2	6,043.2	0.0	0.0	50.8%	1,092.2	151,477.2	69,786.7	81,690.6	46.1%
2025	12,211.8	6,247.1	0.0	0.0	51.2%	1,121.5	155,888.4	74,655.7	81,232.7	47.9%
2026	12,528.4	6,536.4	88.7	70.0	52.2%	1,150.6	159,943.3	77,535.9	82,407.4	48.5%
2027	12,843.5	6,683.1	91.0	67.1	52.0%	1,179.5	164,173.4	81,655.2	82,518.2	49.7%
2028	13,142.4	6,902.7	93.1	64.2	52.5%	1,207.0	168,380.4	85,982.1	82,398.3	51.1%
2029	13,429.4	7,042.8	95.1	61.3	52.4%	1,233.3	172,544.6	90,435.9	82,108.7	52.4%
2030	13,718.6	7,171.7	97.2	58.5	52.3%	1,259.9	176,652.0	95,007.4	81,644.5	53.8%
2031	14,007.2	7,303.2	99.2	55.8	52.1%	1,286.4	180,686.4	99,699.8	80,986.6	55.2%
2032	14,295.7	7,452.5	101.1	53.2	52.1%	1,312.9	184,627.3	104,529.9	80,097.4	56.6%
2033	14,580.8	7,616.9	103.0	50.6	52.2%	1,339.0	188,449.4	109,510.6	78,938.9	58.1%
2034	14,856.5	8,385.0	104.8	48.1	56.4%	1,364.4	192,130.4	115,269.4	76,861.0	60.0%
2035	15,130.3	8,539.6	106.5	45.7	56.4%	1,389.5	195,648.2	121,219.1	74,429.1	62.0%
2036	15,407.5	8,696.0	108.0	43.3	56.4%	1,415.0	198,989.3	127,376.5	71,612.8	64.0%
2037	15,689.9	8,855.4	109.6	41.1	56.4%	1,440.9	202,143.3	133,764.4	68,378.9	66.2%
2038	15,984.2	9,021.5	111.2	39.0	56.4%	1,467.9	205,089.4	140,403.9	64,685.5	68.5%
2039	16,281.6	9,189.3	112.9	37.0	56.4%	1,495.2	207,804.7	147,316.4	60,488.3	70.9%
2040	16,581.2	9,358.5	114.5	35.0	56.4%	1,522.8	210,269.0	154,525.3	55,743.7	73.5%
2041	16,900.8	9,538.9	116.1	33.2	56.4%	1,552.1	212,479.2	162,082.0	50,397.1	76.3%
2042	17,237.0	9,728.6	118.0	31.5	56.4%	1,583.0	214,443.7	170,045.9	44,397.8	79.3%
2043	17,598.1	9,932.4	120.1	30.0	56.4%	1,616.2	216,186.4	178,496.1	37,690.3	82.6%
2044	17,988.7	10,152.8	122.6	28.6	56.4%	1,652.0	217,751.9	187,535.2	30,216.8	86.1%
2045	18,410.1	10,390.7	125.4	27.4	56.4%	1,690.7	219,187.6	197,268.9	21,918.8	90.0%
2046	18,867.0	1,756.2	257.4	52.5	9.3%	1,732.7	220,565.3	198,508.8	22,056.5	90.0%
2047	19,364.2	1,752.1	271.3	51.7	9.0%	1,778.3	221,955.4	199,759.8	22,195.5	90.0%
2048	19,889.6	1,758.0	285.1	50.8	8.8%	1,826.6	223,409.5	201,068.5	22,340.9	90.0%
2049	20,427.8	1,770.7	298.0	49.6	8.7%	1,876.0	224,959.2	202,463.3	22,495.9	90.0%
2050	20,962.2	1,786.1	308.5	48.0	8.5%	1,925.1	226,606.3	203,945.6	22,660.6	90.0%
<b>Total</b>		<b>\$195,505.1</b>	<b>\$3,558.4</b>	<b>\$1,173.2</b>		<b>\$40,562.1</b>				

\* Does not include Federal Payroll

**Exhibit 1B – SERS Projection (Change #1 – Tier 2 NRA Update)**

**Funding Projections for the State Employees' Retirement System**  
 CoGFA Projections Based on Laws in Effect on June 30, 2022, Update Tier 2 NRA  
 Actuarially Assumed Rate of Return: 6.75%  
 (\$ in millions)

Fiscal Year Ending 6/30	Annual Payroll	Total State Contribution	Compared to Exhibit B		State Contribution as Percent of Payroll	Total Employee Contribution	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Liability	Funded Ratio
			(Reduction)/ Increase in State Contribution	Present Value of (Reduction)/ Increase in State Contribution						
2022							\$52,049.7	\$22,892.7	\$29,157.0	44.0%
2023	\$4,851.8	\$2,475.6	\$0.0	\$0.0	51.0%	\$271.6	53,224.3	23,947.7	29,276.7	45.0%
2024	4,918.8	2,450.3	0.0	0.0	49.8%	273.4	54,324.6	24,938.4	29,386.2	45.9%
2025	4,989.6	2,487.0	0.0	0.0	49.8%	275.5	55,352.6	25,983.4	29,369.2	46.9%
2026	5,062.6	2,546.0	22.1	17.6	50.3%	277.8	56,302.1	26,326.4	29,975.7	46.8%
2027	5,139.2	2,579.8	22.5	16.7	50.2%	280.2	57,163.6	27,261.8	29,901.7	47.7%
2028	5,218.6	2,667.2	22.8	15.9	51.1%	282.9	57,937.7	28,219.5	29,718.2	48.7%
2029	5,305.6	2,690.5	23.2	15.2	50.7%	286.1	58,630.4	29,142.9	29,487.4	49.7%
2030	5,399.6	2,730.1	23.6	14.5	50.6%	289.7	59,245.2	30,053.1	29,192.1	50.7%
2031	5,499.1	2,773.7	24.0	13.8	50.4%	293.8	59,783.0	30,959.7	28,823.3	51.8%
2032	5,604.7	2,826.3	24.5	13.2	50.4%	298.0	60,243.9	31,876.3	28,367.7	52.9%
2033	5,713.6	2,886.1	24.9	12.5	50.5%	302.2	60,631.0	32,817.7	27,813.3	54.1%
2034	5,828.9	3,154.1	25.3	12.0	54.1%	306.8	60,948.3	34,009.2	26,939.1	55.8%
2035	5,948.1	3,218.6	25.6	11.3	54.1%	311.5	61,201.1	35,264.8	25,936.3	57.6%
2036	6,070.4	3,284.7	25.9	10.7	54.1%	316.2	61,389.5	36,595.5	24,794.0	59.6%
2037	6,195.4	3,352.4	26.3	10.2	54.1%	321.0	61,519.2	38,015.6	23,503.5	61.8%
2038	6,328.6	3,424.4	26.7	9.7	54.1%	326.2	61,600.0	39,547.5	22,052.5	64.2%
2039	6,468.9	3,500.4	27.2	9.3	54.1%	331.8	61,638.5	41,211.5	20,427.1	66.9%
2040	6,614.2	3,579.0	27.7	8.8	54.1%	337.5	61,640.9	43,028.7	18,612.2	69.8%
2041	6,767.0	3,661.7	28.2	8.4	54.1%	343.7	61,616.3	45,023.8	16,592.6	73.1%
2042	6,926.9	3,748.2	28.8	8.1	54.1%	350.3	61,576.5	47,222.0	14,354.5	76.7%
2043	7,094.0	3,838.6	29.4	7.7	54.1%	357.2	61,531.6	49,651.1	11,880.5	80.7%
2044	7,267.6	3,932.5	30.0	7.4	54.1%	364.5	61,486.8	52,335.9	9,151.0	85.1%
2045	7,444.8	4,028.4	30.6	7.0	54.1%	371.9	61,445.1	55,300.6	6,144.5	90.0%
2046	7,626.6	931.4	56.1	12.1	12.2%	379.5	61,409.1	55,268.2	6,140.9	90.0%
2047	7,746.4	926.3	59.1	11.9	12.0%	387.0	61,481.6	55,333.5	6,148.2	90.0%
2048	7,929.3	926.4	61.8	11.7	11.7%	396.1	61,565.1	55,408.6	6,156.5	90.0%
2049	8,112.8	929.5	64.6	11.4	11.5%	405.3	61,661.1	55,495.0	6,166.1	90.0%
2050	8,295.4	933.6	67.6	11.2	11.3%	414.4	61,769.5	55,592.6	6,177.0	90.0%
<b>Total</b>		<b>\$76,482.6</b>	<b>\$828.5</b>	<b>\$288.3</b>		<b>\$9,152.1</b>				

**Exhibit 1C – SURS Projection (Change #1 – Tier 2 NRA Update)**

**Funding Projections for the State Universities Retirement System**  
 CoGFA Projections Based on Laws in Effect on June 30, 2022, Update Tier 2 NRA  
 Actuarially Assumed Rate of Return: 6.50%  
 (\$ in millions)

Fiscal Year Ending 6/30	Annual Payroll*	Total State Contribution	Compared to Exhibit C		State Contribution as Percent of Payroll	Total Employee Contribution	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Liability	Funded Ratio
			(Reduction)/ Increase in State Contribution	Present Value of (Reduction)/ Increase in State Contribution						
2022							\$49,869.9	\$22,554.8	\$27,315.2	45.2%
2023	\$5,051.5	\$2,160.9	\$0.0	\$0.0	42.8%	\$303.6	50,683.0	23,298.6	27,384.4	46.0%
2024	5,208.2	2,174.1	0.0	0.0	41.7%	310.3	51,439.8	24,033.1	27,406.7	46.7%
2025	5,316.5	2,218.4	0.0	0.0	41.7%	312.7	52,125.6	24,890.4	27,235.2	47.8%
2026	5,433.0	2,277.7	14.1	11.3	41.9%	315.8	52,744.9	25,046.9	27,697.9	47.5%
2027	5,567.3	2,318.7	14.5	10.9	41.6%	320.4	53,303.0	25,628.3	27,674.7	48.1%
2028	5,713.6	2,414.8	14.9	10.5	42.3%	325.9	53,795.5	26,245.8	27,549.6	48.8%
2029	5,865.5	2,478.8	15.2	10.1	42.3%	331.9	54,222.0	26,872.6	27,349.4	49.6%
2030	6,021.3	2,540.4	15.7	9.8	42.2%	338.0	54,581.1	27,510.2	27,070.9	50.4%
2031	6,183.2	2,605.9	16.1	9.4	42.1%	344.5	54,867.3	28,163.0	26,704.2	51.3%
2032	6,349.8	2,679.4	16.5	9.1	42.2%	351.2	55,083.6	28,848.6	26,235.0	52.4%
2033	6,521.6	2,761.0	16.9	8.7	42.3%	358.1	55,244.2	29,594.5	25,649.7	53.6%
2034	6,701.7	2,864.4	17.3	8.4	42.7%	365.4	55,354.8	30,435.9	24,918.9	55.0%
2035	6,886.5	2,945.7	17.8	8.1	42.8%	372.9	55,411.6	31,356.7	24,054.8	56.6%
2036	7,074.4	3,028.2	18.2	7.8	42.8%	380.5	55,416.0	32,369.2	23,046.8	58.4%
2037	7,267.3	3,113.1	18.6	7.5	42.8%	388.4	55,374.4	33,491.9	21,882.5	60.5%
2038	7,466.0	3,200.4	19.1	7.2	42.9%	396.5	55,290.9	34,741.6	20,549.3	62.8%
2039	7,670.0	3,290.0	19.6	6.9	42.9%	404.9	55,175.1	36,140.6	19,034.6	65.5%
2040	7,879.8	3,382.1	20.1	6.7	42.9%	413.5	55,029.6	37,704.1	17,325.5	68.5%
2041	8,093.7	3,476.1	20.6	6.4	42.9%	422.4	54,873.7	39,462.2	15,411.5	71.9%
2042	8,315.6	3,573.3	21.2	6.2	43.0%	431.7	54,716.3	41,437.1	13,279.2	75.7%
2043	8,543.3	3,673.0	21.6	5.9	43.0%	441.4	54,571.0	43,655.4	10,915.6	80.0%
2044	8,777.0	3,775.3	22.2	5.7	43.0%	451.4	54,445.2	46,139.5	8,305.7	84.7%
2045	9,011.9	3,878.2	22.9	5.6	43.0%	461.3	54,351.0	48,915.9	5,435.1	90.0%
2046	9,254.7	938.6	51.2	11.7	10.1%	471.4	54,294.8	48,865.3	5,429.5	90.0%
2047	9,500.4	952.6	54.0	11.5	10.0%	481.4	54,292.8	48,863.5	5,429.3	90.0%
2048	9,750.4	968.1	57.2	11.5	9.9%	491.3	54,349.8	48,914.8	5,435.0	90.0%
2049	10,003.6	982.9	60.2	11.3	9.8%	501.2	54,468.0	49,021.2	5,446.8	90.0%
2050	10,258.0	998.6	63.8	11.3	9.7%	510.7	54,647.5	49,182.7	5,464.7	90.0%
<b>Total</b>		<b>\$71,670.7</b>	<b>\$649.5</b>	<b>\$219.5</b>		<b>\$10,998.7</b>				

\* Includes payroll from Self Managed Plan (SMP)

**Exhibit 2A – TRS Projection (Change #2 – Tier 2 Salary Cap to SSWB)**

**Funding Projections for the Teachers' Retirement System**  
 CoGFA Projections Based on Laws in Effect on June 30, 2022, Tier 2 Salary Cap to SSWB  
 Actuarially Assumed Rate of Return: 7.00%  
 (\$ in millions)

Fiscal Year Ending 6/30	Annual State Payroll*	Total State Contribution	Compared to Exhibit A		State Contribution as Percent of Payroll	Total Employee Contribution	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Liability	Funded Ratio
			(Reduction)/ Increase in State Contribution	Present Value of (Reduction)/ Increase in State Contribution						
2022							\$143,523.7	\$62,910.4	\$80,613.3	43.8%
2023	\$11,448.9	\$5,893.7	\$0.0	\$0.0	51.5%	\$1,051.4	147,495.4	66,184.8	81,310.6	44.9%
2024	11,893.2	6,043.2	0.0	0.0	50.8%	1,092.2	151,477.2	69,786.7	81,690.6	46.1%
2025	12,214.0	6,247.1	0.0	0.0	51.1%	1,121.7	155,887.5	74,655.9	81,231.6	47.9%
2026	12,536.8	6,495.5	47.8	37.8	51.8%	1,151.3	159,941.0	77,494.5	82,446.6	48.5%
2027	12,856.9	6,644.4	52.3	38.5	51.7%	1,180.7	164,170.4	81,572.1	82,598.3	49.7%
2028	13,162.0	6,865.7	56.1	38.7	52.2%	1,208.8	168,377.7	85,856.7	82,521.0	51.0%
2029	13,456.6	7,009.0	61.3	39.5	52.1%	1,235.8	172,543.5	90,269.3	82,274.3	52.3%
2030	13,754.7	7,141.9	67.3	40.5	51.9%	1,263.2	176,654.7	94,801.8	81,852.9	53.7%
2031	14,053.9	7,278.4	74.3	41.8	51.8%	1,290.7	180,695.5	99,458.6	81,236.9	55.0%
2032	14,354.7	7,433.6	82.2	43.2	51.8%	1,318.3	184,646.2	104,257.9	80,388.3	56.5%
2033	14,654.0	7,605.0	91.1	44.8	51.9%	1,345.8	188,482.4	109,214.6	79,267.8	57.9%
2034	14,946.0	8,382.1	101.8	46.8	56.1%	1,372.6	192,182.9	114,958.9	77,224.1	59.8%
2035	15,238.4	8,546.0	112.9	48.5	56.1%	1,399.4	195,727.4	120,905.0	74,822.4	61.8%
2036	15,536.6	8,713.3	125.3	50.3	56.1%	1,426.8	199,104.0	127,072.8	72,031.2	63.8%
2037	15,842.6	8,884.9	139.1	52.1	56.1%	1,454.9	202,304.1	133,487.6	68,816.5	66.0%
2038	16,163.4	9,064.8	154.5	54.2	56.1%	1,484.4	205,308.3	140,173.5	65,134.7	68.3%
2039	16,490.6	9,248.3	171.9	56.3	56.1%	1,514.4	208,097.2	147,155.9	60,941.2	70.7%
2040	16,824.2	9,435.4	191.4	58.6	56.1%	1,545.1	210,653.4	154,463.0	56,190.4	73.3%
2041	17,182.2	9,636.2	213.4	61.0	56.1%	1,578.0	212,976.4	162,151.0	50,825.4	76.1%
2042	17,564.1	9,850.3	239.7	64.1	56.1%	1,613.0	215,078.0	170,286.7	44,791.3	79.2%
2043	17,981.4	10,084.4	272.0	68.0	56.1%	1,651.3	216,984.4	178,958.7	38,025.7	82.5%
2044	18,437.5	10,340.2	310.0	72.4	56.1%	1,693.2	218,743.6	188,279.4	30,464.2	86.1%
2045	18,936.4	10,620.0	354.6	77.4	56.1%	1,739.1	220,408.0	198,367.2	22,040.8	90.0%
2046	19,491.0	1,845.4	346.6	70.7	9.5%	1,790.0	222,055.2	199,849.6	22,205.5	90.0%
2047	20,103.7	1,851.3	370.5	70.6	9.2%	1,846.3	223,762.1	201,385.9	22,376.2	90.0%
2048	20,765.5	1,866.8	393.9	70.2	9.0%	1,907.0	225,587.3	203,028.6	22,558.7	90.0%
2049	21,457.9	1,889.7	417.1	69.4	8.8%	1,970.6	227,573.5	204,816.2	22,757.4	90.0%
2050	22,172.7	1,917.3	439.7	68.4	8.6%	2,036.3	229,742.8	206,768.5	22,974.3	90.0%
<b>Total</b>		<b>\$196,833.9</b>	<b>\$4,886.8</b>	<b>\$1,383.8</b>		<b>\$41,282.3</b>				

\* Does not include Federal Payroll

**Exhibit 2B – SERS Projection (Change #2 – Tier 2 Salary Cap to SSWB)**

**Funding Projections for the State Employees' Retirement System**  
 CoGFA Projections Based on Laws in Effect on June 30, 2022, Tier 2 Salary Cap to SSWB  
 Actuarially Assumed Rate of Return: 6.75%  
 (\$ in millions)

Fiscal Year Ending 6/30	Annual Payroll	Total State Contribution	Compared to Exhibit B		State Contribution as Percent of Payroll	Total Employee Contribution	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Liability	Funded Ratio
			(Reduction)/ Increase in State Contribution	Present Value of (Reduction)/ Increase in State Contribution						
2022							\$52,049.7	\$22,892.7	\$29,157.0	44.0%
2023	\$4,851.8	\$2,475.6	\$0.0	\$0.0	51.0%	\$271.6	53,224.3	23,947.7	29,276.7	45.0%
2024	4,918.8	2,450.3	0.0	0.0	49.8%	273.4	54,324.6	24,938.4	29,386.2	45.9%
2025	4,993.7	2,487.0	0.0	0.0	49.8%	275.7	55,358.6	25,983.5	29,375.0	46.9%
2026	5,077.0	2,526.5	2.6	2.1	49.8%	278.6	56,321.5	26,307.0	30,014.4	46.7%
2027	5,160.3	2,563.5	6.2	4.6	49.7%	281.4	57,198.1	27,225.2	29,972.9	47.6%
2028	5,247.1	2,653.7	9.3	6.5	50.6%	284.4	57,989.5	28,167.7	29,821.8	48.6%
2029	5,342.1	2,680.7	13.4	8.7	50.2%	288.0	58,701.8	29,078.9	29,622.9	49.5%
2030	5,444.5	2,724.3	17.8	10.9	50.0%	292.1	59,338.7	29,980.5	29,358.2	50.5%
2031	5,553.4	2,772.4	22.7	13.1	49.9%	296.7	59,901.6	30,882.9	29,018.7	51.6%
2032	5,669.1	2,829.8	28.1	15.1	49.9%	301.5	60,390.8	31,800.3	28,590.5	52.7%
2033	5,788.6	2,894.8	33.6	16.9	50.0%	306.2	60,810.0	32,748.4	28,061.6	53.9%
2034	5,915.7	3,169.0	40.2	19.0	53.6%	311.4	61,163.9	33,954.0	27,209.9	55.5%
2035	6,048.4	3,240.0	47.1	20.8	53.6%	316.8	61,458.7	35,232.3	26,226.3	57.3%
2036	6,185.5	3,313.5	54.7	22.7	53.6%	322.2	61,695.1	36,595.8	25,099.3	59.3%
2037	6,326.8	3,389.2	63.1	24.5	53.6%	327.8	61,879.5	38,060.4	23,819.1	61.5%
2038	6,477.5	3,469.9	72.3	26.3	53.6%	333.9	62,022.5	39,649.7	22,372.8	63.9%
2039	6,636.6	3,555.1	81.9	27.9	53.6%	340.4	62,131.2	41,385.9	20,745.2	66.6%
2040	6,801.4	3,643.4	92.1	29.4	53.6%	347.1	62,211.5	43,291.3	18,920.2	69.6%
2041	6,974.4	3,736.1	102.6	30.7	53.6%	354.3	62,273.2	45,391.9	16,881.3	72.9%
2042	7,155.4	3,833.1	113.7	31.8	53.6%	361.8	62,329.9	47,714.6	14,615.3	76.6%
2043	7,345.1	3,934.6	125.4	32.9	53.6%	369.8	62,392.9	50,289.0	12,103.9	80.6%
2044	7,542.5	4,040.4	137.9	33.9	53.6%	378.2	62,467.3	53,142.1	9,325.3	85.1%
2045	7,744.5	4,148.6	150.8	34.7	53.6%	386.9	62,554.8	56,299.3	6,255.5	90.0%
2046	7,951.5	974.7	99.4	21.4	12.3%	395.7	62,658.9	56,393.0	6,265.9	90.0%
2047	8,098.0	970.6	103.5	20.9	12.0%	404.5	62,881.9	56,593.8	6,288.2	90.0%
2048	8,308.6	972.4	107.7	20.4	11.7%	415.1	63,126.1	56,813.5	6,312.6	90.0%
2049	8,520.6	978.7	113.8	20.2	11.5%	425.7	63,393.9	57,054.5	6,339.4	90.0%
2050	8,733.4	986.3	120.3	20.0	11.3%	436.3	63,685.5	57,316.9	6,368.5	90.0%
<b>Total</b>		<b>\$77,414.2</b>	<b>\$1,760.2</b>	<b>\$515.0</b>		<b>\$9,377.5</b>				



**Exhibit 2C – SURS Projection (Change #2 – Tier 2 Salary Cap to SSWB)**

**Funding Projections for the State Universities Retirement System**  
 CoGFA Projections Based on Laws in Effect on June 30, 2022, Tier 2 Salary Cap to SSWB  
 Actuarially Assumed Rate of Return: 6.50%  
 (\$ in millions)

Fiscal Year Ending 6/30	Annual Payroll*	Total State Contribution	Compared to Exhibit C		State Contribution as Percent of Payroll	Total Employee Contribution	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Liability	Funded Ratio
			(Reduction)/ Increase in State Contribution	Present Value of (Reduction)/ Increase in State Contribution						
2022							\$49,869.9	\$22,554.8	\$27,315.2	45.2%
2023	\$5,051.5	\$2,160.9	\$0.0	\$0.0	42.8%	\$303.6	50,683.0	23,298.6	27,384.4	46.0%
2024	5,208.2	2,174.1	0.0	0.0	41.7%	310.3	51,439.8	24,033.1	27,406.7	46.7%
2025	5,323.6	2,218.4	0.0	0.0	41.7%	313.3	52,127.5	24,891.0	27,236.5	47.8%
2026	5,538.4	2,262.5	(1.1)	(0.9)	40.9%	324.2	52,766.8	25,040.6	27,726.2	47.5%
2027	5,684.4	2,308.6	4.4	3.3	40.6%	329.7	53,346.4	25,620.7	27,725.7	48.0%
2028	5,842.3	2,406.2	6.3	4.4	41.2%	336.2	53,862.2	26,239.5	27,622.7	48.7%
2029	6,005.6	2,473.4	9.8	6.5	41.2%	343.1	54,313.8	26,871.8	27,442.1	49.5%
2030	6,172.5	2,538.0	13.2	8.2	41.1%	350.1	54,699.8	27,519.3	27,180.5	50.3%
2031	6,345.3	2,606.3	16.5	9.6	41.1%	357.5	55,013.6	28,185.2	26,828.5	51.2%
2032	6,522.3	2,682.4	19.4	10.7	41.1%	365.0	55,258.4	28,886.8	26,371.6	52.3%
2033	6,703.3	2,766.0	21.9	11.3	41.3%	372.6	55,448.7	29,651.6	25,797.2	53.5%
2034	6,893.1	2,872.2	25.2	12.2	41.7%	380.7	55,590.7	30,515.9	25,074.8	54.9%
2035	7,088.2	2,955.7	27.8	12.6	41.7%	389.1	55,682.6	31,465.1	24,217.5	56.5%
2036	7,286.8	3,040.6	30.6	13.1	41.7%	397.6	55,724.8	32,510.4	23,214.4	58.3%
2037	7,491.2	3,128.0	33.6	13.5	41.8%	406.3	55,723.8	33,670.6	22,053.2	60.4%
2038	7,701.9	3,218.0	36.8	13.9	41.8%	415.4	55,683.4	34,962.4	20,721.1	62.8%
2039	7,919.5	3,310.9	40.6	14.4	41.8%	424.9	55,617.0	36,412.0	19,205.0	65.5%
2040	8,144.8	3,407.1	45.0	15.0	41.8%	434.7	55,524.3	38,032.2	17,492.1	68.5%
2041	8,375.7	3,505.6	50.1	15.6	41.9%	444.9	55,426.6	39,855.3	15,571.3	71.9%
2042	8,617.0	3,608.2	56.1	16.4	41.9%	455.8	55,336.2	41,907.3	13,428.9	75.7%
2043	8,866.8	3,714.4	63.0	17.3	41.9%	467.3	55,270.1	44,219.7	11,050.4	80.0%
2044	9,124.9	3,824.0	70.8	18.3	41.9%	479.3	55,229.4	46,809.4	8,420.1	84.8%
2045	9,385.7	3,934.7	79.4	19.2	41.9%	491.3	55,233.2	49,709.9	5,523.3	90.0%
2046	9,657.2	962.0	74.6	17.0	10.0%	503.6	55,286.4	49,757.8	5,528.6	90.0%
2047	9,936.4	980.8	82.2	17.6	9.9%	516.3	55,407.6	49,866.8	5,540.8	90.0%
2048	10,223.1	1,000.8	90.0	18.1	9.8%	529.2	55,601.0	50,040.9	5,560.1	90.0%
2049	10,516.1	1,020.6	97.9	18.4	9.7%	542.2	55,864.5	50,278.0	5,586.4	90.0%
2050	10,810.5	1,041.4	106.6	18.9	9.6%	555.0	56,203.3	50,582.9	5,620.3	90.0%
Total		\$72,121.8	\$1,100.7	\$324.6		\$11,539.2				

\* Includes payroll from Self Managed Plan (SMP)

**Exhibit 3A – TRS Projection (Change #3 – Tier 2 COLA Update)**

**Funding Projections for the Teachers' Retirement System**  
 CoGFA Projections Based on Laws in Effect on June 30, 2022, Update Tier 2 COLA  
 Actuarially Assumed Rate of Return: 7.00%  
 (\$ in millions)

Fiscal Year Ending 6/30	Annual State Payroll*	Total State Contribution	Compared to Exhibit A		State Contribution as Percent of Payroll	Total Employee Contribution	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Liability	Funded Ratio
			(Reduction)/ Increase in State Contribution	Present Value of (Reduction)/ Increase in State Contribution						
2022							\$143,523.7	\$62,910.4	\$80,613.3	43.8%
2023	\$11,448.9	\$5,893.7	\$0.0	\$0.0	51.5%	\$1,051.4	147,495.4	66,184.8	81,310.6	44.9%
2024	11,893.2	6,043.2	0.0	0.0	50.8%	1,092.2	151,477.2	69,786.7	81,690.6	46.1%
2025	12,211.8	6,247.1	0.0	0.0	51.2%	1,121.5	155,883.1	74,655.8	81,227.3	47.9%
2026	12,528.4	6,514.2	66.6	52.6	52.0%	1,150.6	159,927.9	77,513.6	82,414.3	48.5%
2027	12,843.5	6,660.5	68.3	50.4	51.9%	1,179.5	164,145.9	81,608.6	82,537.3	49.7%
2028	13,142.4	6,879.5	69.9	48.2	52.3%	1,207.0	168,338.7	85,909.1	82,429.6	51.0%
2029	13,429.4	7,019.1	71.4	46.0	52.3%	1,233.3	172,485.9	90,334.2	82,151.7	52.4%
2030	13,718.6	7,147.5	72.9	43.9	52.1%	1,259.9	176,573.5	94,874.9	81,698.7	53.7%
2031	14,007.3	7,278.5	74.5	41.9	52.0%	1,286.4	180,584.9	99,533.9	81,050.9	55.1%
2032	14,296.0	7,427.4	76.0	40.0	52.0%	1,312.9	184,498.8	104,327.9	80,170.9	56.5%
2033	14,581.2	7,591.4	77.5	38.1	52.1%	1,339.1	188,290.0	109,270.1	79,019.9	58.0%
2034	14,857.2	8,359.2	79.0	36.3	56.3%	1,364.4	191,935.6	114,987.9	76,947.7	59.9%
2035	15,131.5	8,513.5	80.5	34.5	56.3%	1,389.6	195,413.3	120,894.1	74,519.2	61.9%
2036	15,409.5	8,670.0	81.9	32.9	56.3%	1,415.2	198,709.4	127,006.0	71,703.4	63.9%
2037	15,692.7	8,829.3	83.4	31.3	56.3%	1,441.2	201,813.1	133,346.4	68,466.7	66.1%
2038	15,987.8	8,995.3	85.0	29.8	56.3%	1,468.3	204,702.8	139,936.2	64,766.6	68.4%
2039	16,285.8	9,163.0	86.6	28.4	56.3%	1,495.6	207,356.2	146,797.0	60,559.2	70.8%
2040	16,586.5	9,332.2	88.2	27.0	56.3%	1,523.3	209,753.1	153,952.8	55,800.3	73.4%
2041	16,907.3	9,512.7	89.9	25.7	56.3%	1,552.7	211,889.8	161,455.1	50,434.7	76.2%
2042	17,244.3	9,702.3	91.7	24.5	56.3%	1,583.7	213,774.4	169,363.0	44,411.3	79.2%
2043	17,606.3	9,905.9	93.6	23.4	56.3%	1,616.9	215,429.7	177,755.8	37,673.9	82.5%
2044	17,997.2	10,125.9	95.7	22.3	56.3%	1,652.8	216,900.1	186,736.1	30,164.0	86.1%
2045	18,419.1	10,363.3	97.9	21.4	56.3%	1,691.6	218,234.4	196,411.0	21,823.4	90.0%
2046	18,879.6	1,691.3	192.5	39.3	9.0%	1,733.8	219,506.8	197,556.1	21,950.7	90.0%
2047	19,380.3	1,683.2	202.4	38.6	8.7%	1,779.8	220,790.7	198,711.7	22,079.1	90.0%
2048	19,910.6	1,684.8	211.9	37.7	8.5%	1,828.5	222,142.2	199,928.0	22,214.2	90.0%
2049	20,453.5	1,693.5	220.8	36.8	8.3%	1,878.4	223,601.9	201,241.7	22,360.2	90.0%
2050	20,995.4	1,706.9	229.2	35.7	8.1%	1,928.2	225,190.8	202,671.7	22,519.1	90.0%
<b>Total</b>		<b>\$194,634.4</b>	<b>\$2,687.3</b>	<b>\$886.7</b>		<b>\$40,577.8</b>				

\* Does not include Federal Payroll

**Exhibit 3B – SERS Projection (Change #3 – Tier 2 COLA Update)**

**Funding Projections for the State Employees' Retirement System**  
 CoGFA Projections Based on Laws in Effect on June 30, 2022, Update Tier 2 COLA  
 Actuarially Assumed Rate of Return: 6.75%  
 (\$ in millions)

Fiscal Year Ending 6/30	Annual Payroll	Total State Contribution	Compared to Exhibit B		State Contribution as Percent of Payroll	Total Employee Contribution	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Liability	Funded Ratio
			(Reduction)/ Increase in State Contribution	Present Value of (Reduction)/ Increase in State Contribution						
2022							\$52,049.7	\$22,892.7	\$29,157.0	44.0%
2023	\$4,851.8	\$2,475.6	\$0.0	\$0.0	51.0%	\$271.6	53,224.3	23,947.7	29,276.7	45.0%
2024	4,918.8	2,450.3	0.0	0.0	49.8%	273.4	54,324.6	24,938.4	29,386.2	45.9%
2025	4,989.6	2,487.0	0.0	0.0	49.8%	275.5	55,360.5	25,983.5	29,377.0	46.9%
2026	5,062.6	2,564.8	41.0	32.6	50.7%	277.8	56,327.8	26,346.5	29,981.3	46.8%
2027	5,139.2	2,598.9	41.6	31.0	50.6%	280.2	57,209.6	27,303.6	29,905.9	47.7%
2028	5,218.6	2,686.7	42.2	29.5	51.5%	282.9	58,006.7	28,284.9	29,721.8	48.8%
2029	5,305.6	2,710.3	42.9	28.1	51.1%	286.1	58,725.2	29,233.9	29,491.3	49.8%
2030	5,399.6	2,750.2	43.7	26.8	50.9%	289.7	59,368.8	30,171.8	29,196.9	50.8%
2031	5,499.1	2,794.2	44.5	25.5	50.8%	293.8	59,938.6	31,108.6	28,830.0	51.9%
2032	5,604.7	2,847.1	45.3	24.4	50.8%	298.0	60,435.0	32,057.8	28,377.2	53.0%
2033	5,713.7	2,907.5	46.2	23.3	50.9%	302.2	60,861.3	33,034.8	27,826.5	54.3%
2034	5,829.2	3,175.9	47.2	22.3	54.5%	306.8	61,222.1	34,265.0	26,957.0	56.0%
2035	5,948.8	3,241.1	48.1	21.3	54.5%	311.5	61,523.1	35,563.3	25,959.9	57.8%
2036	6,071.5	3,307.9	49.1	20.3	54.5%	316.2	61,765.1	36,940.9	24,824.2	59.8%
2037	6,196.8	3,376.2	50.1	19.5	54.5%	321.0	61,954.6	38,413.2	23,541.4	62.0%
2038	6,330.3	3,448.9	51.2	18.6	54.5%	326.3	62,101.9	40,002.8	22,099.1	64.4%
2039	6,470.9	3,525.5	52.4	17.8	54.5%	331.9	62,213.4	41,730.4	20,483.0	67.1%
2040	6,616.5	3,604.9	53.5	17.1	54.5%	337.7	62,295.2	43,617.3	18,677.9	70.0%
2041	6,769.6	3,688.2	54.8	16.4	54.5%	343.9	62,357.3	45,689.1	16,668.2	73.3%
2042	6,929.7	3,775.5	56.1	15.7	54.5%	350.4	62,412.6	47,972.0	14,440.6	76.9%
2043	7,097.0	3,866.6	57.4	15.1	54.5%	357.3	62,472.0	50,494.3	11,977.7	80.8%
2044	7,270.9	3,961.4	58.8	14.4	54.5%	364.6	62,541.1	53,282.1	9,258.9	85.2%
2045	7,448.3	4,058.0	60.3	13.9	54.5%	372.1	62,622.7	56,360.4	6,262.3	90.0%
2046	7,630.1	957.4	82.1	17.7	12.5%	379.7	62,721.3	56,449.2	6,272.1	90.0%
2047	7,751.2	950.7	83.6	16.9	12.3%	387.2	62,940.3	56,646.2	6,294.0	90.0%
2048	7,934.8	948.9	84.3	15.9	12.0%	396.4	63,183.5	56,865.1	6,318.3	90.0%
2049	8,119.2	950.3	85.4	15.1	11.7%	405.6	63,454.1	57,108.7	6,345.4	90.0%
2050	8,302.1	952.6	86.6	14.4	11.5%	414.7	63,754.2	57,378.8	6,375.4	90.0%
<b>Total</b>		<b>\$77,062.3</b>	<b>\$1,408.4</b>	<b>\$513.3</b>		<b>\$9,154.5</b>				

**Exhibit 3C – SURS Projection (Change #3 – Tier 2 COLA Update)**

**Funding Projections for the State Universities Retirement System**  
 CoGFA Projections Based on Laws in Effect on June 30, 2022, Update Tier 2 COLA  
 Actuarially Assumed Rate of Return: 6.50%  
 (\$ in millions)

Fiscal Year Ending 6/30	Annual Payroll*	Total State Contribution	Compared to Exhibit C		State Contribution as Percent of Payroll	Total Employee Contribution	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Liability	Funded Ratio
			(Reduction)/ Increase in State Contribution	(Reduction)/ Increase in State Contribution						
2022							\$49,869.9	\$22,554.8	\$27,315.2	45.2%
2023	\$5,051.5	\$2,160.9	\$0.0	\$0.0	42.8%	\$303.6	50,683.0	23,298.6	27,384.4	46.0%
2024	5,208.2	2,174.1	0.0	0.0	41.7%	310.3	51,439.8	24,033.1	27,406.7	46.7%
2025	5,316.5	2,218.4	0.0	0.0	41.7%	312.7	52,130.2	24,891.3	27,238.9	47.7%
2026	5,433.0	2,288.7	25.1	20.2	42.1%	315.8	52,760.5	25,061.8	27,698.8	47.5%
2027	5,567.3	2,330.0	25.7	19.4	41.9%	320.4	53,331.9	25,658.9	27,673.0	48.1%
2028	5,713.6	2,426.4	26.4	18.7	42.5%	325.9	53,839.0	26,293.3	27,545.7	48.8%
2029	5,865.5	2,490.7	27.1	18.0	42.5%	331.9	54,282.2	26,938.6	27,343.6	49.6%
2030	6,021.3	2,552.6	27.8	17.4	42.4%	338.0	54,659.3	27,596.2	27,063.1	50.5%
2031	6,183.2	2,618.4	28.6	16.7	42.3%	344.5	54,964.3	28,269.7	26,694.6	51.4%
2032	6,349.9	2,692.3	29.4	16.1	42.4%	351.2	55,200.1	28,976.2	26,223.9	52.5%
2033	6,521.7	2,774.3	30.2	15.6	42.5%	358.1	55,381.4	29,743.7	25,637.7	53.7%
2034	6,701.8	2,878.1	31.0	15.0	42.9%	365.4	55,512.4	30,605.6	24,906.8	55.1%
2035	6,886.8	2,959.8	31.9	14.5	43.0%	372.9	55,591.5	31,548.2	24,043.3	56.8%
2036	7,074.8	3,042.8	32.7	14.0	43.0%	380.6	55,619.6	32,583.2	23,036.4	58.6%
2037	7,267.9	3,128.0	33.6	13.5	43.0%	388.5	55,603.3	33,729.2	21,874.1	60.7%
2038	7,466.6	3,215.8	34.5	13.0	43.1%	396.6	55,547.1	35,003.2	20,543.9	63.0%
2039	7,670.8	3,305.9	35.5	12.6	43.1%	405.0	55,461.7	36,428.4	19,033.3	65.7%
2040	7,880.8	3,398.5	36.4	12.1	43.1%	413.6	55,346.7	38,017.2	17,329.5	68.7%
2041	8,094.8	3,492.9	37.4	11.7	43.2%	422.4	55,220.6	39,798.7	15,421.9	72.1%
2042	8,316.7	3,590.6	38.5	11.3	43.2%	431.8	55,095.4	41,798.1	13,297.3	75.9%
2043	8,544.6	3,690.9	39.5	10.9	43.2%	441.5	54,986.6	44,043.9	10,942.6	80.1%
2044	8,778.5	3,793.7	40.6	10.5	43.2%	451.5	54,895.4	46,552.5	8,342.9	84.8%
2045	9,013.1	3,897.0	41.7	10.1	43.2%	461.4	54,838.2	49,354.4	5,483.8	90.0%
2046	9,255.5	967.3	79.8	18.2	10.5%	471.5	54,818.0	49,336.2	5,481.8	90.0%
2047	9,502.1	983.3	84.7	18.1	10.3%	481.5	54,851.3	49,366.1	5,485.1	90.0%
2048	9,752.0	1,000.2	89.4	17.9	10.3%	491.5	54,941.4	49,447.3	5,494.1	90.0%
2049	10,005.2	1,016.4	93.7	17.7	10.2%	501.3	55,087.5	49,578.7	5,508.7	90.0%
2050	10,258.4	1,033.1	98.3	17.4	10.1%	510.8	55,291.1	49,762.0	5,529.1	90.0%
<b>Total</b>		<b>\$72,121.1</b>	<b>\$1,099.5</b>	<b>\$380.6</b>			<b>\$11,000.2</b>			

\* Includes payroll from Self Managed Plan (SMP)

**Exhibit 5A – TRS Projection (Change #5 – DROP Implementation)**

**Funding Projections for the Teachers' Retirement System**  
 CoGFA Projections Based on Laws in Effect on June 30, 2022, Implement DROP  
 Actuarially Assumed Rate of Return: 7.00%  
 (\$ in millions)

Fiscal Year Ending 6/30	Annual State Payroll*	Total State Contribution	Compared to Exhibit A		State Contribution as Percent of Payroll	Total Employee Contribution	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Liability	Funded Ratio
			(Reduction)/ Increase in State Contribution	Present Value of (Reduction)/ Increase in State Contribution						
2022							\$143,523.7	\$62,910.4	\$80,613.3	43.8%
2023	\$11,448.9	\$5,893.7	\$0.0	\$0.0	51.5%	\$1,051.4	147,495.4	66,184.8	81,310.6	44.9%
2024	11,893.2	6,043.2	0.0	0.0	50.8%	1,092.2	151,477.2	69,786.7	81,690.6	46.1%
2025	12,211.8	6,247.1	0.0	0.0	51.2%	1,121.5	155,849.7	74,621.9	81,227.8	47.9%
2026	12,528.4	6,487.1	39.4	31.1	51.8%	1,150.6	159,827.6	77,379.4	82,448.2	48.4%
2027	12,843.5	6,632.6	40.4	29.8	51.6%	1,179.5	163,966.8	81,362.1	82,604.7	49.6%
2028	13,142.4	6,850.9	41.4	28.5	52.1%	1,207.0	168,067.0	85,536.5	82,530.5	50.9%
2029	13,429.4	6,990.0	42.3	27.2	52.0%	1,233.3	172,107.0	89,821.7	82,285.4	52.2%
2030	13,718.6	7,117.7	43.2	26.0	51.9%	1,259.9	176,073.7	94,210.1	81,863.6	53.5%
2031	14,007.3	7,248.1	44.1	24.8	51.7%	1,286.4	179,952.0	98,707.5	81,244.5	54.9%
2032	14,296.0	7,396.4	45.0	23.7	51.7%	1,312.9	183,720.0	103,330.4	80,389.6	56.2%
2033	14,581.2	7,559.8	45.9	22.6	51.8%	1,339.1	187,348.2	108,089.5	79,258.7	57.7%
2034	14,857.2	8,327.0	46.8	21.5	56.0%	1,364.4	190,813.0	113,613.0	77,200.0	59.5%
2035	15,131.5	8,480.7	47.6	20.4	56.0%	1,389.6	194,092.6	119,315.3	74,777.3	61.5%
2036	15,409.5	8,636.5	48.5	19.5	56.0%	1,415.2	197,172.0	125,214.2	71,957.8	63.5%
2037	15,692.7	8,795.2	49.4	18.5	56.0%	1,441.2	200,039.5	131,332.8	68,706.7	65.7%
2038	15,987.8	8,960.6	50.3	17.6	56.0%	1,468.3	202,668.6	137,689.1	64,979.5	67.9%
2039	16,285.8	9,127.7	51.3	16.8	56.0%	1,495.6	205,034.2	144,303.4	60,730.9	70.4%
2040	16,586.5	9,296.2	52.2	16.0	56.0%	1,523.3	207,120.4	151,205.5	55,914.9	73.0%
2041	16,907.3	9,476.0	53.2	15.2	56.0%	1,552.7	208,920.4	158,445.5	50,474.9	75.8%
2042	17,244.3	9,664.9	54.3	14.5	56.0%	1,583.7	210,445.3	166,086.7	44,358.5	78.9%
2043	17,606.3	9,867.7	55.4	13.8	56.0%	1,616.9	211,720.0	174,211.4	37,508.5	82.3%
2044	17,997.2	10,086.8	56.6	13.2	56.0%	1,652.8	212,788.5	182,923.0	29,865.5	86.0%
2045	18,419.1	10,323.3	58.0	12.6	56.0%	1,691.6	213,702.0	192,331.8	21,370.2	90.0%
2046	18,879.6	1,521.4	22.6	4.6	8.1%	1,733.8	214,539.1	193,085.2	21,453.9	90.0%
2047	19,380.3	1,500.2	19.4	3.7	7.7%	1,779.8	215,378.7	193,840.8	21,537.9	90.0%
2048	19,910.6	1,490.2	17.3	3.1	7.5%	1,828.5	216,273.6	194,646.2	21,627.4	90.0%
2049	20,453.5	1,489.2	16.6	2.8	7.3%	1,878.4	217,258.1	195,532.3	21,725.8	90.0%
2050	20,995.4	1,494.8	17.1	2.7	7.1%	1,928.2	218,344.8	196,510.3	21,834.5	90.0%
<b>Total</b>		<b>\$193,005.0</b>	<b>\$1,058.3</b>	<b>\$430.2</b>		<b>\$40,577.8</b>				

\* Does not include Federal Payroll

**Exhibit 5B – SERS Projection (Change #5 – DROP Implementation)**

**Funding Projections for the State Employees' Retirement System**  
 CoGFA Projections Based on Laws in Effect on June 30, 2022, Implement DROP  
 Actuarially Assumed Rate of Return: 6.75%  
 (\$ in millions)

Fiscal Year Ending 6/30	Annual Payroll	Total State Contribution	Compared to Exhibit B		State Contribution as Percent of Payroll	Total Employee Contribution	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Liability	Funded Ratio
			(Reduction)/ Increase in State Contribution	(Reduction)/ Increase in State Contribution						
2022							\$52,049.7	\$22,892.7	\$29,157.0	44.0%
2023	\$4,851.8	\$2,475.6	\$0.0	\$0.0	51.0%	\$271.6	53,224.3	23,947.7	29,276.7	45.0%
2024	4,918.8	2,450.3	0.0	0.0	49.8%	273.4	54,324.6	24,938.4	29,386.2	45.9%
2025	4,989.6	2,487.0	0.0	0.0	49.8%	275.5	55,341.0	25,972.6	29,368.4	46.9%
2026	5,062.6	2,529.4	5.6	4.4	50.0%	277.8	56,268.2	26,279.3	29,989.0	46.7%
2027	5,139.2	2,563.0	5.7	4.2	49.9%	280.2	57,105.3	27,176.8	29,928.5	47.6%
2028	5,218.6	2,650.2	5.7	4.0	50.8%	282.9	57,853.8	28,096.0	29,757.8	48.6%
2029	5,305.6	2,673.2	5.8	3.8	50.4%	286.1	58,519.5	28,980.7	29,538.9	49.5%
2030	5,399.6	2,712.4	5.9	3.6	50.2%	289.7	59,105.6	29,851.7	29,253.9	50.5%
2031	5,499.1	2,755.7	6.0	3.5	50.1%	293.8	59,615.0	30,720.9	28,894.1	51.5%
2032	5,604.7	2,807.9	6.2	3.3	50.1%	298.0	60,047.7	31,601.7	28,446.0	52.6%
2033	5,713.7	2,867.5	6.3	3.2	50.2%	302.2	60,406.5	32,509.1	27,897.4	53.8%
2034	5,829.2	3,135.1	6.4	3.0	53.8%	306.8	60,695.5	33,668.0	27,027.5	55.5%
2035	5,948.8	3,199.5	6.5	2.9	53.8%	311.5	60,919.5	34,892.7	26,026.8	57.3%
2036	6,071.5	3,265.5	6.7	2.8	53.8%	316.2	61,079.4	36,195.3	24,884.1	59.3%
2037	6,196.8	3,332.9	6.8	2.6	53.8%	321.0	61,180.7	37,590.1	23,590.6	61.4%
2038	6,330.3	3,404.6	7.0	2.5	53.8%	326.3	61,233.2	39,099.6	22,133.7	63.9%
2039	6,470.9	3,480.3	7.1	2.4	53.8%	331.9	61,243.6	40,744.3	20,499.3	66.5%
2040	6,616.5	3,558.6	7.3	2.3	53.8%	337.7	61,219.6	42,547.2	18,672.4	69.5%
2041	6,769.6	3,640.9	7.4	2.2	53.8%	343.9	61,170.9	44,533.4	16,637.5	72.8%
2042	6,929.7	3,727.0	7.6	2.1	53.8%	350.4	61,108.7	46,727.9	14,380.8	76.5%
2043	7,097.0	3,817.0	7.8	2.1	53.8%	357.3	61,045.0	49,160.2	11,884.8	80.5%
2044	7,270.9	3,910.6	8.0	2.0	53.8%	364.6	60,984.5	51,855.2	9,129.3	85.0%
2045	7,448.3	4,006.0	8.2	1.9	53.8%	372.1	60,931.0	54,837.9	6,093.1	90.0%
2046	7,630.1	876.6	1.3	0.3	11.5%	379.7	60,888.8	54,799.9	6,088.9	90.0%
2047	7,751.2	868.8	1.6	0.3	11.2%	387.2	60,959.5	54,863.5	6,095.9	90.0%
2048	7,934.8	866.4	1.8	0.3	10.9%	396.4	61,048.9	54,944.0	6,104.9	90.0%
2049	8,119.2	866.8	1.9	0.3	10.7%	405.6	61,158.4	55,042.5	6,115.8	90.0%
2050	8,302.1	867.7	1.8	0.3	10.5%	414.7	61,289.8	55,160.8	6,129.0	90.0%
<b>Total</b>		<b>\$75,796.4</b>	<b>\$142.4</b>	<b>\$60.4</b>		<b>\$9,154.5</b>				

**Exhibit 5C – SURS Projection (Change #5 – DROP Implementation)**

**Funding Projections for the State Universities Retirement System**  
 CoGFA Projections Based on Laws in Effect on June 30, 2022, Implement DROP  
 Actuarially Assumed Rate of Return: 6.50%  
 (\$ in millions)

Fiscal Year Ending 6/30	Annual Payroll*	Total State Contribution	Compared to Exhibit C		State Contribution as Percent of Payroll	Total Employee Contribution	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Liability	Funded Ratio
			(Reduction)/ Increase in State Contribution	(Reduction)/ Increase in State Contribution						
2022							\$49,869.9	\$22,554.8	\$27,315.2	45.2%
2023	\$5,051.5	\$2,160.9	\$0.0	\$0.0	42.8%	\$303.6	50,683.0	23,298.6	27,384.4	46.0%
2024	5,208.2	2,174.1	0.0	0.0	41.7%	310.3	51,439.8	24,033.1	27,406.7	46.7%
2025	5,316.6	2,218.4	0.0	0.0	41.7%	312.7	52,113.2	24,873.5	27,239.6	47.7%
2026	5,433.2	2,270.7	7.1	5.7	41.8%	315.8	52,710.0	24,992.1	27,717.9	47.4%
2027	5,567.5	2,311.5	7.3	5.5	41.5%	320.4	53,245.5	25,535.3	27,710.1	48.0%
2028	5,713.8	2,407.5	7.5	5.3	42.1%	325.9	53,718.2	26,118.1	27,600.2	48.6%
2029	5,865.8	2,471.3	7.7	5.1	42.1%	331.9	54,123.4	26,709.1	27,414.3	49.3%
2030	6,021.6	2,532.7	8.0	5.0	42.1%	338.0	54,463.4	27,314.5	27,148.9	50.2%
2031	6,183.6	2,598.0	8.2	4.8	42.0%	344.5	54,731.6	27,937.6	26,794.0	51.0%
2032	6,350.3	2,671.4	8.4	4.6	42.1%	351.2	54,927.6	28,592.7	26,335.0	52.1%
2033	6,522.1	2,752.8	8.7	4.5	42.2%	358.1	55,065.8	29,307.9	25,757.9	53.2%
2034	6,702.3	2,856.0	8.9	4.3	42.6%	365.4	55,154.5	30,121.3	25,033.3	54.6%
2035	6,887.3	2,937.1	9.2	4.2	42.6%	373.0	55,191.7	31,018.8	24,172.9	56.2%
2036	7,075.3	3,019.5	9.4	4.0	42.7%	380.6	55,176.4	32,010.6	23,165.8	58.0%
2037	7,268.4	3,104.1	9.7	3.9	42.7%	388.5	55,114.0	33,114.7	21,999.4	60.1%
2038	7,467.2	3,191.2	10.0	3.7	42.7%	396.6	55,008.9	34,348.1	20,660.8	62.4%
2039	7,671.5	3,280.6	10.2	3.6	42.8%	405.0	54,873.9	35,736.7	19,137.2	65.1%
2040	7,881.5	3,372.6	10.5	3.5	42.8%	413.7	54,707.3	37,291.9	17,415.4	68.2%
2041	8,095.5	3,466.3	10.8	3.4	42.8%	422.5	54,531.5	39,046.8	15,484.7	71.6%
2042	8,317.4	3,563.3	11.1	3.2	42.8%	431.8	54,358.5	41,026.7	13,331.8	75.5%
2043	8,545.4	3,662.8	11.4	3.1	42.9%	441.6	54,207.7	43,264.5	10,943.3	79.8%
2044	8,779.3	3,764.9	11.7	3.0	42.9%	451.6	54,075.7	45,772.0	8,303.7	84.6%
2045	9,013.9	3,867.4	12.0	2.9	42.9%	461.5	53,982.1	48,583.9	5,398.2	90.0%
2046	9,256.3	888.2	0.8	0.2	9.6%	471.5	53,930.0	48,537.0	5,393.0	90.0%
2047	9,502.9	899.0	0.5	0.1	9.5%	481.6	53,937.4	48,543.6	5,393.7	90.0%
2048	9,752.8	911.2	0.4	0.1	9.3%	491.5	54,010.2	48,609.1	5,401.0	90.0%
2049	10,006.0	923.3	0.5	0.1	9.2%	501.4	54,147.1	48,732.4	5,414.7	90.0%
2050	10,259.3	935.4	0.6	0.1	9.1%	510.8	54,355.0	48,919.5	5,435.5	90.0%
<b>Total</b>		<b>\$71,212.2</b>	<b>\$190.6</b>	<b>\$83.9</b>		<b>\$11,001.0</b>				

\* Includes payroll from Self Managed Plan (SMP)

**Exhibit 6A – TRS Projection (Change #6 – Additional \$500M Contributions)**

**Funding Projections for the Teachers' Retirement System**

CoGFA Projections Based on Laws in Effect on June 30, 2022, Additional \$500M Funding to Pension Unfunded Liability Reduction Fund  
Actuarially Assumed Rate of Return: 7.00%  
(\$ in millions)

Fiscal Year Ending 6/30	Annual State Payroll*	Total State Contribution	Compared to Exhibit A		State Contribution as Percent of Payroll	Total Employee Contribution	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Liability	Funded Ratio
			(Reduction)/ Increase in State Contribution	(Reduction)/ Increase in Present Value of State Contribution						
2022							\$143,523.7	\$62,910.4	\$80,613.3	43.8%
2023	\$11,448.9	\$5,893.7	\$0.0	\$0.0	51.5%	\$1,051.4	147,495.4	66,184.8	81,310.6	44.9%
2024	11,893.2	6,043.2	0.0	0.0	50.8%	1,092.2	151,477.2	69,786.7	81,690.6	46.1%
2025	12,211.8	6,247.1	0.0	0.0	51.2%	1,121.5	155,459.8	74,248.5	81,211.4	47.8%
2026	12,528.4	6,350.4	(97.3)	(76.8)	50.7%	1,150.6	159,434.9	76,906.4	82,528.5	48.2%
2027	12,843.5	6,492.4	(99.7)	(73.6)	50.6%	1,179.5	163,572.9	80,782.9	82,789.9	49.4%
2028	13,142.4	6,707.5	(102.0)	(70.3)	51.0%	1,207.0	167,674.0	84,845.2	82,828.8	50.6%
2029	13,429.4	6,843.4	(104.3)	(67.2)	51.0%	1,233.3	171,716.8	89,011.2	82,705.6	51.8%
2030	13,718.6	6,968.0	(106.5)	(64.1)	50.8%	1,259.9	175,685.8	93,270.1	82,415.7	53.1%
2031	14,007.3	7,095.3	(108.8)	(61.2)	50.7%	1,286.4	179,563.0	97,623.4	81,939.5	54.4%
2032	14,296.0	7,240.4	(111.0)	(58.4)	50.6%	1,312.9	183,325.7	102,086.1	81,239.6	55.7%
2033	14,581.2	7,400.7	(113.2)	(55.6)	50.8%	1,339.1	186,946.7	106,669.4	80,277.3	57.1%
2034	14,857.2	8,164.9	(115.4)	(53.0)	55.0%	1,364.4	190,401.3	112,271.7	78,129.6	59.0%
2035	15,131.5	8,315.6	(117.5)	(50.4)	55.0%	1,389.6	193,665.6	118,049.8	75,615.8	61.0%
2036	15,409.5	8,468.4	(119.7)	(48.0)	55.0%	1,415.2	196,723.6	124,020.0	72,703.6	63.0%
2037	15,692.7	8,624.0	(121.9)	(45.7)	55.0%	1,441.2	199,562.4	130,203.8	69,358.6	65.2%
2038	15,987.8	8,786.2	(124.1)	(43.5)	55.0%	1,468.3	202,158.1	136,621.4	65,536.7	67.6%
2039	16,285.8	8,950.0	(126.5)	(41.4)	55.0%	1,495.6	204,486.0	143,292.9	61,193.2	70.1%
2040	16,586.5	9,115.2	(128.8)	(39.4)	55.0%	1,523.3	206,523.2	150,241.1	56,282.1	72.7%
2041	16,907.3	9,291.5	(131.3)	(37.5)	55.0%	1,552.7	208,263.4	157,516.2	50,747.2	75.6%
2042	17,244.3	9,476.7	(133.9)	(35.8)	55.0%	1,583.7	209,711.7	165,176.0	44,535.7	78.8%
2043	17,606.3	9,675.6	(136.7)	(34.2)	55.0%	1,616.9	210,888.2	173,297.8	37,590.4	82.2%
2044	17,997.2	9,890.5	(139.7)	(32.6)	55.0%	1,652.8	211,834.0	181,982.5	29,851.5	85.9%
2045	18,419.1	10,122.3	(143.0)	(31.2)	55.0%	1,691.6	212,595.4	191,335.8	21,259.5	90.0%
2046	18,879.6	1,498.8	0.0	0.0	7.9%	1,733.8	213,243.1	191,918.8	21,324.3	90.0%
2047	19,380.3	1,480.8	0.0	0.0	7.6%	1,779.8	213,847.7	192,463.0	21,384.8	90.0%
2048	19,910.6	1,472.9	0.0	0.0	7.4%	1,828.5	214,461.7	193,015.5	21,446.2	90.0%
2049	20,453.5	1,472.6	0.0	0.0	7.2%	1,878.4	215,122.6	193,610.3	21,512.3	90.0%
2050	20,995.4	1,477.7	0.0	0.0	7.0%	1,928.2	215,848.1	194,263.3	21,584.8	90.0%
<b>Total</b>		<b>\$189,565.8</b>	<b>(\$2,381.3)</b>	<b>(\$1,019.9)</b>		<b>\$40,577.8</b>				

\* Does not include Federal Payroll



**Exhibit 6B – SERS Projection (Change #6 – Additional \$500M Contributions)**

**Funding Projections for the State Employees' Retirement System**

CoGFA Projections Based on Laws in Effect on June 30, 2022, Additional \$500M Funding to Pension Unfunded Liability Reduction Fund

Actuarially Assumed Rate of Return: 6.75%

(\$ in millions)

Fiscal Year Ending 6/30	Annual Payroll	Total State Contribution	Compared to Exhibit B		State Contribution as Percent of Payroll	Total Employee Contribution	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Liability	Funded Ratio
			(Reduction)/ Increase in State Contribution	(Reduction)/ Increase in State Contribution						
2022							\$52,049.7	\$22,892.7	\$29,157.0	44.0%
2023	\$4,851.8	\$2,475.6	\$0.0	\$0.0	51.0%	\$271.6	53,224.3	23,947.7	29,276.7	45.0%
2024	4,918.8	2,450.3	0.0	0.0	49.8%	273.4	54,324.6	24,938.4	29,386.2	45.9%
2025	4,989.6	2,487.0	0.0	0.0	49.8%	275.5	55,347.6	25,983.4	29,364.3	46.9%
2026	5,062.6	2,485.4	(38.5)	(30.6)	49.1%	277.8	56,285.4	26,263.8	30,021.6	46.7%
2027	5,139.2	2,518.3	(39.0)	(29.1)	49.0%	280.2	57,132.6	27,131.5	30,001.1	47.5%
2028	5,218.6	2,604.8	(39.6)	(27.7)	49.9%	282.9	57,889.7	28,015.9	29,873.8	48.4%
2029	5,305.6	2,627.1	(40.3)	(26.4)	49.5%	286.1	58,562.2	28,859.9	29,702.2	49.3%
2030	5,399.6	2,665.5	(41.0)	(25.1)	49.4%	289.7	59,153.3	29,684.2	29,469.0	50.2%
2031	5,499.1	2,707.9	(41.8)	(24.0)	49.2%	293.8	59,663.6	30,498.0	29,165.6	51.1%
2032	5,604.7	2,759.2	(42.6)	(22.9)	49.2%	298.0	60,092.9	31,314.1	28,778.7	52.1%
2033	5,713.7	2,817.8	(43.4)	(21.9)	49.3%	302.2	60,444.0	32,147.5	28,296.6	53.2%
2034	5,829.2	3,084.5	(44.3)	(20.9)	52.9%	306.8	60,721.0	33,325.5	27,395.5	54.9%
2035	5,948.8	3,147.8	(45.2)	(20.0)	52.9%	311.5	60,929.0	34,566.4	26,362.6	56.7%
2036	6,071.5	3,212.7	(46.1)	(19.1)	52.9%	316.2	61,068.1	35,881.1	25,187.0	58.8%
2037	6,196.8	3,279.0	(47.1)	(18.3)	52.9%	321.0	61,143.5	37,283.9	23,859.6	61.0%
2038	6,330.3	3,349.6	(48.1)	(17.5)	52.9%	326.3	61,165.0	38,797.2	22,367.7	63.4%
2039	6,470.9	3,424.0	(49.1)	(16.7)	52.9%	331.9	61,138.8	40,441.5	20,697.3	66.1%
2040	6,616.5	3,501.1	(50.3)	(16.0)	52.9%	337.7	61,070.8	42,237.8	18,833.0	69.2%
2041	6,769.6	3,582.1	(51.4)	(15.4)	52.9%	343.9	60,970.1	44,210.8	16,759.3	72.5%
2042	6,929.7	3,666.8	(52.6)	(14.7)	52.9%	350.4	60,848.3	46,386.1	14,462.2	76.2%
2043	7,097.0	3,755.3	(53.9)	(14.1)	52.9%	357.3	60,715.8	48,791.6	11,924.2	80.4%
2044	7,270.9	3,847.3	(55.2)	(13.6)	52.9%	364.6	60,577.7	51,452.5	9,125.2	84.9%
2045	7,448.3	3,941.2	(56.6)	(13.0)	52.9%	372.1	60,436.5	54,392.9	6,043.7	90.0%
2046	7,630.1	875.3	0.0	0.0	11.5%	379.7	60,296.0	54,266.4	6,029.6	90.0%
2047	7,751.2	867.2	0.0	0.0	11.2%	387.2	60,258.6	54,232.8	6,025.9	90.0%
2048	7,934.8	864.6	0.0	0.0	10.9%	396.4	60,228.2	54,205.4	6,022.8	90.0%
2049	8,119.2	864.9	0.0	0.0	10.7%	405.6	60,206.7	54,186.1	6,020.7	90.0%
2050	8,302.1	866.0	0.0	0.0	10.4%	414.7	60,195.2	54,175.7	6,019.5	90.0%
<b>Total</b>		<b>\$74,728.0</b>	<b>(\$926.1)</b>	<b>(\$406.8)</b>		<b>\$9,154.5</b>				

**Exhibit 6C – SURS Projection (Change #6 – Additional \$500M Contributions)**

**Funding Projections for the State Universities Retirement System**

CoGFA Projections Based on Laws in Effect on June 30, 2022, Additional \$500M Funding to Pension Unfunded Liability Reduction Fund

Actuarially Assumed Rate of Return: 6.50%

(\$ in millions)

Fiscal Year Ending 6/30	Annual Payroll*	Total State Contribution	Compared to Exhibit C		State Contribution as Percent of Payroll	Total Employee Contribution	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Liability	Funded Ratio
			(Reduction)/ Increase in State Contribution	(Reduction)/ Increase in Present Value of State Contribution						
2022							\$49,869.9	\$22,554.8	\$27,315.2	45.2%
2023	\$5,051.5	\$2,160.9	\$0.0	\$0.0	42.8%	\$303.6	50,683.0	23,298.6	27,384.4	46.0%
2024	5,208.2	2,174.1	0.0	0.0	41.7%	310.3	51,439.8	24,033.1	27,406.7	46.7%
2025	5,316.5	2,218.4	0.0	0.0	41.7%	312.7	52,123.9	24,890.4	27,233.5	47.8%
2026	5,433.0	2,229.8	(33.8)	(27.1)	41.0%	315.8	52,738.9	24,997.4	27,741.5	47.4%
2027	5,567.3	2,269.6	(34.7)	(26.1)	40.8%	320.4	53,291.4	25,524.9	27,766.5	47.9%
2028	5,713.6	2,364.4	(35.6)	(25.2)	41.4%	325.9	53,776.7	26,083.7	27,693.0	48.5%
2029	5,865.5	2,427.1	(36.5)	(24.2)	41.4%	331.9	54,193.9	26,646.4	27,547.4	49.2%
2030	6,021.3	2,487.3	(37.5)	(23.4)	41.3%	338.0	54,541.2	27,214.5	27,326.6	49.9%
2031	6,183.2	2,551.3	(38.5)	(22.5)	41.3%	344.5	54,811.5	27,790.5	27,020.9	50.7%
2032	6,349.9	2,623.4	(39.5)	(21.7)	41.3%	351.2	55,006.9	28,391.0	26,616.0	51.6%
2033	6,521.7	2,703.5	(40.6)	(21.0)	41.5%	358.1	55,141.3	29,043.0	26,098.3	52.7%
2034	6,701.8	2,805.4	(41.7)	(20.2)	41.9%	365.4	55,220.7	29,875.7	25,345.0	54.1%
2035	6,886.8	2,885.1	(42.9)	(19.5)	41.9%	372.9	55,242.2	30,786.9	24,455.3	55.7%
2036	7,074.8	2,966.0	(44.0)	(18.8)	41.9%	380.6	55,205.3	31,787.0	23,418.3	57.6%
2037	7,267.9	3,049.2	(45.2)	(18.2)	42.0%	388.5	55,116.0	32,894.7	22,221.3	59.7%
2038	7,466.6	3,134.8	(46.5)	(17.5)	42.0%	396.6	54,977.2	34,125.6	20,851.6	62.1%
2039	7,670.8	3,222.6	(47.7)	(16.9)	42.0%	405.0	54,801.5	35,505.5	19,296.0	64.8%
2040	7,880.8	3,313.0	(49.1)	(16.3)	42.0%	413.6	54,586.7	37,045.1	17,541.6	67.9%
2041	8,094.8	3,405.1	(50.4)	(15.7)	42.1%	422.4	54,354.5	38,776.9	15,577.6	71.3%
2042	8,316.7	3,500.4	(51.8)	(15.2)	42.1%	431.8	54,114.9	40,724.4	13,390.4	75.3%
2043	8,544.6	3,598.2	(53.2)	(14.6)	42.1%	441.5	53,885.9	42,919.5	10,966.4	79.6%
2044	8,778.5	3,698.5	(54.6)	(14.1)	42.1%	451.5	53,665.7	45,375.5	8,290.2	84.6%
2045	9,013.1	3,799.2	(56.1)	(13.6)	42.2%	461.4	53,472.9	48,125.6	5,347.3	90.0%
2046	9,255.5	887.4	0.0	0.0	9.6%	471.5	53,308.9	47,978.0	5,330.9	90.0%
2047	9,502.1	898.6	0.0	0.0	9.5%	481.5	53,192.9	47,873.6	5,319.3	90.0%
2048	9,752.0	910.9	0.0	0.0	9.3%	491.5	53,130.5	47,817.5	5,313.1	90.0%
2049	10,005.2	922.7	0.0	0.0	9.2%	501.3	53,120.7	47,808.6	5,312.1	90.0%
2050	10,258.4	934.8	0.0	0.0	9.1%	510.8	53,168.8	47,851.9	5,316.9	90.0%
<b>Total</b>		<b>\$70,141.7</b>	<b>(\$879.9)</b>	<b>(\$391.8)</b>		<b>\$11,000.2</b>				

\* Includes payroll from Self Managed Plan (SMP)

**Exhibit 7A – TRS Projection (Change #7 – Target 100% Funded by 2050 Plus Contribution Level to ADC)**

**Funding Projections for the Teachers' Retirement System**

CoGFA Projections Based on Laws in Effect on June 30, 2022, Target 100% Funded by 2050 Plus Contribution Level to ADC  
Actuarially Assumed Rate of Return: 7.00%  
(\$ in millions)

Fiscal Year Ending 6/30	Annual State Payroll*	Total State Contribution	Compared to Exhibit A		State Contribution as Percent of Payroll	Total Employee Contribution	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Liability	Funded Ratio
			(Reduction)/ Increase in State Contribution	Present Value of (Reduction)/ Increase in State Contribution						
2022							\$143,523.7	\$62,910.4	\$80,613.3	43.8%
2023	\$11,448.9	\$5,893.7	\$0.0	\$0.0	51.5%	\$1,051.4	147,495.4	66,184.8	81,310.6	44.9%
2024	11,893.2	6,043.2	0.0	0.0	50.8%	1,092.2	151,477.2	69,786.7	81,690.6	46.1%
2025	12,211.8	9,764.1	3,517.0	2,969.7	80.0%	1,121.5	155,459.8	77,888.6	77,571.2	50.1%
2026	12,528.4	9,992.8	3,545.2	2,797.7	79.8%	1,150.6	159,434.9	84,571.3	74,863.6	53.0%
2027	12,843.5	10,067.2	3,475.0	2,562.9	78.4%	1,179.5	163,572.9	92,684.2	70,888.7	56.7%
2028	13,142.4	10,220.8	3,411.2	2,351.2	77.8%	1,207.0	167,674.0	101,215.8	66,458.2	60.4%
2029	13,429.4	10,371.9	3,424.2	2,205.8	77.2%	1,233.3	171,716.8	110,179.6	61,537.2	64.2%
2030	13,718.6	10,523.5	3,449.0	2,076.4	76.7%	1,259.9	175,685.8	119,600.3	56,085.5	68.1%
2031	14,007.3	10,675.1	3,471.0	1,953.0	76.2%	1,286.4	179,563.0	129,501.9	50,061.1	72.1%
2032	14,296.0	10,826.6	3,475.2	1,827.4	75.7%	1,312.9	183,325.7	139,907.7	43,418.0	76.3%
2033	14,581.2	10,977.1	3,463.2	1,702.0	75.3%	1,339.1	186,946.7	150,840.1	36,106.6	80.7%
2034	14,857.2	11,126.6	2,846.4	1,307.3	74.9%	1,364.4	190,401.3	162,327.0	28,074.3	85.3%
2035	15,131.5	11,275.5	2,842.5	1,220.1	74.5%	1,389.6	193,665.6	174,400.3	19,265.3	90.1%
2036	15,409.5	11,425.7	2,837.7	1,138.4	74.1%	1,415.2	196,723.6	187,104.1	9,619.5	95.1%
2037	15,692.7	3,620.8	(5,125.1)	(1,921.5)	23.1%	1,441.2	199,562.4	192,254.3	7,308.1	96.3%
2038	15,987.8	2,610.6	(6,299.7)	(2,207.4)	16.3%	1,468.3	202,158.1	196,353.0	5,805.1	97.1%
2039	16,285.8	2,209.3	(6,867.1)	(2,248.8)	13.6%	1,495.6	204,486.0	199,958.9	4,527.1	97.8%
2040	16,586.5	1,805.9	(7,438.1)	(2,276.4)	10.9%	1,523.3	206,523.2	203,039.1	3,484.1	98.3%
2041	16,907.3	1,296.1	(8,126.7)	(2,324.4)	7.7%	1,552.7	208,263.4	205,465.8	2,797.6	98.7%
2042	17,244.3	741.9	(8,868.7)	(2,370.7)	4.3%	1,583.7	209,711.7	207,172.9	2,538.8	98.8%
2043	17,606.3	551.8	(9,260.5)	(2,313.5)	3.1%	1,616.9	210,888.2	208,523.0	2,365.2	98.9%
2044	17,997.2	413.7	(9,616.5)	(2,245.3)	2.3%	1,652.8	211,834.0	209,596.9	2,237.2	98.9%
2045	18,419.1	423.4	(9,842.0)	(2,147.6)	2.3%	1,691.6	212,595.4	210,576.4	2,019.0	99.1%
2046	18,879.6	434.0	(1,064.8)	(217.1)	2.3%	1,733.8	213,243.1	211,519.8	1,723.3	99.2%
2047	19,380.3	445.5	(1,035.3)	(197.3)	2.3%	1,779.8	213,847.7	212,483.2	1,364.6	99.4%
2048	19,910.6	457.7	(1,015.2)	(180.8)	2.3%	1,828.5	214,461.7	213,508.3	953.4	99.6%
2049	20,453.5	470.2	(1,002.5)	(166.9)	2.3%	1,878.4	215,122.6	214,625.3	497.2	99.8%
2050	20,995.4	482.6	(995.1)	(154.8)	2.3%	1,928.2	215,848.1	215,848.1	0.0	100.0%
Total		\$155,147.3	(\$36,799.7)	\$3,139.4		\$40,577.8				

\* Does not include Federal Payroll

**Exhibit 7B – SERS Projection (Change #7 – Target 100% Funded by 2050 Plus Contribution Level to ADC)**

**Funding Projections for the State Employees' Retirement System**

CoGFA Projections Based on Laws in Effect on June 30, 2022, Target 100% Funded by 2050 Plus Contribution Level to ADC  
Actuarially Assumed Rate of Return: 6.75%  
(\$ in millions)

Fiscal Year Ending 6/30	Annual Payroll	Total State Contribution	Compared to Exhibit B		State Contribution as Percent of Payroll	Total Employee Contribution	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Liability	Funded Ratio
			(Reduction)/ Increase in State Contribution	(Reduction)/ Increase in State Contribution						
2022							\$52,049.7	\$22,892.7	\$29,157.0	44.0%
2023	\$4,851.8	\$2,475.6	\$0.0	\$0.0	51.0%	\$271.6	53,224.3	23,947.7	29,276.7	45.0%
2024	4,918.8	2,450.3	0.0	0.0	49.8%	273.4	54,324.6	24,938.4	29,386.2	45.9%
2025	4,989.6	2,993.0	506.0	429.8	60.0%	275.5	55,347.6	26,506.2	28,841.5	47.9%
2026	5,062.6	3,012.0	488.1	388.4	59.5%	277.8	56,285.4	27,366.0	28,919.5	48.6%
2027	5,139.2	3,033.0	475.7	354.5	59.0%	280.2	57,132.6	28,839.8	28,292.8	50.5%
2028	5,218.6	3,056.0	411.6	287.4	58.6%	282.9	57,889.7	30,305.7	27,583.9	52.4%
2029	5,305.6	3,086.0	418.7	273.8	58.2%	286.1	58,562.2	31,778.6	26,783.6	54.3%
2030	5,399.6	3,123.0	416.5	255.2	57.8%	289.7	59,153.3	33,272.6	25,880.7	56.2%
2031	5,499.1	3,162.0	412.3	236.7	57.5%	293.8	59,663.6	34,797.7	24,865.9	58.3%
2032	5,604.7	3,204.0	402.2	216.3	57.2%	298.0	60,092.9	36,363.7	23,729.2	60.5%
2033	5,713.7	3,249.0	387.8	195.3	56.9%	302.2	60,444.0	37,983.3	22,460.7	62.8%
2034	5,829.2	3,298.0	169.3	79.9	56.6%	306.8	60,721.0	39,673.0	21,048.0	65.3%
2035	5,948.8	3,352.0	159.1	70.3	56.3%	311.5	60,929.0	41,450.3	19,478.7	68.0%
2036	6,071.5	3,407.0	148.2	61.4	56.1%	316.2	61,068.1	43,327.3	17,740.8	70.9%
2037	6,196.8	3,464.0	137.9	53.5	55.9%	321.0	61,143.5	45,320.7	15,822.8	74.1%
2038	6,330.3	3,528.0	130.3	47.4	55.7%	326.3	61,165.0	47,457.4	13,707.6	77.6%
2039	6,470.9	3,596.0	122.8	41.8	55.6%	331.9	61,138.8	49,760.2	11,378.6	81.4%
2040	6,616.5	3,666.0	114.7	36.6	55.4%	337.7	61,070.8	52,252.0	8,818.8	85.6%
2041	6,769.6	3,741.0	107.5	32.1	55.3%	343.9	60,970.1	54,961.2	6,008.9	90.1%
2042	6,929.7	1,237.6	(2,481.8)	(694.4)	17.9%	350.4	60,848.3	55,248.0	5,600.3	90.8%
2043	7,097.0	1,267.5	(2,541.7)	(666.2)	17.9%	357.3	60,715.8	55,576.7	5,139.1	91.5%
2044	7,270.9	1,298.6	(2,604.0)	(639.3)	17.9%	364.6	60,577.7	55,957.7	4,620.1	92.4%
2045	7,448.3	1,330.3	(2,667.5)	(613.5)	17.9%	372.1	60,436.5	56,400.0	4,036.6	93.3%
2046	7,630.1	1,362.7	487.4	105.0	17.9%	379.7	60,296.0	56,912.5	3,383.4	94.4%
2047	7,751.2	1,384.4	517.2	104.4	17.9%	387.2	60,258.6	57,591.9	2,666.7	95.6%
2048	7,934.8	1,417.1	552.5	104.5	17.9%	396.4	60,228.2	58,362.1	1,866.1	96.9%
2049	8,119.2	1,450.1	585.2	103.7	17.9%	405.6	60,206.7	59,228.0	978.7	98.4%
2050	8,302.1	1,482.7	616.8	102.3	17.9%	414.7	60,195.2	60,195.2	0.0	100.0%
<b>Total</b>		\$73,126.9	(\$2,527.2)	\$966.6		\$9,154.5				

**Exhibit 7C – SURS Projection (Change #7 – Target 100% Funded by 2050 Plus Contribution Level to ADC)**

**Funding Projections for the State Universities Retirement System**

CoGFA Projections Based on Laws in Effect on June 30, 2022, Target 100% Funded by 2050 Plus Contribution Level to ADC  
Actuarially Assumed Rate of Return: 6.50%  
(\$ in millions)

Fiscal Year Ending 6/30	Annual Payroll*	Total State Contribution	Compared to Exhibit C		State Contribution as Percent of Payroll	Total Employee Contribution	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Liability	Funded Ratio
			(Reduction)/ Increase in State Contribution	(Reduction)/ Increase in Present Value of State Contribution						
2022							\$49,869.9	\$22,554.8	\$27,315.2	45.2%
2023	\$5,051.5	\$2,160.9	\$0.0	\$0.0	42.8%	\$303.6	50,683.0	23,298.6	27,384.4	46.0%
2024	5,208.2	2,174.1	0.0	0.0	41.7%	310.3	51,439.8	24,033.1	27,406.7	46.7%
2025	5,316.5	2,688.4	469.9	401.5	50.6%	312.7	52,123.9	25,375.4	26,748.5	48.7%
2026	5,433.0	2,705.6	442.0	354.6	49.8%	315.8	52,738.9	26,004.9	26,734.0	49.3%
2027	5,567.3	2,730.2	426.0	320.9	49.0%	320.4	53,291.4	27,073.3	26,218.1	50.8%
2028	5,713.6	2,763.4	363.4	257.0	48.4%	325.9	53,776.7	28,144.5	25,632.2	52.3%
2029	5,865.5	2,800.8	337.2	223.9	47.8%	331.9	54,193.9	29,226.9	24,967.0	53.9%
2030	6,021.3	2,837.3	312.5	194.9	47.1%	338.0	54,541.2	30,323.8	24,217.3	55.6%
2031	6,183.2	2,877.1	287.3	168.2	46.5%	344.5	54,811.5	31,438.1	23,373.4	57.4%
2032	6,349.9	2,917.0	254.1	139.7	45.9%	351.2	55,006.9	32,578.7	22,428.3	59.2%
2033	6,521.7	2,957.2	213.1	110.0	45.3%	358.1	55,141.3	33,764.7	21,376.7	61.2%
2034	6,701.8	3,001.8	154.7	75.0	44.8%	365.4	55,220.7	35,013.2	20,207.4	63.4%
2035	6,886.8	2,108.3	(819.6)	(373.0)	30.6%	372.9	55,242.2	35,362.5	19,879.7	64.0%
2036	7,074.8	2,168.1	(842.0)	(359.8)	30.6%	380.6	55,205.3	35,741.7	19,463.5	64.7%
2037	7,267.9	2,229.5	(865.0)	(347.1)	30.7%	388.5	55,116.0	36,165.3	18,950.8	65.6%
2038	7,466.6	2,292.6	(888.6)	(334.8)	30.7%	396.6	54,977.2	36,643.9	18,333.3	66.7%
2039	7,670.8	2,357.5	(912.9)	(323.0)	30.7%	405.0	54,801.5	37,198.3	17,603.2	67.9%
2040	7,880.8	2,424.2	(937.9)	(311.6)	30.8%	413.6	54,586.7	37,833.9	16,752.8	69.3%
2041	8,094.8	2,492.1	(963.4)	(300.5)	30.8%	422.4	54,354.5	38,577.6	15,776.8	71.0%
2042	8,316.7	2,562.4	(989.8)	(289.9)	30.8%	431.8	54,114.9	39,446.7	14,668.2	72.9%
2043	8,544.6	2,634.5	(1,016.9)	(279.6)	30.8%	441.5	53,885.9	40,466.3	13,419.6	75.1%
2044	8,778.5	2,708.4	(1,044.7)	(269.8)	30.9%	451.5	53,665.7	41,643.0	12,022.8	77.6%
2045	9,013.1	2,782.7	(1,072.7)	(260.1)	30.9%	461.4	53,472.9	43,003.1	10,469.8	80.4%
2046	9,255.5	2,859.6	1,972.2	449.0	30.9%	471.5	53,308.9	44,557.8	8,751.1	83.6%
2047	9,502.1	2,938.0	2,039.5	436.0	30.9%	481.5	53,192.9	46,335.8	6,857.1	87.1%
2048	9,752.0	3,017.7	2,106.8	422.9	30.9%	491.5	53,130.5	48,353.9	4,776.6	91.0%
2049	10,005.2	3,098.6	2,175.9	410.1	31.0%	501.3	53,120.7	50,625.5	2,495.2	95.3%
2050	10,258.4	3,179.9	2,245.1	397.3	31.0%	510.8	53,168.8	53,168.8	0.0	100.0%
Total		\$74,467.9	\$3,446.2	\$911.6		\$11,000.2				

\* Includes payroll from Self Managed Plan (SMP)

**Combined Exhibit – TRS Projection (Combined Changes)**

**Funding Projections for the Teachers' Retirement System**

CoGFA Projections Based on Laws in Effect on June 30, 2022, Combined Changes from HB 4098

Actuarially Assumed Rate of Return: 7.00%

(\$ in millions)

Fiscal Year Ending 6/30	Annual State Payroll*	Total State Contribution	Compared to Exhibit A		State Contribution as Percent of Payroll	Total Employee Contribution	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Liability	Funded Ratio
			(Reduction)/ Increase in State Contribution	(Reduction)/ Increase in Present Value of State Contribution						
2022							\$143,523.7	\$62,910.4	\$80,613.3	43.8%
2023	\$11,448.9	\$5,893.7	\$0.0	\$0.0	51.5%	\$1,051.4	147,504.3	66,184.8	81,319.4	44.9%
2024	11,893.2	6,043.2	0.0	0.0	50.8%	1,092.2	151,506.1	69,787.1	81,718.9	46.1%
2025	12,213.8	9,763.3	3,516.2	2,969.0	79.9%	1,121.7	155,522.4	77,889.1	77,633.3	50.1%
2026	12,536.8	10,305.1	3,857.5	3,044.1	82.2%	1,151.3	159,479.6	84,828.5	74,651.0	53.2%
2027	12,857.5	10,392.3	3,800.1	2,802.7	80.8%	1,180.8	163,781.7	93,230.9	70,550.8	56.9%
2028	13,163.0	10,568.9	3,759.3	2,591.2	80.3%	1,208.8	168,082.0	102,092.7	65,989.3	60.7%
2029	13,458.2	10,744.4	3,796.6	2,445.7	79.8%	1,236.0	172,364.6	111,432.8	60,931.8	64.6%
2030	13,757.0	10,921.4	3,846.9	2,316.0	79.4%	1,263.4	176,621.8	121,283.2	55,338.6	68.7%
2031	14,056.7	11,099.6	3,895.5	2,191.8	79.0%	1,290.9	180,844.6	131,676.3	49,168.3	72.8%
2032	14,357.8	11,278.8	3,927.4	2,065.2	78.6%	1,318.6	185,017.7	142,642.0	42,375.7	77.1%
2033	14,656.3	11,458.5	3,944.6	1,938.5	78.2%	1,346.0	189,119.1	154,207.2	34,911.9	81.5%
2034	14,947.5	11,374.9	3,094.7	1,421.4	76.1%	1,372.7	193,133.1	166,407.8	26,725.3	86.2%
2035	15,238.9	11,556.2	3,123.1	1,340.6	75.8%	1,399.5	197,046.0	179,284.9	17,761.1	91.0%
2036	15,535.7	11,740.0	3,152.0	1,264.4	75.6%	1,426.7	200,852.0	192,891.6	7,960.5	96.0%
2037	15,840.4	3,969.8	(4,776.0)	(1,790.6)	25.1%	1,454.7	204,549.3	199,052.9	5,496.4	97.3%
2038	16,159.8	2,995.5	(5,914.8)	(2,072.5)	18.5%	1,484.1	208,122.2	204,277.5	3,844.8	98.2%
2039	16,485.5	2,631.3	(6,445.1)	(2,110.6)	16.0%	1,514.0	211,555.6	209,132.8	2,422.8	98.9%
2040	16,817.2	2,266.2	(6,977.7)	(2,135.5)	13.5%	1,544.4	214,845.4	213,602.2	1,243.2	99.4%
2041	17,173.1	1,070.7	(8,352.1)	(2,388.9)	6.2%	1,577.1	217,997.7	216,816.9	1,180.8	99.5%
2042	17,553.3	1,094.4	(8,516.2)	(2,276.5)	6.2%	1,612.0	221,037.3	219,981.9	1,055.4	99.5%
2043	17,968.7	1,120.3	(8,692.0)	(2,171.5)	6.2%	1,650.2	224,003.4	223,136.0	867.4	99.6%
2044	18,423.3	1,148.7	(8,881.5)	(2,073.7)	6.2%	1,691.9	226,954.2	226,333.9	620.2	99.7%
2045	18,920.9	1,179.7	(9,085.7)	(1,982.5)	6.2%	1,737.6	229,950.6	229,629.2	321.4	99.9%
2046	19,469.3	1,213.9	(284.9)	(58.1)	6.2%	1,788.0	233,081.3	232,829.3	252.0	99.9%
2047	20,075.0	1,251.6	(229.2)	(43.7)	6.2%	1,843.6	236,435.0	236,259.0	176.1	99.9%
2048	20,726.6	1,292.3	(180.6)	(32.2)	6.2%	1,903.5	240,074.2	239,969.2	105.1	100.0%
2049	21,407.9	1,334.8	(137.9)	(23.0)	6.2%	1,966.0	244,034.9	243,988.5	46.4	100.0%
2050	22,105.8	1,378.3	(99.4)	(15.5)	6.2%	2,030.1	248,315.4	248,315.4	0.0	100.0%
<b>Total</b>		\$167,087.8	(\$24,859.2)	\$7,215.8		\$41,257.2				

\* Does not include Federal Payroll

**Combined Exhibit – SERS Projection (Combined Changes)**

**Funding Projections for the State Employees' Retirement System**  
 CoGFA Projections Based on Laws in Effect on June 30, 2022, Combined Changes from HB 4098  
 Actuarially Assumed Rate of Return: 6.75%  
 (\$ in millions)

Fiscal Year Ending 6/30	Annual Payroll	Total State Contribution	Compared to Exhibit B		State Contribution as Percent of Payroll	Total Employee Contribution	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Liability	Funded Ratio
			(Reduction)/ Increase in State Contribution	Present Value of (Reduction)/ Increase in State Contribution						
2022							\$52,049.7	\$22,892.7	\$29,157.0	44.0%
2023	\$4,851.8	\$2,475.6	\$0.0	\$0.0	51.0%	\$271.6	53,224.3	23,947.7	29,276.7	45.0%
2024	4,918.8	2,450.3	0.0	0.0	49.8%	273.4	54,324.6	24,938.4	29,386.2	45.9%
2025	4,993.7	3,022.0	535.0	454.4	60.5%	275.7	55,372.1	26,525.8	28,846.3	47.9%
2026	5,077.0	3,085.0	561.1	446.5	60.8%	278.6	56,370.8	27,444.8	28,926.0	48.7%
2027	5,160.3	3,116.0	558.7	416.4	60.4%	281.4	57,292.4	28,993.9	28,298.5	50.6%
2028	5,247.1	3,151.0	506.6	353.7	60.1%	284.4	58,139.6	30,555.1	27,584.5	52.6%
2029	5,342.1	3,193.0	525.7	343.8	59.8%	288.0	58,920.0	32,145.1	26,774.9	54.6%
2030	5,444.5	3,242.0	535.5	328.1	59.5%	292.1	59,638.0	33,779.5	25,858.5	56.6%
2031	5,553.4	3,294.0	544.3	312.4	59.3%	296.7	60,298.7	35,473.0	24,825.7	58.8%
2032	5,669.1	3,351.0	549.2	295.3	59.1%	301.5	60,903.4	37,238.8	23,664.6	61.1%
2033	5,788.4	3,411.0	549.8	276.9	58.9%	306.2	61,456.7	39,091.3	22,365.4	63.6%
2034	5,915.3	3,477.0	348.3	164.3	58.8%	311.4	61,964.2	41,153.1	20,811.0	66.4%
2035	6,047.5	3,547.0	354.1	156.5	58.7%	316.7	62,432.6	43,347.2	19,085.4	69.4%
2036	6,184.3	3,619.0	360.2	149.1	58.5%	322.1	62,864.8	45,689.8	17,175.0	72.7%
2037	6,325.1	3,696.0	369.9	143.5	58.4%	327.7	63,269.3	48,204.6	15,064.7	76.2%
2038	6,475.4	3,781.0	383.3	139.3	58.4%	333.8	63,657.7	50,922.4	12,735.3	80.0%
2039	6,633.9	3,869.0	395.8	134.7	58.3%	340.2	64,037.9	53,868.4	10,169.5	84.1%
2040	6,798.3	3,960.0	408.7	130.3	58.3%	346.9	64,419.0	57,071.5	7,347.5	88.6%
2041	6,970.8	4,056.0	422.5	126.2	58.2%	354.1	64,812.6	60,564.2	4,248.4	93.4%
2042	7,151.3	1,208.6	(2,510.8)	(702.5)	16.9%	361.6	65,233.4	61,332.8	3,900.6	94.0%
2043	7,340.4	1,240.6	(2,568.6)	(673.2)	16.9%	369.6	65,695.6	62,178.7	3,516.9	94.6%
2044	7,537.1	1,273.8	(2,628.8)	(645.4)	16.9%	378.0	66,205.2	63,112.8	3,092.4	95.3%
2045	7,738.3	1,307.8	(2,690.0)	(618.7)	16.9%	386.6	66,765.7	64,145.7	2,619.9	96.1%
2046	7,944.9	1,342.7	467.4	100.7	16.9%	395.4	67,381.5	65,182.4	2,199.1	96.7%
2047	8,089.5	1,367.2	500.0	100.9	16.9%	404.1	68,155.3	66,416.6	1,738.6	97.4%
2048	8,298.8	1,402.5	537.9	101.7	16.9%	414.6	68,990.8	67,772.2	1,218.6	98.2%
2049	8,509.2	1,438.1	573.2	101.5	16.9%	425.1	69,892.1	69,251.9	640.2	99.1%
2050	8,720.9	1,473.9	607.9	100.9	16.9%	435.7	70,860.4	70,860.4	0.0	100.0%
<b>Total</b>		<b>\$75,851.1</b>	<b>\$196.9</b>	<b>\$2,237.3</b>		<b>\$9,373.2</b>				

**Combined Exhibit – SURS Projection (Combined Changes)**

**Funding Projections for the State Universities Retirement System**  
 CoGFA Projections Based on Laws in Effect on June 30, 2022, Combined Changes from HB 4098  
 Actuarially Assumed Rate of Return: 6.50%  
 (\$ in millions)

Fiscal Year Ending 6/30	Annual Payroll* †	Total State Contribution	Compared to Exhibit C		State Contribution as Percent of Payroll	Total Employee Contribution	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Liability	Funded Ratio
			(Reduction)/ Increase in State Contribution	Present Value of (Reduction)/ Increase in State Contribution						
2022							\$49,869.9	\$22,554.8	\$27,315.2	45.2%
2023	\$5,051.5	\$2,160.9	\$0.0	\$0.0	42.8%	\$303.6	50,683.0	23,298.6	27,384.4	46.0%
2024	5,208.2	2,174.1	0.0	0.0	41.7%	310.3	51,439.8	24,033.1	27,406.7	46.7%
2025	5,326.1	2,693.7	475.3	406.0	50.6%	313.5	52,125.5	25,365.7	26,759.8	48.7%
2026	5,464.6	2,739.7	476.1	381.9	50.1%	318.3	52,753.0	26,005.4	26,747.6	49.3%
2027	5,611.6	2,793.1	488.8	368.2	49.8%	323.9	53,326.5	27,118.2	26,208.3	50.9%
2028	5,770.1	2,835.8	435.8	308.2	49.1%	330.4	53,845.1	28,253.2	25,592.0	52.5%
2029	5,933.7	2,882.8	419.2	278.4	48.6%	337.3	54,306.0	29,416.3	24,889.8	54.2%
2030	6,101.0	2,932.1	407.3	254.0	48.1%	344.4	54,713.8	30,620.2	24,093.6	56.0%
2031	6,274.1	2,984.6	394.8	231.2	47.6%	351.8	55,063.2	31,869.2	23,194.0	57.9%
2032	6,451.3	3,036.3	373.4	205.3	47.1%	359.3	55,356.3	33,170.8	22,185.4	59.9%
2033	6,632.2	3,090.3	346.2	178.7	46.6%	366.9	55,610.8	34,549.7	21,061.0	62.1%
2034	6,821.7	3,148.8	301.7	146.2	46.2%	375.0	55,832.4	36,116.2	19,716.2	64.7%
2035	7,016.4	2,148.4	(779.5)	(354.8)	30.6%	383.3	56,022.3	36,700.3	19,322.0	65.5%
2036	7,214.5	2,211.1	(798.9)	(341.4)	30.6%	391.8	56,182.4	37,339.0	18,843.3	66.5%
2037	7,418.1	2,275.6	(818.8)	(328.6)	30.7%	400.5	56,322.9	38,049.9	18,273.1	67.6%
2038	7,628.0	2,342.0	(839.2)	(316.2)	30.7%	409.5	56,448.8	38,844.3	17,604.4	68.8%
2039	7,844.3	2,410.4	(860.0)	(304.2)	30.7%	418.9	56,574.0	39,743.5	16,830.6	70.3%
2040	8,068.0	2,481.1	(881.0)	(292.7)	30.8%	428.6	56,703.0	40,758.7	15,944.4	71.9%
2041	8,297.4	2,553.5	(902.0)	(281.3)	30.8%	438.7	56,857.4	41,915.8	14,941.6	73.7%
2042	8,537.0	2,628.9	(923.3)	(270.4)	30.8%	449.4	57,050.2	43,234.1	13,816.1	75.8%
2043	8,784.5	2,706.6	(944.7)	(259.8)	30.8%	460.7	57,298.8	44,736.9	12,561.9	78.1%
2044	9,040.1	2,786.8	(966.3)	(249.5)	30.8%	472.5	57,613.5	46,441.9	11,171.6	80.6%
2045	9,298.8	2,868.1	(987.3)	(239.4)	30.8%	484.3	58,007.3	48,369.6	9,637.7	83.4%
2046	9,568.3	2,952.8	2,065.4	470.2	30.9%	496.5	58,490.6	50,442.0	8,048.5	86.2%
2047	9,843.9	3,039.6	2,141.0	457.7	30.9%	508.9	59,072.7	52,769.8	6,302.9	89.3%
2048	10,128.0	3,129.1	2,218.2	445.2	30.9%	521.6	59,762.8	55,373.9	4,388.9	92.7%
2049	10,418.7	3,220.8	2,298.0	433.1	30.9%	534.4	60,556.3	58,264.2	2,292.0	96.2%
2050	10,712.4	3,313.6	2,378.8	421.0	30.9%	547.1	61,458.9	61,458.9	0.0	100.0%
<b>Total</b>		<b>\$76,540.6</b>	<b>\$5,519.0</b>	<b>\$1,746.8</b>			<b>\$11,381.4</b>			

\* Includes payroll from Self Managed Plan (SMP)