

State Universities Retirement System of Illinois

GASB Statement Nos. 67 and 68 Accounting and
Financial Reporting for Pensions

Measured as of June 30, 2022

Applicable to Plan's Fiscal Year End June 30, 2022

Applicable to Employer's Fiscal Year End June 30, 2023





October 26, 2022

The Board of Trustees
State Universities Retirement System of Illinois

Dear Board Members:

This report provides accounting and financial reporting information that is intended to comply with the Governmental Accounting Standards Board (GASB) Statement Nos. 67 and 68 for the State Universities Retirement System of Illinois ("SURS"). These calculations have been made on a basis that is consistent with our understanding of these Statements.

GASB Statement No. 67 is the accounting standard that applies to the stand-alone financial reports issued by retirement systems. GASB Statement No. 68 establishes accounting and financial reporting for state and local government employers who provide their employees (including former employees) pension benefits through a trust.

Our calculation of the liability associated with the benefits described in this report was performed for the purpose of providing reporting and disclosure information that satisfies the requirements of GASB Statement Nos. 67 and 68. The calculation of the plan's liability for this report is not applicable for funding purposes of the plan. A calculation of the plan's liability for purposes other than satisfying the requirements of GASB Statement Nos. 67 and 68 may produce significantly different results. This report may be provided to parties other than the State Universities Retirement System of Illinois ("SURS") only in its entirety and only with the permission of SURS. GRS is not responsible for unauthorized use of this report.

This report is based upon information, furnished to us by SURS, concerning retirement and ancillary benefits, active members, deferred vested members, retirees and beneficiaries, and financial data. This information was checked for internal consistency, but it was not audited.

This report complements the funding actuarial valuation report that was provided to SURS and should be considered in conjunction with that report. Please see the actuarial valuation reports as of June 30, 2021, and June 30, 2022, for additional discussion of the nature of actuarial calculations and more information related to participant data, economic and demographic assumptions and benefit provisions.

Public Act (PA) 100-0023, which was effective July 6, 2017, created a new plan option (Optional Hybrid Plan) and changed the State and Employer's required contributions. SURS is currently not moving forward with the implementation of the Optional Hybrid Plan (OHP) created under PA 100-0023 and therefore, the results presented in this report do not include any of the changes under PA 100-0023 related to the OHP.

Public Act 102-0718 extended the buyout through June 30, 2026. The buyout election assumption is 0% and therefore, does not have an impact on the actuarial valuation results.

Economic and demographic actuarial assumptions remain unchanged from the prior actuarial valuation based on recommendations from the experience study report covering the period June 30, 2017 through June 30, 2020, and are consistent with the assumptions used in the funding actuarial valuation as of June 30, 2021 and June 30, 2022 (with the exception of the single discount rate). 45% of assumed academic new hires and 25% of assumed non-academic new hires in the actuarial valuation projections are assumed to elect the Retirement Savings Plan and 55% of academic and 75% of non-academic are assumed to elect Tier 2 under Public Act 96-0889.

To the best of our knowledge, the information contained in this report is accurate and fairly represents the actuarial position of the State Universities Retirement System of Illinois in accordance with the requirements of GASB Statement Nos. 67 and 68. All calculations have been made in conformity with generally accepted actuarial principles and practices, with the Actuarial Standards of Practice issued by the Actuarial Standards Board, and with our understanding of GASB Statement Nos. 67 and 68.

This report was prepared using our proprietary valuation model and related software which in our professional judgment has the capability to provide results that are consistent with the purposes of the valuation and has no material limitations or known weaknesses. We performed tests to ensure that the model reasonably represents that which is intended to be modeled. We are relying on the GRS actuaries and Internal Software, Training and Processes Team who developed and maintain the model.

This report reflects the impact of COVID-19 through June 30, 2022 on the assets and June 30, 2021 on the liabilities (which are then projected to June 30, 2022). However, this report does not reflect the longer term and still developing future impact of COVID-19, which is likely to further influence demographic experience and economic expectations. We will continue to monitor these developments and their impact on the Fund and the actuarial assumptions. Actual experience will be reflected in each subsequent annual valuation, as experience emerges.

The signing actuaries are independent of the plan sponsor.



The Board of Trustees
State Universities Retirement System of Illinois
October 26, 2022
Page 3

Amy Williams and Brian Murphy are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

Respectfully submitted,
Gabriel, Roeder, Smith & Company

By *Amy Williams*
Amy Williams, ASA, MAAA, FCA
Senior Consultant

By *Brian B. Murphy*
Brian Murphy, FSA, EA, MAAA, FCA, PhD
Senior Consultant

Auditor's Note – This information is intended to assist in preparation of the financial statements of the State Universities Retirement System of Illinois. Financial statements are the responsibility of management, subject to the auditor's review. Please let us know if the auditor recommends any changes.



Table of Contents

	<u>Page</u>
Section A Executive Summary	
Executive Summary	1
Discussion	2
Section B Financial Statements	
Statement of Pension Expense	6
Statement of Outflows and Inflows Arising from Current Reporting Period	7
Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods... ..	9
Statement of Fiduciary Net Position.....	10
Statement of Changes in Fiduciary Net Position	11
Section C Required Supplementary Information	
Schedule of Changes in Net Pension Liability and Related Ratios Current Reporting Period	12
Schedule of Changes in Net Pension Liability and Related Ratios Multiyear	13
Schedule of the Net Pension Liability Multiyear	14
Schedule of Contributions Multiyear	15
Notes to Schedule of Contributions	16
Schedule of Investment Returns Multiyear	17
Section D Notes to Financial Statements	
Sensitivity of Net Pension Liability to the Single Discount Rate Assumption.....	18
Summary of Population Statistics.....	19
Section E Summary of Benefits	20
Section F Actuarial Cost Method and Actuarial Assumptions	
Valuation Methods, Entry Age Normal.....	35
Actuarial Assumptions, Input to Discount Rates, Mortality Assumptions and Experience Studies	39
Section G Calculation of the Single Discount Rate	
Calculation of the Single Discount Rate.....	50
Projection of Contributions	51
Projection of Plan Fiduciary Net Position	52
Present Values of Projected Benefits	53
Projection of Plan Net Position and Benefit Payments	55
Section H Glossary of Terms	56



SECTION A

EXECUTIVE SUMMARY

Executive Summary as of June 30, 2022

Actuarial Valuation Date	June 30, 2021
Measurement Date of the Net Pension Liability	June 30, 2022
Pension Plan's Fiscal Year Ending Date (Reporting Date) for GASB 67	June 30, 2022
Employer's Fiscal Year Ending Date (Reporting Date) for GASB 68	June 30, 2023

Membership as of the Actuarial Valuation Date

Number of	
- Retirees and Beneficiaries	70,111
- Inactive, Nonretired Members	86,135
- Active Members	60,397
- Total	216,643
Estimated Covered Payroll ¹	\$ 3,613,383,275

Net Pension Liability

Total Pension Liability	\$ 51,601,177,262
Plan Fiduciary Net Position	22,523,123,405
Net Pension Liability	\$ 29,078,053,857
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	43.65 %
Net Pension Liability as a Percentage of Estimated Covered Payroll	804.73 %

Development of the Single Discount Rate

Single Discount Rate, Beginning of Year	6.12 %
Single Discount Rate, End of Year	6.39 %
Long-Term Expected Rate of Investment Return, Beginning of Year	6.50 %
Long-Term Expected Rate of Investment Return, End of Year	6.50 %
Long-Term Municipal Bond Rate, Beginning of Year*	1.92 %
Long-Term Municipal Bond Rate, End of Year*	3.69 %
Last year ending June 30 in the 2022 to 2121 projection period for which projected benefit payments are fully funded	2076

Total Pension Expense	\$ 1,961,221,028
------------------------------	-------------------------

Deferred Outflows and Deferred Inflows of Resources by Source to be recognized in Future Pension Expenses

	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference between expected and actual experience	\$ 31,973,496	\$ 28,674,599
Changes in assumptions	279,362,441	982,954,268
Net difference between projected and actual earnings on pension plan investments	31,628,935	0
Total	\$ 342,964,872	\$ 1,011,628,867

¹ Defined benefit payroll for fiscal year ending June 30, 2022 is based on the employee contributions in the financial statements for fiscal year 2022 and an employee contribution rate of 8.00%.

*Source: Fixed-income municipal bonds with 20 years to maturity that include only federally tax-exempt municipal bonds as reported in Fidelity Index's "20-Year Municipal GO AA Index" as of June 30, 2021 for beginning of year and as of June 30, 2022 for end of year. In describing this index, Fidelity notes that the municipal curves are constructed using option-adjusted analytics of a diverse population of over 10,000 tax exempt securities.



Discussion

Accounting Standard

For pension plans that are administered through trusts or equivalent arrangements, Governmental Accounting Standards Board (GASB) Statement No. 67 establishes standards of financial reporting for separately issued financial reports and specifies the required approach for measuring the pension liability. Similarly, GASB Statement No. 68 establishes standards for state and local government employers (as well as non-employer contributing entities) to account for and disclose the net pension liability, pension expense and other information associated with providing retirement benefits to their employees (and former employees) on their basic financial statements.

The following discussion provides a summary of the information that is required to be disclosed under these accounting standards. A number of these disclosure items are provided in this report. However, certain non-actuarial information, such as notes regarding accounting policies and investments, is not included in this report and the retirement system and/or plan sponsor will be responsible for preparing and disclosing that information to comply with these accounting standards.

Financial Statements

GASB Statement No. 68 requires state or local governments to recognize the net pension liability and the pension expense on their financial statements. The net pension liability is the difference between the total pension liability and the plan's fiduciary net position. In traditional actuarial terms, this is analogous to the accrued liability less the market value of assets (not the smoothed actuarial value of assets that is often encountered in actuarial valuations performed to determine the employer's contribution requirement).

Paragraph 57 of GASB Statement No. 68 states, "Contributions to the pension plan from the employer subsequent to the measurement date of the collective net pension liability and before the end of the employer's reporting period should be reported as a deferred outflow of resources related to pensions." The information contained in this report does not incorporate any contributions made to SURS subsequent to the measurement date of June 30, 2022.

The pension expense recognized each fiscal year is equal to the change in the net pension liability from the beginning of the year to the end of the year, adjusted for deferred recognition of the liability and investment experience.

Pension plans that prepare their own, stand-alone financial statements are required to present two financial statements – a statement of fiduciary net position and a statement of changes in fiduciary net position in accordance with GASB Statement No. 67. The *statement of fiduciary net position* presents the assets and liabilities of the pension plan at the end of the pension plan's reporting period. The *statement of changes in fiduciary net position* presents the additions, such as contributions and investment income, and deductions, such as benefit payments and expenses, and net increase or decrease in the fiduciary net position.



Notes to Financial Statements

GASB Statement No. 68 requires disclosure of the total pension expense, the pension plan's liabilities and assets, and deferred outflows and inflows of resources related to pensions in the notes of the employer's financial statements.

GASB Statement Nos. 67 and 68 require disclosure of certain additional information in the notes of the financial statements for the employers and pension plans. The list of disclosure items should include:

- A description of benefits provided by the plan;
- The type of employees and number of members covered by the pension plan;
- A description of the plan's funding policy, which includes member and employer contribution requirements;
- The pension plan's investment policies;
- The pension plan's fiduciary net position and the net pension liability;
- The net pension liability using a discount rate that is 1% higher and 1% lower than the rate used to calculate the total pension liability and net pension liability for financial reporting purposes;
- Significant assumptions and methods used to calculate the total pension liability;
- Inputs to the discount rates; and
- Certain information about mortality assumptions and the dates of experience studies.

Retirement systems that issue stand-alone financial statements are required to disclose additional information in accordance with GASB Statement No. 67. This information includes:

- The composition of the pension plan's Board and the authority under which benefit terms may be amended;
- A description of how fair value is determined;
- Information regarding certain reserves and investments, which include concentrations of investments greater than or equal to 5%, receivables and insurance contracts excluded from plan assets; and
- Annual money-weighted rate of return.

Required Supplementary Information

GASB Statement No. 67 requires a 10-year fiscal history of:

- Sources of changes in the net pension liability;
- Information about the components of the net pension liability and related ratios, including the pension plan's fiduciary net position as a percentage of the total pension liability, and the net pension liability as a percent of covered-employee payroll; and
- A comparison of the actual employer contributions to the actuarially determined contributions based on the plan's funding policy.

General Implications of SURS Statutory Funding Policy on Future Expected Plan Contributions and Funded Status

Given the plan's statutorily defined funding policy, if all actuarial assumptions are met (including the assumption of the plan earning 6.50% on the actuarial value of assets), then the following outcomes are expected:

1. The unfunded liability is not expected to be fully amortized during the lifetimes of current members.
2. The funded status of the plan is expected to increase gradually towards a 90% funded ratio at 2045 and then remain level at 90% funded thereafter.

This statutory funding policy results in an expected crossover date in 2076 and a GASB single discount rate of 6.39% to measure the total pension liability as of June 30, 2022. The projections in this report are strictly for the purpose of determining the GASB single discount rate and are different from a funding projection for the ongoing plan.

Timing of the Valuation

An actuarial valuation to determine the total pension liability is required to be performed at least every two years. For employer reporting, the net pension liability and pension expense should be measured as of a date (measurement date) no earlier than the end of the employer's prior fiscal year, consistently applied from period to period. If the actuarial valuation used to determine the total pension liability is not calculated as of the measurement date, the total pension liability is required to be rolled forward from the actuarial valuation date to the measurement date.

Roll-Forward Methodology

The Total Pension Liability (TPL) shown in this report is based on an actuarial valuation performed as of June 30, 2021, measured using the assumptions from the most recent experience study and first adopted for use in the funding actuarial valuation as of June 30, 2021 (and a discount rate of 6.39%), and projected to a measurement date of June 30, 2022. The Total Pension Liability was rolled-forward to the June 30, 2022 measurement date by applying one year of service cost (increases TPL), actual benefit payments and refunds during the year (reduces TPL) and an interest rate adjustment assuming the end of year Single Discount Rate of 6.39%. A full year of interest was applied to the beginning of year TPL and one-half year of interest was applied to the service cost and benefit payments.



Single Discount Rate

Projected benefit payments are required to be discounted to their actuarial present values using a Single Discount Rate that reflects (1) a long-term expected rate of return on pension plan investments (to the extent that the plan's fiduciary net position is projected to be sufficient to pay benefits) and (2) a tax-exempt municipal bond rate based on an index of 20-year mixed maturity general obligation bonds with an average Standard & Poor's Corp.'s AA credit rating as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the long-term expected rate of return on pension plan investments is 6.50%; the municipal bond rate is 3.69% (based on the most recent daily rate available on or before the measurement date of the Fidelity "20-Year Municipal GO AA Index"); and the resulting Single Discount Rate is 6.39%.

The last year for which projected benefits for current members are fully funded by projected assets attributable to those members changed from 2075 to 2076 between the measurement performed in the last actuarial valuation and in this year's actuarial valuation.

Effective Date and Transition

GASB Statement Nos. 67 and 68 are effective for fiscal years beginning after June 15, 2013 and June 15, 2014, respectively.

Benefit Changes

No benefit changes were reflected in the funding actuarial valuation as of June 30, 2021, and therefore no benefit changes were reflected in this GASB Statement Nos. 67 and 68 valuation applicable to the plan's fiscal year ending June 30, 2022 and the employer's fiscal year ending June 30, 2023.

Actuarial Assumption Changes

Economic and demographic actuarial assumptions remain unchanged from the prior actuarial valuation based on recommendations from the experience study report covering the period June 30, 2017 through June 30, 2020, and are consistent with the assumptions used in the funding actuarial valuation as of June 30, 2021 and June 30, 2022 (with the exception of the single discount rate). 45% of assumed academic new hires and 25% of assumed non-academic new hires in the actuarial valuation projections are assumed to elect the Retirement Savings Plan and 55% of academic and 75% of non-academic are assumed to elect Tier 2 under Public Act 96-0889.



SECTION B

FINANCIAL STATEMENTS

Auditor's Note – This information is intended to assist in preparation of the financial statements of the State Universities Retirement System of Illinois. Financial statements are the responsibility of management, subject to the auditor's review. Please let us know if the auditor recommends any changes.

Statement of Pension Expense under GASB Statement No. 68

Fiscal Year Ended June 30, 2022*

A. Expense

1. Service Cost	\$ 723,509,163
2. Interest on the Total Pension Liability	3,133,079,773
3. Current-Period Benefit Changes	0
4. Employee Contributions (made negative for addition here)	(289,070,662)
5. Projected Earnings on Plan Investments (made negative for addition here)	(1,527,041,048)
6. Pension Plan Administrative Expense	22,583,852
7. Other Changes in Plan Fiduciary Net Position	0
8. Recognition of Outflow (Inflow) of Resources due to Liabilities	629,533
9. Recognition of Outflow (Inflow) of Resources due to Assets	<u>(102,469,583)</u>
10. Total Pension Expense	\$ 1,961,221,028

* Based on a measurement date of June 30, 2022. Will be used for fiscal year ending June 30, 2023. Employers' proportionate share of calculations of the net pension liability, pension expense and deferred inflows and outflows are outside the scope of this report.

Recognition of Deferred Outflows and Inflows of Resources

Differences between expected and actual experience and changes in assumptions are recognized in pension expense using a systematic and rational method over a closed period equal to the average of the expected remaining service lives of all employees who are provided with pensions through the pension plan (active employees and inactive employees) determined as of the beginning of the measurement period.

At the beginning of the current measurement period, the expected remaining service lives of all active employees in the plan were approximately 595,514 years. Additionally, the total plan membership (active employees, inactive employees and retired members and beneficiaries) was 216,643. As a result, the average of the expected remaining service lives for purposes of recognizing the applicable deferred outflows and inflows of resources established in the current measurement period is 2.7488 years.

Additionally, differences between projected and actual earnings on pension plan investments should be recognized in pension expense using a systematic and rational method over a closed five-year period. For this purpose, the deferred outflows and inflows of resources are recognized in the pension expense as a level dollar amount over the closed period identified above.

Statement of Outflows and Inflows Arising from Current Reporting Period Fiscal Year Ended June 30, 2022*

Year Ending June 30	Difference between expected and actual experience	Recognition Period (Years)	Total Deferred (2023-2026)	Increase (Decrease) in Pension Expense Arising from difference between expected and actual experience Recognized in Year Ending June 30							
				2020 & Prior**	2021	2022	2023	2024	2025	2026	
2017	\$ 210,625,398	2.9031	\$ -	\$ 210,625,398							
2018	(281,807,425)	2.7952	-	(281,807,425)							
2019	254,283,755	2.7008	-	188,302,544	\$ 65,981,211						
2020	167,491,408	2.6805	-	62,485,136	62,485,136	\$ 42,521,136					
2021	109,919,610	2.8204	31,973,496		38,973,057	38,973,057	\$ 31,973,496				
2022	(45,071,327)	2.7488	(28,674,599)			(16,396,728)	(16,396,728)	\$ (12,277,871)			
Total			3,298,897	179,605,653	167,439,404	65,097,465	15,576,768	(12,277,871)			

Year Ending June 30	Changes in assumptions	Recognition Period (Years)	Total Deferred (2023-2026)	Increase (Decrease) in Pension Expense Arising from changes in assumptions Recognized in Year Ending June 30							
				2020 & Prior**	2021	2022	2023	2024	2025	2026	
2017	\$ (396,096,848)	2.9031	\$ -	\$ (396,096,848)							
2018	1,992,356,758	2.7952	-	1,992,356,758							
2019	327,945,723	2.7008	-	242,850,802	\$ 85,094,921						
2020	618,763,571	2.6805	-	230,838,863	230,838,863	\$ 157,085,845					
2021	960,402,037	2.8204	279,362,441		340,519,798	340,519,798	\$ 279,362,441				
2022	(1,545,027,843)	2.7488	(982,954,268)			(562,073,575)	(562,073,575)	\$ (420,880,693)			
Total			(703,591,827)	2,069,949,575	656,453,582	(64,467,932)	(282,711,134)	(420,880,693)			

Year Ending June 30	Difference between projected and actual earnings on pension plan investments	Recognition Period (Years)	Total Deferred (2023-2026)	Increase (Decrease) in Pension Expense Arising from net difference between projected and actual earnings on pension plan investments Recognized in Year Ending June 30							
				2020 & Prior**	2021	2022	2023	2024	2025	2026	
2017	\$ (779,748,280)	5.0000	\$ -	\$ (623,798,624)	\$ (155,949,656)						
2018	(183,313,712)	5.0000	-	(109,988,226)	(36,662,742)	\$ (36,662,744)					
2019	150,007,091	5.0000	30,001,419	60,002,836	30,001,418	30,001,418	\$ 30,001,419				
2020	767,412,581	5.0000	306,965,033	153,482,516	153,482,516	153,482,516	153,482,516	\$ 153,482,517			
2021	(3,459,127,877)	5.0000	(2,075,476,727)		(691,825,575)	(691,825,575)	(691,825,575)	(691,825,575)	\$ (691,825,577)		
2022	2,212,674,012	5.0000	1,770,139,210			442,534,802	442,534,802	442,534,802	\$ 442,534,802	\$ 442,534,804	
Total			31,628,935	(520,301,498)	(700,954,039)	(102,469,583)	(65,806,838)	(95,808,256)	(249,290,775)	442,534,804	

Year Ending June 30	Total Difference	Recognition Period (Years)	Total Deferred (2023-2026)	Increase (Decrease) in Pension Expense Arising from All Sources Recognized in Year Ending June 30							
				2020 & Prior**	2021	2022	2023	2024	2025	2026	
2017	\$ 1,761,222,552	Varies by Type	\$ -	\$ (809,270,074)	\$ (155,949,656)						
2018	(965,219,730)	Varies by Type	-	1,600,561,107	(36,662,742)	\$ (36,662,744)					
2019	1,527,235,621	Varies by Type	30,001,419	491,156,182	181,077,550	30,001,418	\$ 30,001,419				
2020	732,236,569	Varies by Type	306,965,033	446,806,515	446,806,515	353,089,497	153,482,516	\$ 153,482,517			
2021	1,553,667,560	Varies by Type	(1,764,140,790)		(312,332,720)	(312,332,720)	(380,489,638)	(691,825,575)	\$ (691,825,577)		
2022	622,574,842	Varies by Type	758,510,343			(135,935,501)	(135,935,501)	9,376,238	442,534,802	\$ 442,534,804	
Total			(668,663,995)	1,729,253,730	122,938,947	(101,840,050)	(332,941,204)	(528,966,820)	(249,290,775)	442,534,804	

* Based on a measurement date of June 30, 2022. Will be used for fiscal year ending June 30, 2023. Employers' proportionate share of calculations of the net pension liability, pension expense and deferred inflows and outflows are outside the scope of this report.

** Excludes amounts from the years ending June 30, 2014 through June 30, 2016 that were fully recognized before year ending June 30, 2022.



Statement of Outflows and Inflows Arising from Current Reporting Period Fiscal Year Ended June 30, 2022*

	Total Deferred (2023-2026)	Outflow of Resources Recognized in Year Ending June 30						
		2020 & Prior**	2021	2022	2023	2024	2025	2026
Difference between expected and actual experience	\$ 31,973,496	\$ 461,413,078	\$ 167,439,404	\$ 81,494,193	\$ 31,973,496	\$ -	\$ -	\$ -
Changes in assumptions	279,362,441	2,466,046,423	656,453,582	497,605,643	279,362,441	-	-	-
Net difference between projected and actual earnings on investments	31,628,935	(520,301,498)	(700,954,039)	(102,469,583)	(65,806,838)	(95,808,256)	(249,290,775)	442,534,804
Total	342,964,872	\$ 2,407,158,003	122,938,947	476,630,253	245,529,099	(95,808,256)	(249,290,775)	442,534,804

	Total Deferred (2023-2026)	(Inflows) of Resources Recognized in Year Ending June 30						
		2020 & Prior**	2021	2022	2023	2024	2025	2026
Difference between expected and actual experience	\$ (28,674,599)	\$ (281,807,425)	\$ -	\$ (16,396,728)	\$ (16,396,728)	\$ (12,277,871)	\$ -	\$ -
Changes in assumptions	(982,954,268)	(396,096,848)	-	(562,073,575)	(562,073,575)	(420,880,693)	-	-
Net difference between projected and actual earnings on investments	-	-	-	-	-	-	-	-
Total	(1,011,628,867)	\$ (677,904,273)	-	(578,470,303)	(578,470,303)	(433,158,564)	-	-

	Total Deferred (2023-2026)	Increase (Decrease) in Pension Expense Arising from Assets and Liabilities Recognized in Year Ending June 30						
		2020 & Prior**	2021	2022	2023	2024	2025	2026
Total Liabilities	\$ (700,292,930)	\$ 2,249,555,228	\$ 823,892,986	\$ 629,533	\$ (267,134,366)	\$ (433,158,564)	\$ -	\$ -
Total Assets	31,628,935	(520,301,498)	(700,954,039)	(102,469,583)	(65,806,838)	(95,808,256)	(249,290,775)	442,534,804
Total	(668,663,995)	\$ 1,729,253,730	122,938,947	(101,840,050)	(332,941,204)	(528,966,820)	(249,290,775)	442,534,804

* Based on a measurement date of June 30, 2022. Will be used for fiscal year ending June 30, 2023. Employers' proportionate share of calculations of the net pension liability, pension expense and deferred inflows and outflows are outside the scope of this report.

** Excludes amounts from the years ending June 30, 2014 through June 30, 2016 that were fully recognized before year ending June 30, 2022.



Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods Fiscal Year Ended June 30, 2022*

A. Outflows and Inflows of Resources due to Liabilities and Assets to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows (Inflows) of Resources
1. Due to Liabilities	\$ 579,099,836	\$ 578,470,303	\$ 629,533
2. Due to Assets	0	102,469,583	(102,469,583)
3. Total	\$ 579,099,836	\$ 680,939,886	\$ (101,840,050)

B. Outflows and Inflows of Resources by Source to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows (Inflows) of Resources
1. Differences between expected and actual experience	\$ 81,494,193	\$ 16,396,728	\$ 65,097,465
2. Assumption Changes	497,605,643	562,073,575	(64,467,932)
3. Net difference between projected and actual earnings on pension plan investments	0	102,469,583	(102,469,583)
4. Total	\$ 579,099,836	\$ 680,939,886	\$ (101,840,050)

C. Deferred Outflows and Deferred Inflows of Resources by Source to be Recognized in Future Pension Expenses

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows (Inflows) of Resources
1. Differences between expected and actual experience	\$ 31,973,496	\$ 28,674,599	\$ 3,298,897
2. Assumption Changes	279,362,441	982,954,268	(703,591,827)
3. Net difference between projected and actual earnings on pension plan investments	31,628,935	0	31,628,935
4. Total	\$ 342,964,872	\$ 1,011,628,867	\$ (668,663,995)

D. Deferred Outflows and Deferred Inflows of Resources by Year to be Recognized in Future Pension Expenses

Year Ending June 30	Net Deferred Outflows (Inflows) of Resources
2023	\$ (332,941,204)
2024	(528,966,820)
2025	(249,290,775)
2026	442,534,804
2027	0
Thereafter	0
Total	\$ (668,663,995)

* Based on a measurement date of June 30, 2022. Will be used for fiscal year ending June 30, 2023. Employers' proportionate share of calculations of the net pension liability, pension expense and deferred inflows and outflows are outside the scope of this report.



Statement of Fiduciary Net Position as of June 30, 2022

Assets

Cash and short-term investments	\$ 1,061,255,469
Receivables	
Members	\$ 10,649,398
Non-employer contributing entity	-
Federal, trust funds and other	7,206,887
Pending investment sales	157,904,664
Interest and dividends	61,533,285
Total Receivables	<u>\$ 237,294,234</u>
Prepaid expenses	\$ 248,928
Investments, at fair value	
Equity investments	\$ 7,827,398,404
Fixed income investments	5,206,315,692
Real estate investments	2,091,471,758
Alternative investments	6,153,566,562
Total Investments	<u>\$ 21,278,752,416</u>
Securities lending collateral	\$ 197,353,020
Capital assets, at cost, net of accumulated depreciation	<u>\$ 15,259,838</u>
Total Assets	<u>\$ 22,790,163,905</u>

Liabilities

Payables	
Benefits payable	\$ 18,257,707
Refunds payable	7,567,132
Securities lending collateral	197,002,904
Reverse repurchase agreements	-
Payable to brokers for unsettled trades	29,639,357
Investment expenses payable	9,398,697
Administrative expenses payable	5,174,703
Total Liabilities	<u>\$ 267,040,500</u>
Net Position Restricted for Pensions	<u>\$ 22,523,123,405</u>



Statement of Changes in Fiduciary Net Position for Year Ended June 30, 2022

Additions

Contributions

Employer	\$ 57,906,329
Non-employer contributing entity	2,078,152,813 ¹
Member	<u>289,070,662</u>
Total Contributions	<u>\$ 2,425,129,804</u>

Investment Income

Net Appreciation in Fair Value of Investments	\$ (993,854,105)
Interest	180,085,919
Dividends	233,414,277
Securities lending	<u>6,360,276</u>
Gross Investment Income	<u>\$ (573,993,633)</u>

Less investment expense

Asset management expense	111,067,193
Securities lending expense	<u>572,138</u>

Net investment income	<u>\$ (685,632,964)</u>
Total Additions	<u>\$ 1,739,496,840</u>

Deductions

Benefits	\$ 2,879,643,912
Refunds of contributions	82,458,931
Administrative expense	<u>22,583,852</u>
Total Deductions	<u>\$ 2,984,686,695</u>

Net Increase in Net Position	\$ (1,245,189,855)
-------------------------------------	--------------------

Net Position Restricted for Pensions

Beginning of Year	<u>\$ 23,768,313,260</u>
End of Year	<u><u>\$ 22,523,123,405</u></u>

¹ Includes a contribution of \$58,138,900 from the Pension Stabilization Fund.

SECTION C

REQUIRED SUPPLEMENTARY INFORMATION

Auditor's Note – This information is intended to assist in preparation of the financial statements of the State Universities Retirement System of Illinois. Financial statements are the responsibility of management, subject to the auditor's review. Please let us know if the auditor recommends any changes.

Schedule of Changes in Net Pension Liability and Related Ratios

Current Reporting Period

Fiscal Year Ended June 30, 2022

A. Total pension liability	
1. Service cost	\$ 723,509,163
2. Interest on the total pension liability	3,133,079,773
3. Changes of benefit terms	0
4. Difference between expected and actual experience of the total pension liability	(45,071,327)
5. Changes of assumptions	(1,545,027,843)
6. Benefit payments, including refunds of employee contributions	(2,962,102,843)
7. Net change in total pension liability	<u>(695,613,077)</u>
8. Total pension liability – beginning	<u>52,296,790,339</u>
9. Total pension liability – ending	<u><u>\$ 51,601,177,262</u></u>
B. Plan fiduciary net position	
1. Contributions – employer & non-employer contributing entity	\$ 2,136,059,142
2. Contributions – employee	289,070,662
3. Net investment income	(685,632,964)
4. Benefit payments, including refunds of employee contributions	(2,962,102,843)
5. Pension plan administrative expense	(22,583,852)
6. Other	0
7. Net change in plan fiduciary net position	<u>(1,245,189,855)</u>
8. Plan fiduciary net position – beginning	<u>23,768,313,260</u>
9. Plan fiduciary net position – ending	<u><u>\$ 22,523,123,405</u></u>
C. Net pension liability	<u><u>\$ 29,078,053,857</u></u>
D. Plan fiduciary net position as a percentage of the total pension liability	43.65 %
E. Estimated covered-employee payroll	\$ 3,613,383,275
F. Net pension liability as a percentage of estimated covered-employee payroll	804.73 %

Schedules of Required Supplementary Information

Schedule of Changes in Net Pension Liability and Related Ratios Multiyear

Last 10 Fiscal Years (which may be built prospectively)

Fiscal year ending June 30,	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Total pension liability										
Service cost	\$ 723,509,163	\$ 657,103,880	\$ 634,453,468	\$ 631,537,687	\$ 628,356,344	\$ 658,715,745	\$ 666,374,861	\$ 654,968,438	\$ 675,257,078	
Interest on the total pension liability	3,133,079,773	3,190,005,705	3,123,586,563	3,047,548,381	3,050,584,303	2,951,246,535	2,876,930,310	2,723,714,885	2,643,353,237	
Changes of benefit terms	-	2,341,698	-	-	-	-	-	-	-	
Difference between expected and actual experience	(45,071,327)	109,919,610	167,491,408	254,283,755	(281,807,425)	210,625,398	(3,426,377)	40,408,204	-	
Changes of assumptions	(1,545,027,843)	960,402,037	618,763,571	327,945,723	1,992,356,758	(396,096,848)	532,522,898	831,624,586	130,585,622	
Benefit payments	(2,879,643,912)	(2,780,374,481)	(2,676,192,703)	(2,558,990,197)	(2,446,291,238)	(2,339,897,357)	(2,235,812,995)	(2,129,977,721)	(2,002,869,428)	
Refunds	(82,458,931)	(79,128,037)	(69,001,514)	(80,538,398)	(93,492,132)	(89,569,617)	(85,015,923)	(83,715,720)	(82,897,092)	
Net change in total pension liability	(695,613,077)	2,060,270,412	1,799,100,793	1,621,786,951	2,849,706,610	995,023,856	1,751,572,774	2,037,022,672	1,363,429,417	
Total pension liability - beginning	52,296,790,339	50,236,519,927	48,437,419,134	46,815,632,183	43,965,925,573	42,970,901,717	41,219,328,943	39,182,306,271	37,818,876,854	
Total pension liability - ending (a)	\$ 51,601,177,262	\$ 52,296,790,339	\$ 50,236,519,927	\$ 48,437,419,134	\$ 46,815,632,183	\$ 43,965,925,573	\$ 42,970,901,717	\$ 41,219,328,943	\$ 39,182,306,271	
Plan fiduciary net position										
Employer & non-employer contributing entity contributions	\$ 2,136,059,142	\$ 1,978,743,433	\$ 1,838,786,080	\$ 1,642,054,264	\$ 1,607,880,320	\$ 1,650,550,710	\$ 1,582,294,952	\$ 1,528,525,398	\$ 1,502,863,618	
Employee contributions	289,070,662	288,476,321	282,367,290	280,017,618	282,726,126	278,642,830	278,883,776	267,682,083	283,081,326	
Pension plan net investment income	(685,632,964)	4,762,969,585	542,177,767	1,129,812,762	1,499,829,456	1,994,310,048	17,043,679	503,199,957	2,667,900,403	
Benefit payments	(2,879,643,912)	(2,780,374,481)	(2,676,192,703)	(2,558,990,197)	(2,446,291,238)	(2,339,897,357)	(2,235,812,995)	(2,129,977,721)	(2,002,869,428)	
Refunds	(82,458,931)	(79,128,037)	(69,001,514)	(80,538,398)	(93,492,132)	(89,569,617)	(85,015,923)	(83,715,720)	(82,897,092)	
Pension plan administrative expense	(22,583,852)	(19,389,167)	(18,469,275)	(16,083,589)	(14,396,609)	(14,847,009)	(14,731,372)	(14,069,273)	(13,857,522)	
Other	-	-	-	-	-	-	-	-	-	
Net change in plan fiduciary net position	(1,245,189,855)	4,151,297,654	(100,332,355)	396,272,460	836,255,923	1,479,189,605	(457,337,883)	71,644,724	2,354,221,305	
Plan fiduciary net position - beginning	23,768,313,260	19,617,015,606	19,717,347,961	19,321,075,501	18,484,819,578	17,005,629,973	17,462,967,856	17,391,323,132	15,037,101,827	
Plan fiduciary net position - ending (b)	\$ 22,523,123,405	\$ 23,768,313,260	\$ 19,617,015,606	\$ 19,717,347,961	\$ 19,321,075,501	\$ 18,484,819,578	\$ 17,005,629,973	\$ 17,462,967,856	\$ 17,391,323,132	
Net pension liability - ending (a) - (b)	\$ 29,078,053,857	\$ 28,528,477,079	\$ 30,619,504,321	\$ 28,720,071,173	\$ 27,494,556,682	\$ 25,481,105,995	\$ 25,965,271,744	\$ 23,756,361,087	\$ 21,790,983,139	
Plan fiduciary net position as a percentage of total pension liability	43.65 %	45.45 %	39.05 %	40.71 %	41.27 %	42.04 %	39.57 %	42.37 %	44.39 %	
Estimated Covered-employee payroll	\$ 3,613,383,275	\$ 3,638,243,951	\$ 3,642,617,015	\$ 3,506,649,518	\$ 3,470,226,046	\$ 3,458,319,586	\$ 3,513,107,948	\$ 3,606,536,514	\$ 3,522,245,937	
Net pension liability as a percentage of estimated covered-employee payroll	804.73 %	784.13 %	840.59 %	819.02 %	792.30 %	736.81 %	739.10 %	658.70 %	618.67 %	
Single Discount Rate, Beginning of Year	6.12 %	6.49 %	6.59 %	6.65 %	7.09 %	7.01 %	7.12 %	7.09 %	7.12 %	
Single Discount Rate, End of Year	6.39 %	6.12 %	6.49 %	6.59 %	6.65 %	7.09 %	7.01 %	7.12 %	7.09 %	7.12 %
Long-Term Municipal Bond Rate	3.69 %	1.92 %	2.45 %	3.13 %	3.62 %	3.56 %	2.85 %	3.80 %	4.29 %	4.63 %
Long-Term Municipal Bond Rate Date	June 30, 2022	June 30, 2021	June 30, 2020	June 28, 2019	June 29, 2018	June 30, 2017	June 30, 2016	June 25, 2015	June 26, 2014	June 27, 2013

Defined benefit payroll for fiscal year ending June 30, 2022 is based on the employee contributions in the financial statements for fiscal year 2022 and an employee contribution rate of 8.00%. Estimated covered employee payroll prior to June 30, 2022 is equal to defined benefit payroll from the actuarial valuation as of the same date and rolled forward with one year of wage inflation (3.00% beginning in 2021, 3.25% for 2018 to 2020 and 3.75% prior to 2018).



Schedules of Required Supplementary Information Schedule of the Net Pension Liability Multiyear

Last 10 Fiscal Years (which may be built prospectively)

FY Ending June 30,	Total Pension Liability	Plan Net Position	Net Pension Liability	Plan Net Position as a % of Total Pension Liability	Estimated Covered Payroll	Net Pension Liability as a % of Estimated Covered Payroll
2014	\$ 39,182,306,271	\$ 17,391,323,132	\$ 21,790,983,139	44.39 %	\$ 3,522,245,937	618.67 %
2015	41,219,328,943	17,462,967,856	23,756,361,087	42.37 %	3,606,536,514	658.70 %
2016	42,970,901,717	17,005,629,973	25,965,271,744	39.57 %	3,513,107,948	739.10 %
2017	43,965,925,573	18,484,819,578	25,481,105,995	42.04 %	3,458,319,586	736.81 %
2018	46,815,632,183	19,321,075,501	27,494,556,682	41.27 %	3,470,226,046	792.30 %
2019	48,437,419,134	19,717,347,961	28,720,071,173	40.71 %	3,506,649,518	819.02 %
2020	50,236,519,927	19,617,015,606	30,619,504,321	39.05 %	3,642,617,015	840.59 %
2021	52,296,790,339	23,768,313,260	28,528,477,079	45.45 %	3,638,243,951	784.13 %
2022	51,601,177,262	22,523,123,405	29,078,053,857	43.65 %	3,613,383,275	804.73 %

Defined benefit payroll for fiscal year ending June 30, 2022 is based on the employee contributions in the financial statements for fiscal year 2022 and an employee contribution rate of 8.00%. Estimated covered employee payroll prior to June 30, 2022 is equal to defined benefit payroll from the actuarial valuation as of the same date and rolled forward with one year of wage inflation (3.00% beginning in 2021, 3.25% for 2018 to 2020 and 3.75% prior to 2018).



Schedule of Contributions Multiyear Last 10 Fiscal Years (\$ in 000s)

FY Ending June 30,	Actuarially Determined Contribution	Actual Contribution	Contribution Deficiency (Excess)	Estimated Covered Payroll	Actual Contribution as a % of Estimated Covered Payroll
2013	\$ 1,549,287	\$ 1,401,481	\$ 147,806	\$ 3,533,858	39.66 %
2014	1,560,524	1,502,864	57,660	3,522,246	42.67 %
2015	1,622,656	1,528,525	94,130	3,606,537	42.38 %
2016	1,811,060	1,582,295	228,765	3,513,108	45.04 %
2017	1,864,843	1,650,551	214,292	3,458,320	47.73 %
2018	1,862,033	1,607,880	254,153	3,470,226	46.33 %
2019	2,239,366	1,642,054	597,312	3,506,650	46.83 %
2020	2,299,031	1,838,786	460,245	3,642,617	50.48 %
2021	2,303,266	1,978,743	324,523	3,638,244	54.39 %
2022	2,377,774	2,136,059	241,715	3,613,383	59.12 %

For fiscal years 2015 and prior, the Actuarially Determined Contribution is equal to normal cost plus 30-year open period amortization of the unfunded actuarial accrued liability as a level percentage of total payroll.

For fiscal years 2016 and after, the Actuarially Determined Contribution is equal to normal cost plus 29-year closed period amortization of the unfunded actuarial accrued liability (from June 30, 2016) as a level percentage of pensionable (capped) payroll.

Contributions include combined amounts from both the employers and the State.

Defined benefit payroll for fiscal year ending June 30, 2022 is based on the employee contributions in the financial statements for fiscal year 2022 and an employee contribution rate of 8.00%. Estimated covered employee payroll prior to June 30, 2022 is equal to defined benefit payroll from the actuarial valuation as of the same date and rolled forward with one year of wage inflation (3.00% beginning in 2021, 3.25% for 2018 to 2020 and 3.75% prior to 2018).

Notes to Schedule of Contributions

Valuation Date: June 30, 2021
Notes Actuarially determined contributions are calculated as of June 30, which is at the beginning of the fiscal year to which they apply.

Methods and Assumptions Used for Actuarially Determined Contributions:

Actuarial Cost Method	Projected Unit Credit
Amortization Method	Level Percentage of Defined Benefit Plan Pensionable (Capped) Payroll
Remaining Amortization Period	23 Years Remaining for Fiscal Year 2022
Asset Valuation Method	5-Year smoothed market.
Inflation	2.25%.
Salary Increases	3.00% to 12.75% including inflation.
Investment Rate of Return	6.50% beginning with the actuarial valuation as of June 30, 2021.
Retirement Age	Experience-based table of rates. Last updated for the 2021 actuarial valuation pursuant to an experience study of the period 2018-2020.
Mortality	Members classified as an employee type of academic: Non-disabled post-retirement mortality uses Pub-2010 Healthy Retiree Mortality (for Teachers), sex distinct with rates for males multiplied by 99% and rates for females multiplied by 105%. Disabled post-retirement mortality uses Pub-2010 Disabled Retiree Mortality Table (for Non-Safety Employees), sex distinct with rates for males multiplied by 112% and rates for females multiplied by 110%. Pre-retirement mortality uses Pub-2010 Employee Mortality Table (for Teachers), sex distinct with rates multiplied by 101% for males and multiplied by 97% for females. Members classified as an employee type of non-academic: Non-disabled post-retirement mortality uses Pub-2010 Healthy Retiree Mortality (for General Employees), sex distinct with rates for males multiplied by 99% and rates for females multiplied by 107%. Disabled post-retirement mortality uses Pub-2010 Disabled Retiree Mortality Table (for Non-Safety Employees), sex distinct with rates for males multiplied by 112% and rates for females multiplied by 110%. Pre-retirement mortality uses Pub-2010 Employee Mortality Table (for General Employees), sex distinct with rates multiplied by 114% for males and multiplied by 105% for females. The provision for future mortality improvement is based on the generational application of the MP-2020 improvement scales from 2010.
Cost-of-Living Adjustment	3.00% compound for members hired before January 1, 2011. The lesser of 1/2 of CPI-U or 3.00% simple for members hired on or after January 1, 2011.

Other Information:

Notes The actuarially determined contribution for fiscal year ending June 30, 2022 was determined in the funding actuarial valuation as of June 30, 2021 and the statutory contribution (upon which the actual contribution was based) for fiscal year ending June 30, 2022 was determined in the funding actuarial valuation as of June 30, 2020. The total pension liability as of June 30, 2022 and projected future contributions for purposes of calculating the single discount rate were based on the same actuarial assumptions first effective with the funding actuarial valuation as of June 30, 2021.

The GASB Statement Nos. 67 and 68 actuarial valuation does not include provisions related to the Option Hybrid Plan created under PA 100-0023 which became effective July 6, 2017. SURS is currently not moving forward with implementation of the OHP.



Schedule of Investment Returns Multiyear Last 10 Fiscal Years

<u>FY Ending June 30,</u>	<u>Annual Return¹</u>
2013	
2014	
2015	
2016	
2017	
2018	
2019	
2020	
2021	
2022	

¹ Annual money-weighted rate of return, net of investment expenses.
To be provided by SURS.

SECTION D

NOTES TO FINANCIAL STATEMENTS

Auditor's Note – This information is intended to assist in preparation of the financial statements of the State Universities Retirement System of Illinois. Financial statements are the responsibility of management, subject to the auditor's review. Please let us know if the auditor recommends any changes.

Single Discount Rate

A Single Discount Rate of 6.39% was used to measure the total pension liability. This Single Discount Rate was based on an expected rate of return on pension plan investments of 6.50% and a municipal bond rate of 3.69%. The projection of cash flows used to determine this Single Discount Rate were the amounts of contributions attributable to current plan members, and assumed that plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the statutory contribution rates under the System's funding policy. Based on these assumptions, the pension plan's fiduciary net position and future contributions were sufficient to finance the benefit payments through the year 2076. As a result, the long-term expected rate of return on pension plan investments was applied to projected benefit payments through the year 2076, and the municipal bond rate was applied to all benefit payments after that date.

Regarding the sensitivity of the net pension liability to changes in the Single Discount Rate, the following presents the plan's net pension liability, calculated using a Single Discount Rate of 6.39%, as well as what the plan's net pension liability would be if it were calculated using a Single Discount Rate that is one percent lower or one percent higher:

Sensitivity of Net Pension Liability to the Single Discount Rate Assumption

	1% Decrease	Current Single Discount	1% Increase
	5.39%	Rate Assumption	7.39%
		6.39%	
Total Pension Liability (TPL)	\$ 57,784,926,373	\$ 51,601,177,262	\$ 46,451,854,481
Net Position Restricted for Pensions	22,523,123,405	22,523,123,405	22,523,123,405
Net Pension Liability (NPL)	\$ 35,261,802,968	\$ 29,078,053,857	\$ 23,928,731,076

Summary of Population Statistics as of June 30, 2021

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	70,111
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	86,135
Active Plan Members	<u>60,397</u>
Total Plan Members	216,643

Excludes RSP.

SECTION E

SUMMARY OF BENEFITS

It should be noted that the purpose of this Section is to describe the benefit structures of SURS for which actuarial values have been generated. There is no description of the Retirement Savings Plan (RSP) and many portions of the defined plans are described in a manner which may not be legally complete or precise.

It is not our intent to provide an exhaustive description of all benefits provided under SURS or the policies and procedures utilized by SURS staff. A more precise description of the provisions of SURS is contained in the Member's Guide, published by SURS staff. Of course, the statute is controlling.

Plans

There are two defined benefit plans available under SURS, the Traditional Plan and the Portable Plan, and one defined contribution plan, the Retirement Savings Plan (RSP). A member must select one of these plans within the first six months of participation. If no choice is made in that time, the Traditional Plan is deemed chosen.

Effective September 1, 2020 the Self-Managed Plan (SMP) has been renamed the Retirement Savings Plan (RSP).

New tiers of benefits have been established for members hired on or after January 1, 2011 (“Tier 2”). Members hired before January 1, 2011 participate in Tier 1. Members in Tiers 1 and 2 are eligible to choose either the Traditional or the Portable Plan. **SURS is currently not moving forward with the implementation of the optional hybrid plan created under PA 100-0023. Additional clarifying legislation is needed for SURS to be able to do so.**

Tier 2 members who participate in the Traditional and Portable Plans are subject to the pay caps established under Public Act 96-0889. The Tier 2 pay cap was \$106,800 in fiscal year 2012 and increases by the lesser of (1) 3% and (2) ½ the increase in the Consumer Price Index-Urban (“CPI-U”) for the 12 months ending with the September proceeding each November 1.

The pay cap history is as follows:

Fiscal Year	CPI-U	½ CPI-U	Tier 2 Pensionable Pay Cap
2012			\$106,800.00
2013	3.90%	1.95%	\$108,882.60
2014	2.00%	1.00%	\$109,971.43
2015	1.20%	0.60%	\$110,631.26
2016	1.70%	0.85%	\$111,571.63
2017	0.00%	0.00%	\$111,571.63
2018	1.50%	0.75%	\$112,408.42
2019	2.20%	1.10%	\$113,644.91
2020	2.30%	1.15%	\$114,951.83
2021	1.70%	0.85%	\$115,928.92
2022	1.40%	0.70%	\$116,740.42
2023	5.40%	2.70%	\$119,892.41

The Tier 2 pay cap is calculated annually by the Illinois Department of Insurance.

The Retirement Savings Plan is a defined contribution plan under which members contribute 8.0% of compensation and the State contributes 7.6% of compensation. A portion of the employer contribution is used to fund disability benefits for RSP participants. Members hired on or after January 1, 2011 who participate in the RSP are not subject to the Tier 2 pay cap.

The provisions of the Traditional and Portable defined benefit plans are identical in many areas. The description below is primarily of the Traditional Plan. Where different, the Portable plan provisions will be described in *italics*.

Member Contributions

Most members in Tier 1 and Tier 2 contribute a total of 8% of pensionable compensation. Police officers and firefighters contribute a total of 9.5% of pensionable compensation, with the additional 1.5% allocated to the retirement annuity.

The total contribution is broken down as follows:

	Tier 1 and Tier 2	
	Police/Fire	All Others
Retirement Annuity	8.0%	6.5%
Survivor Benefits	1.0%	1.0%
Annual Increases in Retirement	0.5%	0.5%
Total Contribution	9.5%	8.0%

Portable Plan members contribute the same percent of compensation, but the breakdown set out above does not apply.

The retirement annuity portion of the total contribution (8.0% of compensation for police officers and firefighters and 6.5% of compensation for all others) is annuitized for the money purchase formula (Rule 2) calculation for Tier 1 members.

Contributions for Tier 2 members are assumed not to be made on pay in excess of the pay cap.

Since January 1, 1981, the member contributions under SURS have been “picked up” for IRS purposes by employers.

Effective Rate of Interest

The Effective Rate of Interest (“ERI”) is the interest rate that is applied to member contribution balances. Effective for the 2006 fiscal year, the ERI for the purpose of determining the money purchase benefit is established by the State Comptroller annually. The ERI for other purposes such as the calculation of purchases of service credit, refunds for excess contributions, portable plan refunds and lump sum portable retirements is determined by the SURS Board annually and certified to the Governor. For purposes of the actuarial valuation, the assumed ERI is 6.50% beginning with the actuarial valuation as of June 30, 2021.

For the purposes of withdrawal of contributions at termination or death by Traditional Plan Members, this rate is not greater than 4.5% by statute.

Retirement Benefits

Final Average Salary

Final average salary is equal to:

Tier 1	High four consecutive year average compensation or the average of the last 48 consecutive months of employment.
Tier 2	High final eight consecutive year average compensation within the last 10 years or the average of the last 96 consecutive months within the last 120 months.

The Tier 2 pay cap history is shown in a table earlier in this section. We have assumed that the pay cap each year applies to the individual pay amounts that are used to develop the final average compensation.

The present value of the benefits for pay increases in excess of 6% during the final average earnings period immediately preceding retirement will be paid by the employer. The employer will pay this amount in a lump sum to the Retirement System.

Normal Retirement

Eligibility

For Tier 1 police officers and firefighters, separation from service on or after the attainment of the earlier of:

1. Age 55 with 20 years of service; or
2. Age 50 with 25 years of service.

For all other Tier 1 members and for all Tier 2 and Optional Hybrid Plan members, separation from service on or after attainment of the earlier of:

Tier 1	Tier 2
Age 62/5 Years	Age 67/10 Years
Age 60/8 Years	
Any age/30 Years	

Initial Benefit Amount

There are three alternate formulae. The initial benefit is the largest produced by one of the three:

1. General Formula (Applicable to all Tiers)
2. Money Purchase Formula (Applicable to Tier 1 only, hired before July 1, 2005)
3. Minimum Benefit (Applicable to all Tiers)

Following is a description of the benefits provided under each of the three alternate formulae.

1. General Formula (Applicable to all Tiers): The following percentages of final average compensation for each year of service:

Year of Service	Tier 1 and Tier 2	
	General	Police/Fire
1 st 10 Years	2.20 %	2.25 %
Next 10 Years	2.20	2.50
Over 20	2.20	2.75

2. Money Purchase Formula (Applicable to Tier 1 only, hired before July 1, 2005):
 - a) The member contributions for retirement benefits (8.0% of compensation for police officers and firefighters and 6.5% of compensation for all others) accumulated with interest at the ERI, plus
 - b) An imputed employer contribution match at \$1.40 per dollar of member contribution accumulated with interest at the ERI.
 - c) The total of the accumulations in (a) and (b) is converted into an annuity using a life annuity factor that takes into account neither the automatic 50% spousal survivor benefit nor the automatic annual increases.

Members hired on or after July 1, 2005 no longer receive the Money Purchase Formula under the plan.

3. Minimum Benefit (Applicable to all Tiers) – A benefit for each year of service, up to 30, based on final annual pay, as follows:

Under 3,500	\$ 8
\$3,500 - \$4,500	9
\$4,500 - \$5,500	10
\$5,500 - \$6,500	11
\$6,500 - \$7,500	12
\$7,500 - \$8,500	13
\$8,500 - \$9,500	14
Over \$9,500	15

Minimum Retirement Annuity – No retiree shall receive a retirement annuity less than \$25 per month for each year of service up to 30. The comparable benefit for survivor benefit recipients is \$17.50 per month for each year of service up to 30.

Maximum Benefit

All Tiers have a maximum benefit equal to 80% of final average compensation.

Contribution waivers are applicable to members whose benefits are capped at 80% of final average compensation. Member contributions made once the maximum benefit is achieved are refunded to the member with interest (at the Effective Rate of Interest).

Benefit Duration

The Normal Retirement benefit is payable for the lifetime of the retired member. If the retiree under the Traditional Plan has a spouse at date of retirement and if that spouse survives the retiree the spouse will receive, upon the death of the retiree, a survivor benefit equal to the following percentage of the monthly benefit being paid to the retiree as of the date of death.

1. The survivor benefit for Tier 1 members is equal to 50% of the monthly benefit being paid to the retiree as of the date of death.
2. The survivor benefit for Tier 2 members is equal to 66 2/3% of the monthly benefit being paid to the retiree as of the date of death.

Such benefit will continue for the lifetime of the surviving spouse.

For retirees under the Portable Plan, the normal form of benefit is a single-life annuity for unmarried participants and a reduced 50% joint and survivor benefit for married participants. With spousal consent, a member may designate a contingent annuitant to receive a joint and survivor annuity or elect a single-life annuity or lump sum distribution. Those receiving a joint and survivor annuity will have their benefit reduced to cover the cost of the option. The available joint and survivor options are 50%, 75% and 100%. A member may elect the 75% or 100% spousal joint and survivor annuity without consent.

Portable Plan members may also elect to receive their retirement benefit as a lump sum equal to member contributions with an equal employer match (if have the required years of service), accumulated with interest (at the Effective Rate of Interest that is certified annually by the SURS Board).

The required years of service is five years for all plans. (Must have 10 years if retirement age.)

Annual Increases

For Tier 1 members who have not elected the Automatic Annual Increase (AAI) buyout, each January 1 subsequent to retirement date, the monthly benefit being paid each retiree shall be increased by 3% (compound COLA). The adjustment for the first January after retirement shall be proportional based on the portion of the year retired. See page 33 for a description of the increase for members who have elected the AAI buyout.

For Tier 2 members, each January 1 subsequent to retirement date, the monthly benefit being paid each retiree shall be increased by 50% of the Consumer Price Index-Urban ("CPI-U") up to a maximum of 3% applied to the original benefit (simple COLA). The first increase will be granted upon the later of the attainment of age 67 or the first anniversary of the commencement of the annuity.

The historical development of the Tier 2 Annual Increase as determined by the Illinois Department of Insurance can be found in the table on the following page.

Calendar Year ¹	CPI-U ²	½ CPI-U ²	Annual Increase
2011			3.00%
2012	3.90%	1.95%	1.95%
2013	2.00%	1.00%	1.00%
2014	1.20%	0.60%	0.60%
2015	1.70%	0.85%	0.85%
2016	0.00%	0.00%	0.00%
2017	1.50%	0.75%	0.75%
2018	2.20%	1.10%	1.10%
2019	2.30%	1.15%	1.15%
2020	1.70%	0.85%	0.85%
2021	1.40%	0.70%	0.70%
2022	5.40%	2.70%	2.70%

¹Increase effective January 1.

²Measured based on the change in CPI-U from September to September of the calendar year preceding the year in which the annual increase applies.

Early Retirement

Eligibility

For Tier 1 members other than police and fire employees, separation from service on or after attainment of age 55 with 8 years of service, but not eligible for Normal Retirement.

For Tier 2 members, separation from service on or after attainment of age 62 with 10 years of service, but not eligible for Normal Retirement.

Benefits

The benefit amounts and all terms of benefit payment are the same as that for Normal Retirement, except that the benefit amounts calculated under the General Formula and the Minimum Formula shall be reduced by .5% for each month by which the retirement date precedes the 60th birthday for Tier 1 members and the 67th birthday for Tier 2 members.

Benefits on Death before Retirement

Survivor Benefits

Traditional Plan

Eligibility

Payable to eligible survivor(s) (spouse, child or dependent parent) for the death of an active member with at least 1.5 years of service or a terminated member with at least 10 years of service. For this purpose, service under the State Employees' Retirement System, the Teachers' Retirement System of the State of Illinois and the Public School Teachers' Pension Fund of Chicago is recognized.



Benefits

For Tier 1 members, an annuity to the eligible survivor(s) equal to the greater of:

1. 50% of the benefit accrued to the date of the death of the member, and
2. The lowest applicable benefit from the following list:
 - a) \$400 per month to a single eligible survivor or \$600 per month to two or more eligible survivors.
 - b) 30% (one survivor), or 60% (two survivors), or 80% (three or more survivors) of the member's final rate of earnings.
 - c) If member inactive, 80% of base retirement annuity.

For Tier 2 members, an annuity to the survivor(s) equal to 66 2/3% of the benefit accrued to the date of the death of the member.

Supplemental Minimum Survivor Annuity of \$17.50 per month times number of years of service credit, up to 30 years. No annual increases payable on the supplemental minimum survivor annuity.

Benefit Duration

Surviving spouse

May receive a lifetime benefit commencing at the later of the day following the member's date of death and the spouse's attainment of age 50. May be payable the day following the member's date of death if a dependent child in their care is also receiving benefits.

Dependent child

Payable to unmarried child(ren) under age 18 (over 18 if disabled prior to age 18), and children age 18-22 if a qualified full-time student.

Dependent parent

Payable to a parent of the member who was dependent upon the member at the time of their death. Payable at the later of the day following the member's date of death and the parent's attainment of age 55. The benefit continues until the parent dies.

Annual Increases

For Tier 1 members, each January 1 subsequent to retirement date the monthly benefit being paid each survivor annuity recipient shall be increased by 3%. The first increase begins with the first January closest to the first anniversary of the survivor annuity.

For Tier 2 members, each January 1 subsequent to retirement date the monthly benefit being paid each survivor annuity recipient shall be increased fifty percent of the Consumer Price Index-Urban ("CPI-U") up to a maximum of 3% of the originally granted survivor annuity (simple COLA). The first increase will be granted upon January 1 following the first anniversary of the commencement of the survivor annuity.

Portable Plan

Eligibility

Payable to an eligible spouse for the death of an active or inactive member with at least 1.5 years of SURS service.

Benefits

An annuity to the eligible spouse equal to 50% of the member's earned retirement benefit after the reductions to pay for the cost of providing the pre-retirement survivor annuity. (Applicable to Tier 1 and Tier 2 members.)

Benefit Duration

Surviving spouse

May receive a lifetime benefit commencing at the member's earliest retirement age.

Annual Increases

For members hired before January 1, 2011 and for all members hired on or after January 1, 2011, each January 1 subsequent to retirement date the monthly benefit being paid each survivor annuity recipient shall be increased by 3%. The adjustment for the first January after retirement shall be proportional.

Lump Sum Death Benefit

Eligibility

Death of member prior to retirement.

Traditional Plan

Benefit

With Eligible Survivor

- $\frac{7}{8}$ ^{ths} of accumulated member contributions balance (includes all contributions and interest)

Without Eligible Survivor

- Refund of the total accumulated member contribution and interest; and
- An amount up to \$5,000 based on the annual final average earnings amount to a dependent beneficiary or \$2,500 to a non-dependent beneficiary. The additional death benefit is only payable if the member was active at death. If the member was inactive, this additional death benefit is not payable.



Portable Plan

Benefit

With Eligible Spouse

- Refund of total accumulated member contributions at the full Effective Rate of Interest, plus, if the member has at least 1.5 years of service at death, a like amount of imputed employer contributions – less the actuarial equivalent of the Pre-Retirement Survivor Annuity.

Without Eligible Spouse

- Refund of total accumulated member contributions at the full Effective Rate of Interest, plus, if the member has at least 1.5 years of service at death, a like amount of imputed employer contributions.

Benefits on Death after Retirement

In addition to survivor/spouse benefits payable from the System, the following death benefit is payable if a member does not have an eligible survivor/spouse/contingent annuitant:

- The greater of the total accumulated member contributions and interest minus the total retirement annuities paid to the member through the date of their death or \$1,000.

Eligibility

Payable to eligible survivor(s) (spouse, child or dependent parent) as long as the member did not take a refund of their survivor contributions at retirement.

Traditional Plan

Benefits

For Tier 1 members, an annuity to the eligible survivor(s) equal to the greater of:

1. 50% of the annuity at the time of the member's death:
2. The lowest applicable benefit from the following list:
 - a) \$400 per month to a single eligible survivor or \$600 per month to two or more eligible survivors.
 - b) 30% (one survivor), or 60% (two survivors), or 80% (three or more survivors) of the member's final rate of earnings.
 - c) 80% of base retirement annuity.

For Tier 2 members, an annuity to the survivor(s) equal to 66 2/3% of retirement annuity at the time of the member's death.



Supplemental Minimum Survivor Annuity of \$17.50 per month times number of years of service credit, up to 30 years. No annual increases payable on the supplemental minimum survivor annuity.

Benefit Duration

Surviving spouse

May receive a lifetime benefit commencing at the later of the day following the member's date of death and the spouse's attainment of age 50. May be payable the day following the members' date of death if a dependent child in their care is also receiving benefits.

Dependent child

Payable to unmarried child(ren) under age 18 (over 18 if disabled prior to age 18), and children age 18-22 if a qualified full-time student.

Dependent parent

Payable to a parent of the member who was dependent upon the member at the time of their death. Payable at the later of the day following the member's date of death and the parent's attainment of age 55. The benefit continues until the parent dies.

Portable Plan

Benefits

A 50%, 75% or 100% Joint and Survivor annuity is payable to the Contingent Annuitant that the member chose at the time of retirement, if any. The member's retirement annuity is reduced to pay for the Joint and Survivor Annuity.

Benefit Duration

Surviving spouse

May receive a lifetime benefit commencing at the member's earliest retirement age.

Annual Increases

For members hired before January 1, 2011 and for all members hired on or after January 1, 2011, each January 1 on or after the survivor annuity shall be increased by 3% compounded. The first AAI begins with the January 1 on or after the commencement of the survivor annuity if retired January 14, 1991 or later. If the member retired prior to January 14, 1991, then January 1 on or closest to the 1st anniversary of the Survivor Annuity shall be increased by 3%. The adjustment for the first January after retirement shall be proportional.

Benefits for Disability

Disability Benefit

Eligibility

Disablement after completing two years of service. The service requirement is waived if the disablement is accidental.

Disability definition – inability to perform the duties of “own occupation.”

Pregnancy and childbirth are, by definition, disablement.

Benefit

The greater of 50% of the basic compensation paid at date of disablement or 50% of the average earnings for the 24 months prior to the date of disablement. This base benefit level is offset dollar for dollar by each of the following:

1. Earnings while disabled in excess of the disability benefit.
2. Other disability insurance either fully or partially employer provided.
3. Worker’s compensation benefits.

Duration of Benefit

Benefits become payable on the later of the termination of salary and sick leave, or the 61st day after disablement and continue to the earlier of the following:

1. Recovery or death.
2. Benefits paid equal 50% of total compensation during the period of SURS service.
3. If disablement occurs prior to age 65, the disability benefit may not continue past the August 31 following 70th birthday.
4. If disablement occurs at or after attainment of age 65, completion of five years in disablement.

Survivor and death benefits are payable if a member dies while receiving disability benefits.

If, at discontinuance of the disability benefit, the member is eligible for a retirement benefit (based on service, which includes the period of disability and may also include time receiving a disability retirement annuity), the member may retire and receive that benefit. The member may commence the retirement benefit once age and service requirements are met. The early retirement reduction does not apply for members who began first participating prior to January 1, 2011 (Tier 1). The benefit is based on the greatest of three formulas (General Formula, Money Purchase and Minimum Benefit), subject to applicable maximums. Contributions are not made during the disability period. However, accumulated contributions continue to accrue interest.

Annual Increases

Each January 1 subsequent to retirement date the monthly benefit being paid each retiree shall be increased by 3%. The adjustment for the first January after retirement shall be proportional.



Disability Retirement Annuity

Eligibility

Continuing disablement after discontinuation of the disability benefit as a result of reaching the “50% of total earnings” limitation. Disability is defined in accordance with the Social Security disability definition.

Benefit

35% of the compensation being earned at disablement.

Duration of Benefit

Benefits become payable upon discontinuance of the disability benefit and continue to the earlier of the following:

1. Recovery or death
2. Election to receive a retirement benefit

Survivor and death benefits are payable if a member dies while receiving a disability retirement annuity.

Annual Increases

Each January 1 subsequent to retirement date the monthly benefit being paid each retiree shall be increased by 3%. The adjustment for the first January after retirement shall be proportional.

For members hired on or after January 1, 2011, if the member converts to a service retirement annuity (item 2 above), each January 1 subsequent to retirement date the monthly benefit being paid each retiree shall be increased 50% of the Consumer Price Index (“CPI”) up to a maximum of 3% of the originally granted benefit. The first increase will be granted upon the later of the attainment of age 67 or the first anniversary of the commencement of the annuity.

Benefits for Deferred Members

Eligibility

For members hired before January 1, 2011, separation from employment with at least five years of service and separation from employment with at least 10 years of service for members hired on or after January 1, 2011.

Benefit

Benefit as defined for normal retirement purposes, but calculated based on final average compensation and service at date of termination.



Commencement of Benefit

Benefits commence when member reaches the age condition for either normal or early retirement.

Annual Increases

For members hired before January 1, 2011 who have not elected the AAI buyout, each January 1 subsequent to retirement date the monthly benefit being paid each retiree shall be increased by 3%. The adjustment for the first January after retirement shall be proportional. See item 2 under Accelerated Pension Benefit Options on pages 33 and 34 for a description of the increase for members who have elected the AAI buyout.

For members hired on or after January 1, 2011, each January 1 subsequent to retirement date the monthly benefit being paid each retiree shall be increased fifty percent of the Consumer Price Index ("CPI") up to a maximum of 3% applied to the original benefit. The first increase will be granted upon the later of the attainment of age 67 or the first anniversary of the commencement of the annuity.

Member Refunds

Non-vested terminated members and members who elect a refund in lieu of a vested benefit receive the following amounts.

Traditional Plan

Refund of the total accumulated member contribution at 4.5% interest.

Portable Plan

Refund of total accumulated member contributions at the full Effective Rate of Interest that is certified annually by the SURS Board, plus, if the member has the required years of service, a like amount of imputed employer contributions.

The required years of service is five years for all plans. (Must have 10 years if retirement age.)

Accelerated Pension Benefit Options

Under Public Act (PA) 100-0587 and PA 101-0010, SURS shall offer an accelerated pension benefit payment to eligible members beginning on the implementation date and until June 30, 2024. Public Act 102-0718 extended the buyout period through June 30, 2026.

There are two accelerated pension benefit payment options that will be offered:

1. For vested inactive members, a payment equal to 60% of the present value of the member's pension benefit in lieu of receiving any pension benefit.

2. For members eligible for retirement, a payment equal to 70% of the difference between (i) the present value of the automatic annual increases (AAI) to a Tier 1 member's retirement and survivor's annuity under the current AAI provisions and (ii) the present value of the automatic annual increases to the Tier 1 member's retirement annuity under revised AAI provisions.
 - a) The current AAI provisions are an annual 3% increase of the prior year's benefit (compound COLA) payable as of the January 1 following the annuity start date (first increase is prorated).
 - b) The revised AAI provisions are an annual 1.5% increase of the originally granted benefit (simple COLA) payable as of the later of age 67 or the first anniversary of the annuity start. The survivor AAI is first payable one year after the survivor annuity commences.

Defined Contribution Plan

Public Act 100-0769, effective August 10, 2018, requires the SURS Board of Trustees, as soon as practicable after the effective date of the legislation, to establish and maintain a defined contribution plan. The defined contribution benefit must be an optional benefit to any member who chooses to participate.

Projected administrative expenses for this plan are included in the Statutory contribution. Other costs are not reflected in this valuation.

SECTION F

ACTUARIAL COST METHOD AND ACTUARIAL ASSUMPTIONS

Valuation Methods – Calculation of the Total Pension Liability

Entry Age Normal Method

Actuarial Cost Method – Normal cost and the allocation of benefit values between service rendered before and after the valuation date were determined using an Individual Entry-Age Actuarial Cost Method having the following characteristics:

- (i) The annual normal cost for each individual active member, payable from the date of employment to the date of retirement, is sufficient to accumulate the value of the member’s benefit at the time of retirement; and
- (ii) Each annual normal cost is a constant percentage of the member’s year by year projected covered pay.

Valuation Methods – Calculation of Contributions

Projected Unit Credit Method

The Projected Unit Credit Method is mandated under Section 15-155 of the SURS Article of the Illinois Pension Code as the funding method to be used for SURS.

The concept of this method is that funding of benefits should occur as benefits are accrued (earned) by active members of SURS.

The Normal Cost (“NC”) for a fiscal year under this method is the actuarial present value of all benefits expected to be accrued during the fiscal year adjusted for future expected salary increases. The Actuarial Accrued Liability (“AAL”) under this method is the actuarial present value of all benefits accrued to the valuation date. To the extent that the assets of the fund are insufficient to cover the AAL, an Unfunded Actuarial Accrued Liability (“UAAL”) develops. Under the classical application of this method, the contribution for a year is the NC for that year plus an amount to amortize the UAAL.

Funding Policy to Calculate Statutory Contributions

Under Section 15-155 of the Illinois Pension Code, the employer/State contribution is determined such that the assets of SURS reach 90% of the AAL by the end of FY 2045.

This contribution is determined as a level percentage of pay for all years except that the contribution rates through 2010 shall grade in equal steps to the desired level contribution rate. We have assumed the contribution would be based on pensionable (capped) payroll for members hired on or after January 1, 2011 (“Tier 2 members”). Pensionable pay does not include amounts in excess of the pay cap (\$116,740 in fiscal year 2022 for Tier 2, increased by the lesser of 3% and 1/2 of the increase in CPI-U as measured in the preceding 12-month calendar year) that is applicable to members hired on or after January 1, 2011, participating in the defined benefit plans.

Public Act 100-0023 (Effective July 6, 2017) made the following changes to the SURS funding policy:

State Contributions

- Requires the State to make additional contributions to SURS in FY 2018, FY 2019 and FY 2020 equal to 2% of the total payroll of each employee who participates in the Optional Hybrid Plan or who participates in the Tier 2 plan in lieu of the Optional Hybrid Plan.
- Requires any change in an actuarial assumption that increases or decreases the required State contribution to be implemented in equal annual amounts over a five-year period beginning in the State fiscal year in which the change first applies to the required State contribution.
 - For changes that first applied in FY 2014, FY 2015, FY 2016 or FY 2017, the impact is calculated based on a five-year period and the applicable portion is recognized during the remaining fiscal years in that five-year period.

Employer Contributions

- Requires employers to contribute the employer normal cost of the portion of an employee's earnings that exceeds the amount of salary set for the governor, for academic years beginning on or after July 1, 2017. (Applicable to Tier 1 and Tier 2 employees.)

Public Act 100-0587 (Effective June 4, 2018) made the following changes to the SURS funding policy:

Employer Contributions

- For academic years beginning on or after July 1, 2018, and for earnings paid under a contract or collective bargaining agreement entered into, amended or renewed on or after the effective date of the amendatory Act (June 5, 2018), if a participant's earnings for any academic year with the same employer as the previous academic year used to determine the final average salary increased by more than 3%, then the participant's employer shall pay the System the present value of the increase in benefits resulting from the portion of the increase in earnings that is in excess of 3%. Prior to the effective date of Public Act 100-0587, the payment from employers was for pay increases in excess of 6%.

PA 101-0010 rescinded the change to 3% from PA 100-0587. Therefore, employers make contributions equal to the present value of the increase in benefit attributable to members who receive pay increases in excess of 6% during the final average salary (FAS) period.

The 6% employer billing rule is assumed to apply to all current and future Tier 1 and Tier 2 members.

Statutory Contributions Related to the Optional Hybrid Plan

SURS is currently not moving forward with the implementation of the Optional Hybrid Plan (OHP) created under PA 100-0023. Additional clarifying legislation is needed for SURS to be able to do so. Therefore, contributions related to the OHP are not included in the actuarial valuation, including contributions for employer normal cost, additional 2 percent of payroll contributions and unfunded liability contributions.

Phase In of the Financial Impact of Assumption Changes

Following is a table with the recognition schedule for the phase in of actuarial assumption changes required under Public Act 100-0023. The following actuarial assumption changes were made:

1. Beginning with the June 30, 2018 actuarial valuation there were changes to the economic and demographic actuarial assumptions.
2. Beginning with the June 30, 2021 actuarial valuation there were changes to the economic and demographic actuarial assumptions.

Valuation Year Ending 6/30	2021	2022	2023	2024	2025	2026
Applicable Fiscal Year Ending 6/30	2023	2024	2025	2026	2027	2028
	\$ in Millions					
	After Impact of Bonds					
Contribution Before Assumption Change:						
(1) Contribution Dollar	\$ 2,159.5	\$ 2,186.0				
(2) Contribution Rate	43.41%	42.24%				
Contribution After Assumption Change:						
(3) Contribution Dollar	2,146.5	2,186.0				
(4) Contribution Rate	42.98%	42.24%				
(5) Assumption Impact as Percentage of Payroll						
=(4)-(2)	-0.43%	0.00%				
(6) Assumption Change Impact Recognized						
This Year (5 year recognition)						
(6a) From This Year	-0.09%	0.00%				
(6b) From One Year Ago	0.00%	-0.09%	0.00%			
(6c) From Two Years Ago	0.00%	0.00%	-0.09%	0.00%		
(6d) From Three Years Ago	0.67%	0.00%	0.00%	-0.09%	0.00%	
(6e) From Four Years Ago	0.00%	0.68%	0.00%	0.00%	-0.07%	0.00%
(6f) Total Recognized Assumption Change Impact	0.58%	0.59%	-0.09%	-0.09%	-0.07%	0.00%

Contribution Related to Pay in Excess of Governor's Pay

Following is a table with the estimated contributions required under Public Act 100-0023 to be made by employers for pay in excess of the Governor's pay. (Information calculated and provided by SURS.)

\$ in Millions									
Contribution Year	Governor's Pay		Pay for Preceding Fiscal Year for Affected Members		Employer Normal Cost Rate	Excess Pay * ER NC Rate	Additional Adjustments ¹	Estimated Employer Contributions	
	Fiscal Year	Amount	Year of Member Pay	Excess Pay					
2018	2017	\$ 177,500	2016	\$ 46.831	12.46%	\$ 5.835	\$ (1.579)	\$ 4.256	
2019	2018	177,500	2017	47.193	12.29%	5.800	(1.654)	4.146	
2020	2019	177,500	2018	55.726	13.02%	7.256	(2.132)	5.124	
2021	2020	177,500	2019	60.295	12.70%	7.657	(2.128)	5.529	
2022	2021	181,700	2020	58.515	12.32%	7.209	(1.840)	5.369	
2023	2022	184,800	2021	54.838	12.83%	7.036	(1.988)	5.048	
2024	2023	190,700	2022	54.291	12.53%	6.803	(1.810)	4.993	

¹ Additional adjustments for members with pay in excess of the Governor's pay whose employers' already make normal cost contributions.

Asset Valuation Method

Prior to the actuarial valuation as of June 30, 2009, market value of assets was used. Under Section 15-155(I) of the Illinois Pension Code, beginning with the actuarial valuation as of June 30, 2009, the asset value is the actuarial value of assets which is calculated by recognizing 20% of the investment gain or loss (the difference between the actual investment return and the expected investment return) on the market value of assets for each of the five following fiscal years. This method was not applied retroactively to recognize a portion of investment gains or losses from previous fiscal years.

Following is a table with the investment return assumption used in recent actuarial valuations.

Valuation Date	Investment Return Assumption
Prior to June 30, 2010	8.50%
June 30, 2010 through June 30, 2013	7.75%
June 30, 2014 through June 30, 2017	7.25%
June 30, 2018 through June 30, 2020	6.75%
June 30, 2021	6.50%

Actuarial Assumptions

(Most Adopted Effective with the June 30, 2021 Actuarial Valuation)

Under Section 15-155(a) of the Illinois Pension Code, the Board adopts the assumptions after consultation with the actuary. All actuarial assumptions are expectations of future experience and are not market measures. The rationale for the actuarial assumptions may be found in the experience study report covering the period June 30, 2017 through June 30, 2020, issued to the Board of Trustees on June 1, 2021.

Rate of Investment Return. For all purposes under the system the rate of investment return is assumed to be 6.50% per annum beginning with the **June 30, 2021** actuarial valuation. This assumption is net of investment expenses.

Price Inflation (Increase in Consumer Price Index “CPI”). The assumed rate is 2.25% per annum.

Effective Rate of Interest. The actuarial valuation assumed rate credited to member accounts is 6.50% per annum, beginning with the June 30, 2021 actuarial valuation.

Cost of Living Adjustment “Automatic Annual Increase (AAI).” The assumed rate is 3.00% per annum based on the benefit provision of 3.00% annual compound increases for members hired before January 1, 2011, who have not elected the AAI buyout and 1.50% simple (non-compound) increases for members who have elected the buyout. The assumed rate is 1.125% for members hired on or after January 1, 2011, based on the benefit provision of increases equal to ½ of the increase in CPI-U with a maximum increase of 3.00%.

Annual Compensation Increases. Each member’s compensation is assumed to increase by 3.00% each year, 2.25% reflecting salary inflation and 0.75% reflecting standard of living increases. That rate is increased for members with less than 35 years of service to reflect merit, longevity and promotion increases. The rates are based on service at the beginning of the year and are as follows:

Service Year	Total Increase	
	Under Age 50	50 and Older
0	12.75%	12.00%
1	12.75%	12.00%
2	9.00%	8.25%
3	7.75%	7.00%
4	6.75%	6.00%
5	6.25%	5.50%
6	6.00%	5.25%
7	5.50%	4.75%
8-10	5.00%	4.25%
11-14	4.50%	3.75%
15-18	4.25%	3.50%
19	4.00%	3.25%
20-33	3.75%	3.25%
34+	3.50%	3.00%

Payroll Growth. The assumed rate of general wage inflation is 3.00%.



Mortality. The mortality assumptions are as follows:

Members classified as an employee type of academic:

Applicable Group	Base Mortality Table	Male Scaling Factor	Female Scaling Factor
Pre-retirement	Pub-2010 Employee Mortality Table (for Teachers)	101%	97%
Post-retirement (non-disabled)	Pub-2010 Healthy Retiree Mortality Table (for Teachers)	99%	105%
Post-retirement (disabled)	Pub-2010 Disabled Retiree Mortality Table (for Non-Safety Employees)	112%	110%

Members classified as an employee type of non-academic:

Applicable Group	Base Mortality Table	Male Scaling Factor	Female Scaling Factor
Pre-retirement	Pub-2010 Employee Mortality Table (for General Employees)	114%	105%
Post-retirement (non-disabled)	Pub-2010 Healthy Retiree Mortality Table (for General Employees)	99%	107%
Post-retirement (disabled)	Pub-2010 Disabled Retiree Mortality Table (for Non-Safety Employees)	112%	110%

Future mortality improvements are reflected by projecting the base mortality tables back from 2010 using the using the Society of Actuaries (SOA) MP-2020 projection scale. The assumptions are generational mortality tables and include a margin for improvement.

Following are the future life expectancies for post-retirement (non-disabled) mortality:

Age	Future Life Expectancy (years) in 2022				Future Life Expectancy (years) in 2035			
	Academic		Non-Academic		Academic		Non-Academic	
	Male	Female	Male	Female	Male	Female	Male	Female
35	53.50	55.24	51.10	53.42	54.48	56.13	52.30	54.46
40	48.25	49.98	45.83	48.12	49.23	50.88	47.03	49.17
45	43.02	44.74	40.59	42.84	43.99	45.64	41.77	43.88
50	37.81	39.51	35.48	37.67	38.78	40.41	36.63	38.70
55	32.69	34.38	30.59	32.72	33.65	35.27	31.70	33.72
60	27.72	29.44	25.87	27.89	28.65	30.29	26.92	28.84
65	22.96	24.63	21.37	23.20	23.82	25.42	22.32	24.07
70	18.43	19.96	17.12	18.71	19.19	20.67	17.93	19.48
75	14.23	15.54	13.19	14.51	14.87	16.17	13.87	15.17

Disability. A table of disability incidence with rates follows:

Age	Academic		Non-Academic	
	Male	Female	Male	Female
20	0.007410%	0.016400%	0.027170%	0.037720%
21	0.007590%	0.017350%	0.027830%	0.039905%
22	0.007770%	0.018300%	0.028490%	0.042090%
23	0.007950%	0.019250%	0.029150%	0.044275%
24	0.008130%	0.020200%	0.029810%	0.046460%
25	0.008310%	0.021150%	0.030470%	0.048645%
26	0.008490%	0.022100%	0.031130%	0.050830%
27	0.008670%	0.023050%	0.031790%	0.053015%
28	0.008850%	0.024050%	0.032450%	0.055315%
29	0.009000%	0.025000%	0.033000%	0.057500%
30	0.009450%	0.027050%	0.034650%	0.062215%
31	0.009900%	0.029100%	0.036300%	0.066930%
32	0.010350%	0.031150%	0.037950%	0.071645%
33	0.010770%	0.033200%	0.039490%	0.076360%
34	0.011220%	0.035250%	0.041140%	0.081075%
35	0.011850%	0.037250%	0.043450%	0.085675%
36	0.012450%	0.039300%	0.045650%	0.090390%
37	0.013080%	0.041350%	0.047960%	0.095105%
38	0.013710%	0.043400%	0.050270%	0.099820%
39	0.014310%	0.045450%	0.052470%	0.104535%
40	0.016080%	0.047500%	0.058960%	0.109250%
41	0.017850%	0.049550%	0.065450%	0.113965%
42	0.019620%	0.051600%	0.071940%	0.118680%
43	0.021390%	0.053650%	0.078430%	0.123395%
44	0.023160%	0.055700%	0.084920%	0.128110%
45	0.025350%	0.057750%	0.092950%	0.132825%
46	0.027570%	0.059800%	0.101090%	0.137540%
47	0.029790%	0.061850%	0.109230%	0.142255%
48	0.031980%	0.063900%	0.117260%	0.146970%
49	0.034200%	0.065950%	0.125400%	0.151685%
50	0.036420%	0.068000%	0.133540%	0.156400%
51	0.038610%	0.070050%	0.141570%	0.161115%
52	0.040830%	0.072100%	0.149710%	0.165830%
53	0.043050%	0.074150%	0.157850%	0.170545%
54	0.045240%	0.076200%	0.165880%	0.175260%
55 & Older	0.046560%	0.078250%	0.170720%	0.179975%

Disability rates apply during the retirement eligibility period.

Members are assumed to first receive disability benefits (DB) and then receive disability retirement annuity (DRA) benefits.



Retirement. Upon eligibility, active members are assumed to retire as follows:

Age	Tier 1					
	Normal (Unreduced) Retirement				Early (Reduced) Retirement	
	Academic		Non-Academic		Academic	Non-Academic
	Under 40 Years	40+ Years	Under 40 Years	40+ Years		
Under 50	55.0%		55.0%			
50	55.0%		40.0%			
51	40.0%		30.0%			
52	40.0%		30.0%			
53	30.0%		30.0%			
54	30.0%		30.0%			
55	20.0%	30.0%	25.0%	37.5%	4.0%	8.0%
56	20.0%	30.0%	25.0%	37.5%	4.0%	5.5%
57	20.0%	30.0%	25.0%	37.5%	4.0%	5.5%
58	20.0%	30.0%	25.0%	37.5%	4.0%	5.5%
59	20.0%	30.0%	25.0%	37.5%	4.0%	7.0%
60	13.0%	19.5%	20.0%	30.0%		
61	13.0%	19.5%	15.0%	22.5%		
62	13.0%	19.5%	15.0%	22.5%		
63	13.0%	19.5%	15.0%	22.5%		
64	13.0%	19.5%	15.0%	22.5%		
65	17.0%	25.5%	25.0%	37.5%		
66	17.0%	25.5%	25.0%	37.5%		
67	17.0%	25.5%	25.0%	37.5%		
68	17.0%	25.5%	25.0%	37.5%		
69	17.0%	25.5%	25.0%	37.5%		
70	17.0%	25.5%	20.0%	30.0%		
71-79	15.0%	22.5%	20.0%	30.0%		
80+	100.0%	100.0%	100.0%	100.0%		

Tier 2					
Age	Normal (Unreduced) Retirement			Early (Reduced) Retirement	
	Academic	Non-Academic	Police	Academic	Non-Academic
60			60.0%		
61			25.0%		
62			25.0%	25.0%	35.0%
63			25.0%	10.0%	15.0%
64			25.0%	10.0%	15.0%
65			15.0%	10.0%	15.0%
66			15.0%	10.0%	15.0%
67	35.0%	35.0%	15.0%		
68	17.0%	25.0%	25.0%		
69	17.0%	25.0%	25.0%		
70	17.0%	20.0%	20.0%		
71-79	15.0%	20.0%	20.0%		
80+	100.0%	100.0%	100.0%		

Members who retire are assumed to elect the most valuable option on a present value basis – refund of contributions (or portable lump sum retirement, if applicable) or a retirement annuity.

For purposes of the projections in the actuarial valuation, members of the Retirement Savings Plan are assumed to retire in accordance with the Tier 1 and Tier 2 retirement rates (based on hire date).

General Turnover. A table of termination rates based on the most recent experience study period. The assumption is a table of turnover rates by years of service. A sample of these rates follows:

Years of Service	Academic	Non-Academic
0	15.00%	15.00%
1	15.00	15.00
2	12.00	15.00
3	11.00	14.00
4	10.00	12.00
5	9.00	10.00
6	8.00	9.00
7	7.00	8.00
8	6.00	7.00
9	5.00	6.00
10	4.00	5.00
11	4.00	5.00
12	3.00	3.50
13	3.00	3.50
14	3.00	3.50
15	2.50	3.00
16	2.50	3.00
17	2.50	3.00
18	2.50	3.00
19	2.50	3.00
20	2.00	2.00
21	2.00	2.00
22	2.00	2.00
23	2.00	2.00
24	2.00	2.00
25	1.50	1.50
26	1.50	1.50
27	1.50	1.50
28	1.50	1.50
29	1.50	1.50

A termination rate of 100 percent is assumed at three years of service for members classified as part time for valuation purposes.

Members who terminate with at least five years of service (10 years of service for Tier 2 members) are assumed to elect the most valuable option on a present value basis – refund of contributions or a deferred benefit.

Termination rate for 29 years of service used for Tier 2 members until retirement eligibility is met.



Operational Expenses. The amount of operational expenses for administration incurred in the latest fiscal year are supplied by SURS staff and incorporated in the Normal Cost. Estimated administrative expenses for FY 2021 and after are assumed to increase by 3.00%.

Marital Status. Members are assumed to be married in the following proportions:

Age	Males	Females
20-24	10 %	25 %
25-29	35	45
30-34	60	65
35-39	70	70
40-44	75	75
45-49	80	75
50-54	80	75
55-59	80	75
60-64	80	70
65-69	80	70
70-74	80	70
75-79	80	70
80-84	80	70
85-89	80	70

Spouse Age. The female spouse is assumed to be three years younger than the male spouse.

Benefit Commencement Age. Inactive members eligible for a deferred benefit are assumed to commence benefits at their earliest normal retirement age. For Tier 1 members this is age 62 with at least five years of service, age 60 with at least eight years of service or immediately if at least 30 years of service. For Tier 2 members, this is age 67 with 10 or more years of service.

Load on Final Average Salary. No load is assumed to account for higher than assumed pay increases in final years of employment before retirement.

Load on Liabilities for Service Retirees with Non-finalized Benefits. A load of 10% on liabilities for service retirees whose benefits have not been finalized as of the valuation date is assumed to account for finalized benefits that on average are 10% higher than 100% of the preliminary estimated benefit. A load of 5% is used if a “best formula” benefit was provided in the data by Staff.

Valuation of Inactives. An annuity benefit is estimated based on information provided by staff for Tier 1 inactive members with five or more years of service and Tier 2 members with 10 or more years of service.

Assumption for Missing Data. Members with an unknown gender are assumed to be female. Active and inactive members with an unknown date of birth are assumed to be 37 years old at the valuation date. An assumed spouse date of birth is calculated for current service retirees in the traditional plan for purposes of calculating future survivor benefits. The female spouse is assumed to be three years younger than the male spouse. 70% of current total male retirees and 80% of current total female retirees in the traditional plan who have not elected a survivor refund are assumed to have a spouse at the valuation date.

Reciprocal Service. Reciprocal service is included for current inactive members for purposes of determining vesting eligibility and eligibility age to commence benefits.

The recently updated actuarial assumptions (including retirement and termination rates) were based on SURS service only. Therefore, reciprocal service was not included for current active members.

Projection Assumptions. The number of total active members throughout the projection period will remain the same as the total number of active members in the defined benefit plans and the RSP in the current valuation.

Future new hires are assumed to elect to participate in the offered plans as follows:

- Academic
 - 45% elect to participate in the Retirement Savings Plan
 - 55% elect to participate in the Tier 2 Plan
- Non-Academic
 - 25% elect to participate in the Retirement Savings Plan
 - 75% elect to participate in the Tier 2 Plan

New entrants have an average age of 36.8 and average capped pay of \$43,292 and average uncapped pay of \$45,565 (2021 dollars). These values are based on the average age and average pay of current members. The new entrant data is based on the age at hire and assumed pay at hire (using the actuarial assumptions, inflated to 2021 dollars) of current active members with service between one and four years.

Academic

Summary of New Entrants - Academic									
Age	Number Males	Average Pay		Number Females	Average Pay		Total Number	Average Pay	
		Tier 2			Tier 2			Tier 2	
		Capped Male	Uncapped Male		Capped Female	Uncapped Female		Capped Total	Uncapped Total
<20	2	\$46,423	\$46,423	2	\$34,714	\$34,714	4	\$40,568	\$40,568
20 - 24	74	28,716	28,716	96	30,642	30,642	170	29,804	29,804
25 - 29	308	45,082	48,422	393	42,895	44,061	701	43,856	45,977
30 - 34	427	59,409	66,698	574	51,395	56,549	1,001	54,814	60,878
35 - 39	424	53,116	61,094	475	47,854	51,967	899	50,336	56,272
40 - 44	266	52,270	62,487	300	43,204	47,122	566	47,465	54,343
45 - 49	191	43,273	49,475	212	40,229	44,675	403	41,672	46,950
50 - 54	141	45,309	54,497	151	39,231	43,161	292	42,166	48,635
55 - 59	122	44,509	52,812	130	33,093	36,664	252	38,620	44,482
60 - 64	90	33,655	44,608	79	30,968	35,193	169	32,399	40,207
65 - 69	10	23,525	25,224	2	8,223	8,223	12	20,975	22,391
Total	2,055	\$49,267	\$56,438	2,414	\$44,026	\$47,704	4,469	\$46,436	\$51,721

Non-Academic

Summary of New Entrants - Non-Academic									
Age	Number Males	Average Pay Tier 2		Number Females	Average Pay Tier 2		Total Number	Average Pay Tier 2	
		Capped Male	Uncapped Male		Capped Female	Uncapped Female		Capped Total	Uncapped Total
<20	45	\$21,401	\$21,401	47	\$19,229	\$19,229	92	\$20,291	\$20,291
20 - 24	646	32,652	32,652	1,094	30,919	30,919	1,740	31,562	31,562
25 - 29	1,239	41,746	41,818	1,866	40,292	40,390	3,105	40,872	40,960
30 - 34	976	47,297	48,817	1,449	43,226	43,898	2,425	44,865	45,878
35 - 39	598	50,844	52,562	1,089	43,879	44,588	1,687	46,347	47,414
40 - 44	466	50,584	52,709	794	44,319	45,626	1,260	46,636	48,246
45 - 49	419	49,900	53,695	719	42,414	44,169	1,138	45,170	47,676
50 - 54	353	48,657	52,190	553	40,681	42,475	906	43,789	46,260
55 - 59	253	50,351	58,875	423	39,922	42,725	676	43,825	48,769
60 - 64	120	49,463	59,239	165	38,119	42,040	285	42,895	49,282
65 - 69	4	66,862	66,862	5	20,099	20,099	9	40,882	40,882
Total	5,119	\$45,115	\$47,021	8,204	\$40,443	\$41,302	13,323	\$42,238	\$43,500

RSP Contribution Assumptions. The projected RSP contributions are equal to 7.6% of RSP payroll, plus estimated RSP expenses minus RSP employer forfeitures. Estimated RSP expenses for FY 2022 are \$1,043,478 and actual FY 2021 RSP employer forfeitures used to reduce the certified contributions for FY 2023 are \$7,175,000 (as provided by SURS). Estimated RSP expenses for FY 2023 and after are assumed to increase by 3.00%. Estimated RSP employer forfeitures used to reduce the certified contributions for FY 2024 and after are assumed to be 7.5% of the gross RSP employer contribution.

Pensionable Earnings Greater than 6%. The participant's employer is required to pay the present value of the increase in benefits resulting from the portion of the increase in excess of 6.00% for earnings used in the calculation of the final average salary. The projections include a component paid for by employers for earnings increases greater than 6.00% in the calculation of the final average salary.

Governor's Pay. The governor's pay is \$190,700 as of June 30, 2022 and is expected to increase each year by the assumed rate of increase in the Tier 2 pay cap (1/2 the increase in CPI or 1.125%).

Buyout Election Assumption. 0% of eligible Tier 1 active members are assumed to elect to receive a reduced and delayed AAI benefit at retirement and an accelerated pension benefit option in accordance with Public Acts 100-0587 and 101-0010. 0% of eligible inactive members are assumed to elect to receive an accelerated pension benefit option in lieu of an annuity at retirement in accordance with Public Acts 100-0587, 101-0010 and 102-0718.

	Through 5/31/2020			Through 6/30/2021		
	AAI	VIB	Total	AAI	VIB	Total
Number Eligible for the buyout*	2,454	23,669	26,123	5,765	23,669	29,434
Buyout applications received	80	59	139	221	94	315
Buyout election forms sent	22	31	53	106	67	173
Buyout election forms approved	14	19	33	72	42	114
Application %	3.3%	0.2%	0.5%	3.8%	0.4%	1.1%
Approved %	0.6%	0.1%	0.1%	1.2%	0.2%	0.4%
Approved buyout amount**	\$1.4	\$3.0	\$4.3	\$6.8	\$17.5	\$24.3
Estimated Approved buyout (non EBA)	\$1.4	\$3.0	\$4.3	\$6.8	\$ 9.1	\$15.9
Estimated Liability Reduction	\$2.0	\$4.9	\$6.9	\$9.6	\$15.2	\$24.8

* Number eligible for the VIB buyout is the number of vested Tier 1 inactive members included in the actuarial valuation as of June 30, 2019 who are in the Traditional or Portable Plan.

** Includes amounts attributable to benefits that would have been payable from the Excess Benefit Arrangement (EBA). There was one \$11.2 million VIB buyout of which \$8.4 million was payable from the EBA.

Treatment of Benefits in Excess of the Internal Revenue Code Section 415 Limits. The benefit amounts in excess of the IRC Section 415 limits for current retirees are paid through the Excess Benefit Arrangement (EBA) and are not reported in the actuarial valuation data. Therefore, the liabilities and the required contributions for these EBA benefits are not reflected in the actuarial valuation results. The amount of the estimated EBA payments for the upcoming fiscal year are provided by SURS Staff and included in the Statutory contribution requirement. Following are the estimates:

Valuation Year	Applicable Fiscal Year	Estimated EBA Payments
2018	2020	\$17.065 million
2019	2021	\$18.000 million
2020	2022	\$21.500 million
2021	2023	\$24.200 million
2022	2024	\$17.300 million

Estimated Federal/Trust Fund Employer Contributions. Following are the estimated employer contributions provided by SURS that reduce the estimated State contributions.

Valuation Year	Applicable Fiscal Year	Estimated Federal/Trust Fund Payments
2018	2020	\$52.0 million
2019	2021	\$52.5 million
2020	2022	\$57.0 million
2021	2023	\$62.0 million
2022	2024	\$65.5 million



SECTION G

CALCULATION OF THE SINGLE DISCOUNT RATE

Calculation of the Single Discount Rate

GASB Statement No. 67 includes a specific requirement for the discount rate that is used for the purpose of the measurement of the Total Pension Liability. This rate considers the ability of the Fund to meet benefit obligations in the future. To make this determination, employer contributions, employee contributions, benefit payments, expenses and investment returns are projected into the future. The Plan Net Position (assets) in future years can then be determined and compared to its obligation to make benefit payments in those years. As long as assets are projected to be on hand in a future year, the assumed valuation discount rate is used. In years where assets are not projected to be sufficient to meet benefit payments, the use of a municipal bond rate is required, as described in the following paragraph.

The Single Discount Rate (SDR) is equivalent to applying these two rates to the benefits that are projected to be paid during the different time periods. The SDR reflects (1) the long-term expected rate of return on pension plan investments (during the period in which the fiduciary net position is projected to be sufficient to pay benefits) and (2) a tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is 6.50%; the municipal bond rate is 3.69%; and the resulting Single Discount Rate is 6.39%.

The tables in this section provide detailed information on the development of the Single Discount Rate.

The **Projection of Contributions** table shows the development of expected contributions in future years. Normal Cost contributions for future hires are not included (nor are their liabilities).

The **Projection of Plan Fiduciary Net Position** table shows the development of expected asset levels in future years.

The **Present Values of Projected Benefit Payments** table shows the development of the Single Discount Rate (SDR). It breaks down the benefit payments into present values for funded and unfunded portions and shows the equivalent total at the SDR.

As shown on page 54, the sum of the present value of (1) the funded portion of projected benefit payments using the expected 6.50% rate of return on assets plus (2) the present value of the unfunded projected benefit payments using a tax-exempt municipal bond rate of 3.69% is equal to the present value of all projected benefit payments using a single equivalent discount rate of 6.39%.

Single Discount Rate Development

Projection of Contributions Ending June 30 for 2022 to 2081

Year Ending June 30,	Projected Contributions from Current Employees	Projected Service Cost and Expense Contributions	Projected UAL Contributions	Projected Total Contributions
2022	\$ 277,897,428	\$ 407,588,517	\$ 1,665,871,049	\$ 2,351,356,994
2023	261,421,919	381,428,199	1,695,168,193	2,338,018,310
2024	246,161,511	356,596,444	1,724,946,429	2,327,704,384
2025	232,608,953	333,018,177	1,728,792,777	2,294,419,907
2026	220,315,487	311,161,892	1,732,427,620	2,263,904,998
2027	208,918,124	290,818,322	1,726,631,308	2,226,367,755
2028	198,172,181	271,698,021	1,783,912,002	2,253,782,204
2029	187,767,994	253,458,705	1,842,153,180	2,283,379,879
2030	177,750,073	235,729,078	1,901,384,392	2,314,863,543
2031	167,930,151	218,588,223	1,960,862,488	2,347,380,862
2032	158,483,470	201,884,802	2,021,690,412	2,382,058,684
2033	149,505,329	185,934,760	2,084,763,096	2,420,203,184
2034	140,868,711	170,878,450	2,148,762,479	2,460,509,639
2035	132,383,115	156,563,574	2,213,399,956	2,502,346,645
2036	124,007,681	142,861,097	2,278,306,849	2,545,175,627
2037	115,701,189	129,724,827	2,344,253,866	2,589,679,882
2038	107,631,096	117,070,396	2,411,319,771	2,636,021,263
2039	100,020,422	105,092,292	2,479,528,317	2,684,641,031
2040	92,791,906	94,052,275	2,548,993,077	2,735,837,257
2041	86,272,058	83,914,392	2,620,427,588	2,790,614,038
2042	80,266,967	75,040,872	2,692,641,569	2,847,949,409
2043	74,736,625	67,167,335	2,765,900,754	2,907,804,713
2044	69,464,957	60,238,794	2,839,727,585	2,969,431,336
2045	64,442,960	53,992,383	2,914,460,267	3,032,895,610
2046	59,654,212	48,365,491	415,077,273	523,096,976
2047	54,960,115	43,299,525	414,300,759	512,560,399
2048	50,292,499	38,659,942	413,500,975	502,453,416
2049	45,702,408	34,367,250	412,665,237	492,734,896
2050	41,170,956	30,398,775	411,940,734	483,510,465
2051	36,630,960	26,733,323	411,262,810	474,627,093
2052	32,204,536	23,295,259	410,618,631	466,118,426
2053	27,875,168	20,138,930	410,136,908	458,151,005
2054	23,813,671	17,170,498	409,809,247	450,793,416
2055	20,013,704	14,496,079	409,821,706	444,331,490
2056	16,492,343	12,070,175	410,131,885	438,694,404
2057	13,268,901	9,880,792	410,661,855	433,811,548
2058	10,364,964	7,915,649	411,364,383	429,644,995
2059	7,836,929	6,170,014	412,229,653	426,236,596
2060	5,700,446	4,674,681	413,238,083	423,613,210
2061	4,023,271	3,404,003	414,469,139	421,896,413
2062	2,806,497	2,394,171	416,013,225	421,213,893
2063	1,928,433	1,666,337	417,661,293	421,256,063
2064	1,321,190	1,139,436	419,385,011	421,845,637
2065	892,991	779,343	421,223,456	422,895,791
2066	601,644	524,861	423,171,736	424,298,242
2067	407,354	352,044	425,212,298	425,971,695
2068	271,321	238,045	427,386,236	427,895,602
2069	179,520	157,926	429,688,778	430,026,225
2070	116,990	103,972	432,124,074	432,345,036
2071	74,679	67,512	434,713,002	434,855,193
2072	47,384	42,762	437,474,634	437,564,780
2073	29,945	26,646	440,435,868	440,492,459
2074	18,010	16,608	443,629,853	443,664,472
2075	10,175	9,599	447,090,944	447,110,719
2076	5,380	5,070	450,852,560	450,863,010
2077	2,759	2,597	454,951,812	454,957,167
2078	1,130	1,296	459,415,901	459,418,327
2079	450	489	464,269,262	464,270,200
2080	156	201	469,528,784	469,529,141
2081	30	68	475,201,983	475,202,080

The projections in this report are strictly for the purpose of determining the GASB single discount rate and are different from a funding projection for the ongoing plan.



Single Discount Rate Development

Projection of Plan Fiduciary Net Position Ending June 30 for 2022 to 2081

Year Ending June 30,	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 6.500%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
2022	\$ 23,768,313,260	\$ 2,351,356,994	\$ 3,045,763,801	\$ 23,371,000	\$ 1,521,979,818	\$ 24,572,515,272
2023	24,572,515,272	2,338,018,310	3,112,813,168	22,501,974	1,571,709,265	25,346,927,706
2024	25,346,927,706	2,327,704,384	3,209,695,524	21,605,247	1,618,645,723	26,061,977,043
2025	26,061,977,043	2,294,419,907	3,308,526,032	20,746,486	1,660,925,257	26,688,049,689
2026	26,688,049,689	2,263,904,998	3,401,499,363	19,964,110	1,697,694,819	27,228,186,033
2027	27,228,186,033	2,226,367,755	3,490,468,255	19,225,692	1,728,780,576	27,673,640,417
2028	27,673,640,417	2,253,782,204	3,576,642,214	18,503,814	1,755,878,582	28,088,155,176
2029	28,088,155,176	2,283,379,879	3,657,849,593	17,787,770	1,781,194,036	28,477,091,728
2030	28,477,091,728	2,314,863,543	3,741,161,332	17,079,608	1,804,839,669	28,838,554,000
2031	28,838,554,000	2,347,380,862	3,822,758,763	16,374,590	1,826,787,276	29,173,588,786
2032	29,173,588,786	2,382,058,684	3,901,240,795	15,670,039	1,847,185,850	29,485,922,486
2033	29,485,922,486	2,420,203,184	3,969,419,435	14,974,055	1,866,549,060	29,788,281,240
2034	29,788,281,240	2,460,509,639	4,029,656,788	14,294,980	1,885,586,545	30,090,425,655
2035	30,090,425,655	2,502,346,645	4,084,581,331	13,621,010	1,904,828,842	30,399,398,800
2036	30,399,398,800	2,545,175,627	4,132,363,551	12,941,062	1,924,775,401	30,724,045,215
2037	30,724,045,215	2,589,679,882	4,095,760,222	12,251,327	1,948,493,981	31,154,207,529
2038	31,154,207,529	2,636,021,263	4,126,918,333	11,557,699	1,976,962,407	31,628,715,166
2039	31,628,715,166	2,684,641,031	4,146,533,883	10,876,562	2,008,754,990	32,164,700,741
2040	32,164,700,741	2,735,837,257	4,157,950,924	10,218,244	2,044,887,582	32,777,256,413
2041	32,777,256,413	2,790,614,038	4,156,777,067	9,594,838	2,086,513,412	33,488,011,958
2042	33,488,011,958	2,847,949,409	4,143,023,364	9,018,922	2,135,004,969	34,318,924,049
2043	34,318,924,049	2,907,804,713	4,118,443,391	8,480,840	2,191,732,414	35,291,536,945
2044	35,291,536,945	2,969,431,336	4,084,141,514	7,970,868	2,258,037,162	36,426,893,061
2045	36,426,893,061	3,032,895,610	4,040,607,076	7,478,219	2,335,273,784	37,746,977,159
2046	37,746,977,159	523,096,976	3,991,008,148	7,002,489	2,342,396,684	36,614,460,183
2047	36,614,460,183	512,560,399	3,935,039,824	6,536,507	2,270,251,275	35,455,695,526
2048	35,455,695,526	502,453,416	3,875,574,223	6,068,908	2,196,525,431	34,273,031,242
2049	34,273,031,242	492,734,896	3,813,265,520	5,598,058	2,121,349,589	33,068,252,149
2050	33,068,252,149	483,510,465	3,749,459,626	5,125,774	2,044,800,028	31,841,977,242
2051	31,841,977,242	474,627,093	3,684,997,227	4,646,886	1,966,885,360	30,593,845,581
2052	30,593,845,581	466,118,426	3,620,260,183	4,163,141	1,887,570,931	29,323,111,613
2053	29,323,111,613	458,151,005	3,555,776,779	3,680,540	1,806,796,515	28,028,601,814
2054	28,028,601,814	450,793,416	3,490,435,244	3,207,895	1,724,523,309	26,710,275,401
2055	26,710,275,401	444,331,490	3,424,469,156	2,756,473	1,640,749,974	25,368,131,235
2056	25,368,131,235	438,694,404	3,357,286,286	2,327,609	1,555,493,071	24,002,704,814
2057	24,002,704,814	433,811,548	3,287,413,303	1,924,390	1,468,832,180	22,616,010,850
2058	22,616,010,850	429,644,995	3,214,039,536	1,550,262	1,380,922,866	21,210,988,914
2059	21,210,988,914	426,236,596	3,136,446,965	1,211,452	1,291,980,309	19,791,547,402
2060	19,791,547,402	423,613,210	3,052,774,861	914,482	1,202,318,727	18,363,789,995
2061	18,363,789,995	421,896,413	2,962,947,091	666,660	1,112,340,950	16,934,413,607
2062	16,934,413,607	421,213,893	2,867,118,185	475,276	1,022,481,185	15,510,515,225
2063	15,510,515,225	421,256,063	2,764,840,694	334,545	933,205,331	14,099,801,379
2064	14,099,801,379	421,845,637	2,656,566,127	233,104	844,994,563	12,709,842,348
2065	12,709,842,348	422,895,791	2,543,585,717	161,309	758,297,174	11,347,288,288
2066	11,347,288,288	424,298,242	2,426,763,821	110,595	673,514,587	10,018,226,700
2067	10,018,226,700	425,971,695	2,306,572,117	75,840	591,024,964	8,728,575,402
2068	8,728,575,402	427,895,602	2,184,374,669	51,841	511,168,837	7,483,213,332
2069	7,483,213,332	430,026,225	2,060,948,598	35,001	434,237,195	6,286,493,153
2070	6,286,493,153	432,345,036	1,936,784,755	23,404	360,496,729	5,142,526,760
2071	5,142,526,760	434,855,193	1,812,526,601	15,384	290,194,282	4,055,034,249
2072	4,055,034,249	437,564,780	1,688,722,269	9,962	223,554,416	3,027,421,214
2073	3,027,421,214	440,492,459	1,565,962,479	6,419	160,780,220	2,062,724,995
2074	2,062,724,995	443,664,472	1,444,905,508	4,051	102,048,924	1,163,528,833
2075	1,163,528,833	447,110,719	1,326,211,934	2,424	47,508,280	331,933,474
2076	331,933,474	450,863,010	1,210,536,966	1,362	0	0
2077	0	454,957,167	1,098,532,247	725	0	0
2078	0	459,418,327	990,834,118	354	0	0
2079	0	464,270,200	888,029,579	146	0	0
2080	0	469,529,141	790,637,775	57	0	0
2081	0	475,202,080	699,098,961	18	0	0

The projections in this report are strictly for the purpose of determining the GASB single discount rate and are different from a funding projection for the ongoing plan.



Single Discount Rate Development

Present Values of Projected Benefits Ending June 30 for 2022 to 2121

Year Ending June 30,	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Projected Benefit Payments	Unfunded Portion of Projected Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate of 6.50% (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate of 3.69% (vf)	Present Value of All Benefit Payments using Single Discount Rate (SDR) of 6.39% (h)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v ^a ((a)-.5)	(g)=(e)*vf ^a ((a)-.5)	(h)=(c)/((1+SDR) ^a ((a)-.5)
2022	\$ 23,768,313,260	\$ 3,045,763,801	\$ 3,045,763,801	\$ 0	\$ 2,951,354,766	\$ 0	\$ 2,952,924,093
2023	24,572,515,272	3,112,813,168	3,112,813,168	0	2,832,230,813	0	2,836,751,169
2024	25,346,927,706	3,209,695,524	3,209,695,524	0	2,742,141,220	0	2,749,439,382
2025	26,061,977,043	3,308,526,032	3,308,526,032	0	2,654,061,174	0	2,663,955,670
2026	26,688,049,689	3,401,499,363	3,401,499,363	0	2,562,106,386	0	2,574,393,656
2027	27,228,186,033	3,490,468,255	3,490,468,255	0	2,468,657,554	0	2,483,135,279
2028	27,673,640,417	3,576,642,214	3,576,642,214	0	2,375,215,658	0	2,391,686,822
2029	28,088,155,176	3,657,849,593	3,657,849,593	0	2,280,887,081	0	2,299,147,221
2030	28,477,091,728	3,741,161,332	3,741,161,332	0	2,190,457,195	0	2,210,342,119
2031	28,838,554,000	3,822,758,763	3,822,758,763	0	2,101,626,900	0	2,122,961,314
2032	29,173,588,786	3,901,240,795	3,901,240,795	0	2,013,872,054	0	2,036,479,626
2033	29,485,922,486	3,969,419,435	3,969,419,435	0	1,924,006,356	0	1,947,674,729
2034	29,788,281,240	4,029,656,788	4,029,656,788	0	1,833,994,213	0	1,858,530,193
2035	30,090,425,655	4,084,581,331	4,084,581,331	0	1,745,532,113	0	1,770,766,249
2036	30,399,398,800	4,132,363,551	4,132,363,551	0	1,658,170,596	0	1,683,931,166
2037	30,724,045,215	4,095,760,222	4,095,760,222	0	1,543,176,508	0	1,568,817,631
2038	31,154,207,529	4,126,918,333	4,126,918,333	0	1,460,015,097	0	1,485,853,315
2039	31,628,715,166	4,146,533,883	4,146,533,883	0	1,377,422,213	0	1,403,289,922
2040	32,164,700,741	4,157,950,924	4,157,950,924	0	1,296,915,304	0	1,322,676,604
2041	32,777,256,413	4,156,777,067	4,156,777,067	0	1,217,417,056	0	1,242,919,985
2042	33,488,011,958	4,143,023,364	4,143,023,364	0	1,139,332,335	0	1,164,436,862
2043	34,318,924,049	4,118,443,391	4,118,443,391	0	1,063,448,673	0	1,088,037,312
2044	35,291,536,945	4,084,141,514	4,084,141,514	0	990,226,642	0	1,014,199,973
2045	36,426,893,061	4,040,607,076	4,040,607,076	0	919,879,282	0	943,151,713
2046	37,746,977,159	3,991,008,148	3,991,008,148	0	853,133,948	0	875,648,236
2047	36,614,460,183	3,935,039,824	3,935,039,824	0	789,830,924	0	811,536,990
2048	35,455,695,526	3,875,574,223	3,875,574,223	0	730,417,976	0	751,289,591
2049	34,273,031,242	3,813,265,520	3,813,265,520	0	674,812,056	0	694,833,077
2050	33,068,252,149	3,749,459,626	3,749,459,626	0	623,024,119	0	642,191,044
2051	31,841,977,242	3,684,997,227	3,684,997,227	0	574,941,604	0	593,259,708
2052	30,593,845,581	3,620,260,183	3,620,260,183	0	530,367,309	0	547,847,390
2053	29,323,111,613	3,555,776,779	3,555,776,779	0	489,127,234	0	505,785,561
2054	28,028,601,814	3,490,435,244	3,490,435,244	0	450,834,697	0	466,684,791
2055	26,710,275,401	3,424,469,156	3,424,469,156	0	415,318,616	0	430,377,389
2056	25,368,131,235	3,357,286,286	3,357,286,286	0	382,319,904	0	396,603,634
2057	24,002,704,814	3,287,413,303	3,287,413,303	0	351,514,490	0	365,035,201
2058	22,616,010,850	3,214,039,536	3,214,039,536	0	322,693,733	0	335,462,344
2059	21,210,988,914	3,136,446,965	3,136,446,965	0	295,683,886	0	307,710,727
2060	19,791,547,402	3,052,774,861	3,052,774,861	0	270,230,819	0	281,521,514
2061	18,363,789,995	2,962,947,091	2,962,947,091	0	246,271,633	0	256,834,189
2062	16,934,413,607	2,867,118,185	2,867,118,185	0	223,762,075	0	233,607,434
2063	15,510,515,225	2,764,840,694	2,764,840,694	0	202,610,240	0	211,749,942
2064	14,099,801,379	2,656,566,127	2,656,566,127	0	182,794,153	0	191,243,174
2065	12,709,842,348	2,543,585,717	2,543,585,717	0	164,338,167	0	172,117,019
2066	11,347,288,288	2,426,763,821	2,426,763,821	0	147,221,069	0	154,353,711
2067	10,018,226,700	2,306,572,117	2,306,572,117	0	131,389,265	0	137,901,416
2068	8,728,575,402	2,184,374,669	2,184,374,669	0	116,834,302	0	122,755,496
2069	7,483,213,332	2,060,948,598	2,060,948,598	0	103,504,872	0	108,866,209
2070	6,286,493,153	1,936,784,755	1,936,784,755	0	91,332,507	0	96,165,528
2071	5,142,526,760	1,812,526,601	1,812,526,601	0	80,256,239	0	84,593,029

The projections in this report are strictly for the purpose of determining the GASB single discount rate and are different from a funding projection for the ongoing plan.



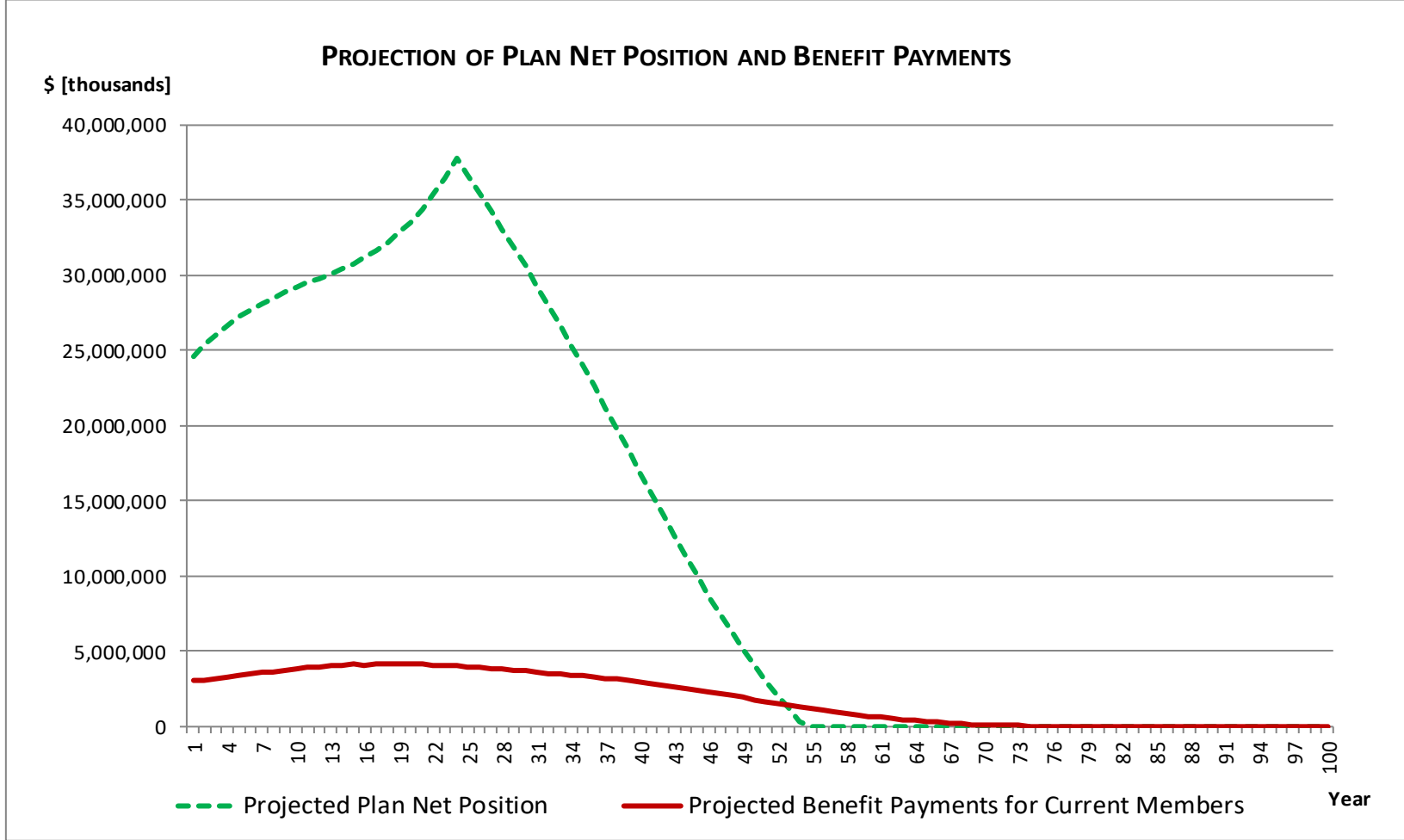
Single Discount Rate Development

Present Values of Projected Benefits Ending June 30 for 2022 to 2121 (Concluded)

Year Ending June 30,	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Projected Benefit Payments	Unfunded Portion of Projected Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate of 3.69% (vf)	Present Value of All Benefit Payments using Single Discount Rate (SDR) of 6.39% (h)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v^((a)-.5)	(g)=(e)*vf ^((a)-.5)	(h)=((c)/(1+SDR)^(a-.5))
2072	\$ 4,055,034,249	\$ 1,688,722,269	\$ 1,688,722,269	\$ 0	\$ 70,210,657	\$ 0	\$ 74,083,338
2073	3,027,421,214	1,565,962,479	1,565,962,479	0	61,133,119	0	64,573,718
2074	2,062,724,995	1,444,905,508	1,444,905,508	0	52,964,520	0	56,004,898
2075	1,163,528,833	1,326,211,934	1,326,211,934	0	45,646,651	0	48,318,297
2076	331,933,474	1,210,536,966	342,551,486	867,985,481	11,070,627	120,462,758	41,456,141
2077	0	1,098,532,247	0	1,098,532,247	0	147,033,494	35,361,913
2078	0	990,834,118	0	990,834,118	0	127,899,116	29,980,303
2079	0	888,029,579	0	888,029,579	0	110,549,593	25,256,585
2080	0	790,637,775	0	790,637,775	0	94,922,770	21,136,685
2081	0	699,098,961	0	699,098,961	0	80,945,857	17,567,505
2082	0	613,752,780	0	613,752,780	0	68,535,024	14,496,963
2083	0	534,833,511	0	534,833,511	0	57,597,128	11,874,472
2084	0	462,469,260	0	462,469,260	0	48,031,729	9,651,408
2085	0	396,684,018	0	396,684,018	0	39,733,166	7,781,524
2086	0	337,404,065	0	337,404,065	0	32,592,818	6,221,318
2087	0	284,466,596	0	284,466,596	0	26,501,228	4,930,324
2088	0	237,630,714	0	237,630,714	0	21,350,125	3,871,318
2089	0	196,589,799	0	196,589,799	0	17,034,208	3,010,436
2090	0	160,984,178	0	160,984,178	0	13,452,633	2,317,201
2091	0	130,414,928	0	130,414,928	0	10,510,286	1,764,493
2092	0	104,456,703	0	104,456,703	0	8,118,703	1,328,438
2093	0	82,668,266	0	82,668,266	0	6,196,583	988,225
2094	0	64,602,687	0	64,602,687	0	4,670,111	725,905
2095	0	49,817,543	0	49,817,543	0	3,473,138	526,167
2096	0	37,883,424	0	37,883,424	0	2,547,136	376,099
2097	0	28,391,216	0	28,391,216	0	1,840,984	264,941
2098	0	20,958,699	0	20,958,699	0	1,310,670	183,841
2099	0	15,235,129	0	15,235,129	0	918,837	125,613
2100	0	10,904,472	0	10,904,472	0	634,249	84,510
2101	0	7,687,725	0	7,687,725	0	431,237	56,003
2102	0	5,343,941	0	5,343,941	0	289,097	36,592
2103	0	3,669,702	0	3,669,702	0	191,459	23,619
2104	0	2,497,421	0	2,497,421	0	125,661	15,109
2105	0	1,692,612	0	1,692,612	0	82,135	9,625
2106	0	1,150,204	0	1,150,204	0	53,828	6,148
2107	0	790,440	0	790,440	0	35,675	3,972
2108	0	554,539	0	554,539	0	24,138	2,619
2109	0	400,409	0	400,409	0	16,808	1,778
2110	0	298,812	0	298,812	0	12,097	1,247
2111	0	230,143	0	230,143	0	8,986	903
2112	0	181,764	0	181,764	0	6,844	670
2113	0	145,935	0	145,935	0	5,300	506
2114	0	117,993	0	117,993	0	4,132	384
2115	0	95,200	0	95,200	0	3,215	291
2116	0	76,063	0	76,063	0	2,478	219
2117	0	59,812	0	59,812	0	1,879	162
2118	0	46,073	0	46,073	0	1,396	117
2119	0	34,632	0	34,632	0	1,012	83
2120	0	25,327	0	25,327	0	714	57
2121	0	0	0	0	0	0	0
Totals	\$ 55,027,738,599	\$ 1,048,160,433	\$ 56,075,899,032		\$	\$	\$

The projections in this report are strictly for the purpose of determining the GASB single discount rate and are different from a funding projection for the ongoing plan.





Year 1 is the year beginning June 30, 2021, and ending June 30, 2022.

The projections in this report are strictly for the purpose of determining the GASB single discount rate and are different from a funding projection for the ongoing plan.

SECTION H

GLOSSARY OF TERMS

Glossary of Terms

<i>Accrued Service</i>	Service credited under the system that was rendered before the date of the actuarial valuation.
<i>Actuarial Accrued Liability (AAL)</i>	The AAL is the difference between the actuarial present value of all benefits and the actuarial value of future normal costs. The definition comes from the fundamental equation of funding which states that the present value of all benefits is the sum of the Actuarial Accrued Liability and the present value of future normal costs. The AAL may also be referred to as "accrued liability" or "actuarial liability."
<i>Actuarial Assumptions</i>	These assumptions are estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and compensation increases. Actuarial assumptions are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (compensation increases, payroll growth, inflation and investment return) consist of an underlying real rate of return plus an assumption for a long-term average rate of inflation.
<i>Actuarial Cost Method</i>	A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of the pension trust benefits between future normal cost and actuarial accrued liability. The actuarial cost method may also be referred to as the actuarial funding method.
<i>Actuarial Equivalent</i>	A single amount or series of amounts of equal actuarial value to another single amount or series of amounts, computed on the basis of appropriate actuarial assumptions.
<i>Actuarial Gain (Loss)</i>	The difference in liabilities between actual experience and expected experience during the period between two actuarial valuations is the gain (loss) on the accrued liabilities.
<i>Actuarial Present Value (APV)</i>	The amount of funds currently required to provide a payment or series of payments in the future. The present value is determined by discounting future payments at predetermined rates of interest and probabilities of payment.
<i>Actuarial Valuation</i>	The actuarial valuation report determines, as of the actuarial valuation date, the service cost, total pension liability and related actuarial present value of projected benefit payments for pensions.
<i>Actuarial Valuation Date</i>	The date as of which an actuarial valuation is performed.
<i>Actuarially Determined Contribution (ADC) or Annual Required Contribution (ARC)</i>	A calculated contribution into a defined benefit pension plan for the reporting period, most often determined based on the funding policy of the plan. Typically the Actuarially Determined Contribution has a normal cost payment and an amortization payment.

Glossary of Terms (Continued)

<i>Amortization Method</i>	The method used to determine the periodic amortization payment may be a level dollar amount, or a level percent of pay amount. The period will typically be expressed in years, and the method will either be “open” (meaning, reset each year) or “closed” (the number of years remaining will decline each year).
<i>Amortization Payment</i>	The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.
<i>Cost-of-Living Adjustments</i>	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
<i>Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (cost-sharing pension plan)</i>	A multiple-employer defined benefit pension plan in which the pension obligations to the employees of more than one employer are pooled and pension plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan.
<i>Covered-Employee Payroll</i>	The payroll of employees that are provided with pensions through the pension plan.
<i>Deferred Inflows and Outflows</i>	The deferred inflows and outflows of pension resources are amounts used under GASB Statement No. 68 in developing the annual pension expense. Deferred inflows and outflows arise with differences between expected and actual experiences; changes of assumptions. The portion of these amounts not included in pension expense should be included in the deferred inflows or outflows of resources.
<i>Deferred Retirement Option Program (DROP)</i>	A program that permits a plan member to elect a calculation of benefit payments based on service credits and salary, as applicable, as of the DROP entry date. The plan member continues to provide service to the employer and is paid for the service by the employer after the DROP entry date; however, the pensions that would have been paid to the plan member are credited to an individual member account within the defined benefit pension plan until the end of the DROP period. Other variations for DROP exist and will be more fully detailed in the plan provision section of the valuation report.
<i>Discount Rate</i>	For GASB purposes, the discount rate is the single rate of return that results in the present value of all projected benefit payments to be equal to the sum of the funded and unfunded projected benefit payments, specifically: <ol style="list-style-type: none">1. The benefit payments to be made while the pension plans’ fiduciary net position is projected to be greater than the benefit payments that are projected to be made in the period; and2. The present value of the benefit payments not in (1) above, discounted using the municipal bond rate.

Glossary of Terms (Continued)

<i>Entry Age Actuarial Cost Method (EAN)</i>	The EAN is a cost method for allocating the costs of the plan between the normal cost and the accrued liability. The actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis (either level dollar or level percent of pay) over the earnings or service of the individual between entry age and assumed exit age(s). The portion of the actuarial present value allocated to a valuation year is the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is the actuarial accrued liability. The sum of the accrued liability plus the present value of all future normal costs is the present value of all benefits.
<i>Fiduciary Net Position</i>	The fiduciary net position is the market value of the assets of the trust dedicated to the defined benefit provisions.
<i>GASB</i>	The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.
<i>Long-Term Expected Rate of Return</i>	The long-term rate of return is the expected return to be earned over the entire trust portfolio based on the asset allocation of the portfolio.
<i>Money-Weighted Rate of Return</i>	The money-weighted rate of return is a method of calculating the returns that adjusts for the changing amounts actually invested. For purposes of GASB Statement No. 67, money-weighted rate of return is calculated as the internal rate of return on pension plan investments, net of pension plan investment expense.
<i>Multiple-Employer Defined Benefit Pension Plan</i>	A multiple-employer plan is a defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
<i>Municipal Bond Rate</i>	The Municipal Bond Rate is the discount rate to be used for those benefit payments that occur after the assets of the trust have been depleted.
<i>Net Pension Liability (NPL)</i>	The NPL is the liability of employers and non-employer contributing entities to plan members for benefits provided through a defined benefit pension plan.
<i>Non-Employer Contributing Entities</i>	Non-employer contributing entities are entities that make contributions to a pension plan that is used to provide pensions to the employees of other entities. For purposes of the GASB accounting statements, plan members are not considered non-employer contributing entities.
<i>Normal Cost</i>	The portion of the actuarial present value allocated to a valuation year is called the normal cost. For purposes of application to the requirements of this Statement, the term normal cost is the equivalent of service cost.

Glossary of Terms (Concluded)

<i>Other Postemployment Benefits (OPEB)</i>	All postemployment benefits other than retirement income (such as death benefits, life insurance, disability and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits regardless of the manner in which they are provided. Other postemployment benefits do not include termination benefits.
<i>Real Rate of Return</i>	The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.
<i>Service Cost</i>	The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year.
<i>Total Pension Expense</i>	<p>The total pension expense is the sum of the following items that are recognized at the end of the employer’s fiscal year:</p> <ol style="list-style-type: none">1. Service Cost2. Interest on the Total Pension Liability3. Current-Period Benefit Changes4. Employee Contributions (made negative for addition here)5. Projected Earnings on Plan Investments (made negative for addition here)6. Pension Plan Administrative Expense7. Other Changes in Plan Fiduciary Net Position8. Recognition of Outflow (Inflow) of Resources due to Liabilities9. Recognition of Outflow (Inflow) of Resources due to Assets
<i>Total Pension Liability (TPL)</i>	The TPL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service.
<i>Unfunded Actuarial Accrued Liability (UAAL)</i>	The UAAL is the difference between actuarial accrued liability and valuation assets.
<i>Valuation Assets</i>	The valuation assets are the assets used in determining the unfunded liability of the plan. For purposes of GASB Statement Nos. 67 and 68, the valuation assets are equal to the market value of assets.