General Assembly Retirement System of Illinois

GASB Statement Nos. 67 and 68 Accounting and Financial Reporting for Pensions as of June 30, 2021

GRS

P: 312.456.9800 | www.grsconsulting.com

December 30, 2021

The Board of Trustees
General Assembly Retirement System of Illinois
Springfield, 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 General Assembly Retirement System of Illinois ("GARS"). 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 Net Pension Liability is not an appropriate measure for measuring the sufficiency of plan assets to cover the estimated cost of settling the employer's benefit obligation. The Net Pension Liability is not an appropriate measure for assessing the need for or amount of future employer contributions. 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 General Assembly Retirement System of Illinois ("GARS") only in its entirety and only with the permission of GARS.

Our valuation and projections assume the sponsor will make the contributions required by State statute. To the extent the sponsor does not make the statutory required contribution the results contained in this report could be significantly different.

This report is based upon information, furnished to us by GARS, 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 actuarial valuation report that was provided to GARS and should be considered in conjunction with that report. Please see the actuarial valuation report as of June 30, 2021, for additional discussion of the nature of actuarial calculations and more information related to participant data, economic and demographic assumptions, and benefit provisions.

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.

To the best of our knowledge, the information contained within this report is accurate and fairly represents the actuarial position of the General Assembly Retirement System of Illinois. All calculations have been made in conformity with generally accepted actuarial principles and practices as well as with the Actuarial Standards of Practice issued by the Actuarial Standards Board.

The signing actuaries are independent of the plan sponsor.

Alex Rivera, Heidi G. Barry, and Jeffrey T. Tebeau 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

Alex Rivera, FSA, EA, FCA, MAAA
Senior Consultant

By

Jeffrey T. Tebeau, FSA, EA, MAAA
Consultant

By

Heidi G. Barry, ASA, FCA, MAAA
Senior Consultant

Auditor's Note – This information is intended to assist in preparation of the financial statements of the General Assembly 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

SECTION A

EXECUTIVE SUMMARY

Executive Summary as of June 30, 2021

		2021
Actuarial Valuation Date		June 30, 2021
Measurement Date of the Net Pension Liability		June 30, 2021
Plan's Fiscal Year Ending Date (Reporting Date) for GASB Statement No. 67		June 30, 2021
Employer's Fiscal Year Ending Date (Reporting Date) for GASB Statement No. 68		June 30, 2022
Membership		
Number of		
- Retirees and Beneficiaries		443
- Inactive, Nonretired Members		65
- Active Members		122
- Total		630
Covered Payroll[a]	$	10,082,079
Net Pension Liability		
Total Pension Liability	$	384,421,539
Plan Fiduciary Net Position		79,808,941
Net Pension Liability	$	304,612,598
Plan Fiduciary Net Position as a Percentage of Total Pension Liability		20.76 %
Net Pension Liability as a Percentage of Covered Payroll		3,021.33 %
Development of the Single Discount Rate		
Single Discount Rate Beginning of Year		6.37 %
Single Discount Rate End of Year		6.30 %
Long-Term Expected Rate of Investment Return		6.50 %
Long-Term Municipal Bond Rate Beginning of Year[b]		2.45 %
Long-Term Municipal Bond Rate End of Year[b]		1.92 %
Last year ending June 30 in the 2021 to 2120 projection period for which projected benefit payments are fully funded		2074
Total Pension Expense for Fiscal Year End June 30, 2021	$	20,327,780

Deferred Outflows and Deferred Inflows of Resources by Source to be recognized in Future Pension Expenses as of June 30, 2021

	Deferred Outflows of Resources	Deferred (Inflows) of Resources
Difference between expected and actual non-investment experience	$ -	$ (126,320)
Changes in assumptions	1,074,314	-
Net difference between projected and actual earnings on pension plan investments	941,085	(8,541,409)
Total	$ 2,015,399	$ (8,667,729)

[a] *Covered payroll is based on the requirements of GASB Statement No. 82.*

[b] Source: *The rates at the beginning and end of the year are the rates for 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 26, 2020, and June 30, 2021, respectively. 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 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 GARS subsequent to the measurement date of June 30, 2021.

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. The pension expense for fiscal year ending June 30, 2022 is based on the results of the actuarial valuation as of June 30, 2021.

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.

Discussion

Notes to Financial Statements

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

GASB Statement Nos. 67 and 68 require the notes of the financial statements for the employers and pension plans to include certain additional information. 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 percent higher and 1 percent lower than 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 percent, 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.

Discussion

General Implications of GARS Statutory Funding Policy on Future and 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 percent 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 the current members.
2. The funded status of the plan is expected to increase gradually towards a 90 percent funded ratio at 2045 and then remain level at 90 percent funded thereafter.

This statutory funding policy results in an expected crossover date in 2074 and a GASB Single Discount Rate of 6.30 percent to measure the total pension liability as of June 30, 2021. 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. The net pension liability and pension expense should be measured as of the pension plan's fiscal year end (measurement date) on a date that is within the employer's prior fiscal year. 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.

The GASB Statement No. 68 pension expense provided in this report is based on a measurement date of June 30, 2021, but will be used for fiscal year ending June 30, 2022.

The GASB Statement No. 68 pension expense for fiscal year ended June 30, 2021, is based on the results of the actuarial valuation as of June 30, 2020 and is provided in the June 30, 2020 GASB Statement Nos. 67 and 68 actuarial valuation report.

The total pension liability shown in this report is based on an actuarial valuation performed as of June 30, 2021, and a measurement date of June 30, 2021.

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) 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).

Discussion

For the purpose of this valuation, the expected rate of return on pension plan investments is 6.50 percent; the municipal bond rate is 1.92 percent (based on the daily rate closest to but not later than the measurement date of the Fidelity "20-Year Municipal GO AA Index"); and the resulting Single Discount Rate is 6.30 percent.

Recent Legislation

The following recently passed Public Acts impact GARS as follows.

Public Act ("P.A.") 100-0023, effective July 6, 2017, modified the State's funding policy to include smoothing State contribution rate increases or decreases due to changes in actuarial assumptions, including investment return assumptions, over a five-year period in equal annual amounts beginning in fiscal year 2018. In addition, changes in actuarial or investment assumptions that increased or decreased the State contribution rate in fiscal years 2014 through 2017 are to be smoothed over a five-year period in equal annual amounts, applying only to the portion of the five-year phase-in that is applicable to fiscal years on and after 2018. The fiscal year 2018 State contribution was recertified, pursuant to P.A. 100-0023.

Changes in Assumptions

The actuarial valuation results summarized in this report involve actuarial calculations that require assumptions about future events. The actuarial assumptions used for the June 30, 2021, actuarial valuation are based on the Experience Study report for the three-year period from July 1, 2015, through June 30, 2018.

Pursuant to Public Act 99-0232, GARS is required to conduct an actuarial experience review once every three years.

A summary of the actuarial assumptions and methods used in this actuarial valuation are included in Section G of this report.

SECTION B

FINANCIAL STATEMENTS

Auditor's Note – This information is intended to assist in preparation of the financial statements of the General Assembly 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 Fiduciary Net Position Years Ended June 30, 2021, and 2020

	2021	2020
Assets		
Cash	$ 5,616,610	$ 5,913,822
Receivables		
Contributions:		
Participants	$ 21,257	$ 38,626
Employing state agencies	-	-
Other Accounts	7,369	5,227
Total Receivables	$ 28,626	$ 43,853
Investments		
Held in the Illinois State Board of Investment		
Commingled Fund at fair value	$ 74,220,057	$ 57,128,519
Securities lending collateral with State Treasurer	2,306,000	1,190,000
Total Investments	$ 76,526,057	$ 58,318,519
Capital assets, net of accumulated depreciation	$ 45,176	$ 38,435
Total Assets	$ 82,216,469	$ 64,314,629
Liabilities		
Payables		
Benefits payable	$ -	$ -
Refunds payable	2,172	-
Administrative expenses payable	38,880	42,115
Participants' deferred service credit accounts	-	-
Due to Judges' Retirement System of Illinois	60,476	70,711
Securities lending collateral with State Treasurer	2,306,000	1,190,000
Total Liabilities	$ 2,407,528	$ 1,302,826
Net Position Restricted for Pensions	$ 79,808,941	$ 63,011,803

Statement of Changes in Fiduciary Net Position Years Ended June 30, 2021, and 2020

	2021	2020
Additions		
Contributions		
Participants	$ 1,238,024	$ 1,205,930
Employing state agencies and appropriations	27,299,000	25,754,000
Total Contributions	$ 28,537,024	$ 26,959,930
Investment Income		
Net investments income	$ 668,706	$ 553,643
Interest earned on cash balances	17,833	56,977
Net appreciation in fair value of investments	14,122,832	1,970,444
Net Investment Income	$ 14,809,371	$ 2,581,064
Total Additions	$ 43,346,395	$ 29,540,994
Deductions		
Benefits		
Retirement annuities	$ 21,403,506	$ 21,641,643
Survivors' annuities	4,660,823	4,068,261
Disability benefits	-	-
Lump-sum benefits	-	-
Total Benefits	$ 26,064,329	$ 25,709,904
Refunds	154,312	137,810
Administrative	330,616	400,697
Total Deductions	$ 26,549,257	$ 26,248,411
Net Increase in Net Position	$ 16,797,138	$ 3,292,583
Net Position Restricted for Pensions		
Beginning of Year	$ 63,011,803	$ 59,719,220
End of Year	$ 79,808,941	$ 63,011,803

SECTION C

REQUIRED SUPPLEMENTARY INFORMATION

Auditor's Note – This information is intended to assist in preparation of the financial statements of the General Assembly 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.

Schedules of Required Supplementary Information
Schedule of Changes in Net Pension Liability and Related Ratios – Multiyear

Fiscal year ending June 30,	2021	2020	2019	2018	2017	2016	2015	2014	2013
Total Pension Liability									
Service Cost Including Pension Plan Administrative Expense	$ 2,729,135	$ 2,859,384	$ 3,280,072	$ 3,535,911	$ 3,879,813	$ 3,577,188	$ 5,957,132	$ 5,383,133	
Interest on the Total Pension Liability	23,603,996	23,720,171	24,852,899	24,541,949	24,045,958	22,395,292	19,911,100	20,110,452	
Changes of Benefit Terms	-	-	-	-	-	-	-	-	
Difference between Expected and Actual Experience	(314,744)	(1,547,100)	4,007,760	1,197,364	2,093,742	(5,400,812)	2,366,032	12,389,130	
Changes of Assumptions[a]	2,676,810	1,929,204	(8,252,643)	(1,213,112)	(2,430,609)	42,122,612	(70,538,690)	-	
Benefit Payments, Including Refunds of Employee Contributions	(26,218,641)	(25,847,714)	(24,727,360)	(23,327,876)	(22,493,411)	(21,983,054)	(21,466,704)	(21,045,635)	
Pension Plan Administrative Expense	(330,616)	(400,697)	(389,833)	(348,384)	(355,711)	(382,340)	(394,695)	(334,628)	
Net Change in Total Pension Liability	2,145,940	713,248	(1,229,105)	4,385,852	4,739,782	40,328,886	(64,165,825)	16,502,452	
Total Pension Liability - Beginning	382,275,599	381,562,351	382,791,456	378,405,604	373,665,822	333,336,936	397,502,761	381,000,309	
Total Pension Liability - Ending (a)	$ 384,421,539	$ 382,275,599	$ 381,562,351	$ 382,791,456	$ 378,405,604	$ 373,665,822	$ 333,336,936	$ 397,502,761	
Plan Fiduciary Net Position									
Employer Contributions	$ 27,299,000	$ 25,754,000	$ 23,253,426	$ 21,155,000	$ 21,721,000	$ 16,073,000	$ 15,870,941	$ 13,956,669	
Employee Contributions	1,238,024	1,205,930	1,317,187	1,255,232	1,284,707	1,309,697	1,487,346	1,502,605	
Pension Plan Net Investment Income	14,809,371	2,581,064	3,449,416	3,733,504	5,140,250	(539,494)	2,287,916	8,363,428	
Benefit Payments, Including Refunds of Employee Contributions	(26,218,641)	(25,847,714)	(24,727,360)	(23,327,876)	(22,493,411)	(21,983,054)	(21,466,704)	(21,045,635)	
Pension Plan Administrative Expense	(330,616)	(400,697)	(389,833)	(348,384)	(355,711)	(382,340)	(394,695)	(334,628)	
Other	-	-	-	-	-	-	-	-	
Net Change in Plan Fiduciary Net Position	16,797,138	3,292,583	2,902,836	2,467,476	5,296,835	(5,522,191)	(2,215,196)	2,442,439	
Plan Fiduciary Net Position - Beginning	63,011,803	59,719,220	56,816,384	54,348,908	49,052,073	54,574,264	56,789,460	54,347,021	
Plan Fiduciary Net Position - Ending (b)	79,808,941	63,011,803	59,719,220	56,816,384	54,348,908	49,052,073	54,574,264	56,789,460	
Net Pension Liability - Ending (a) - (b)	$ 304,612,598	$ 319,263,796	$ 321,843,131	$ 325,975,072	$ 324,056,696	$ 324,613,749	$ 278,762,672	$ 340,713,301	
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	20.76 %	16.48 %	15.65 %	14.84 %	14.36 %	13.13 %	16.37 %	14.29 %	
Covered-Employee Payroll[b]	$ 10,082,079	$ 10,190,658	$ 10,159,312	$ 10,711,024	$ 10,996,284	$ 11,297,614	$ 11,587,285	$ 12,754,356	
Net Pension Liability as a Percentage of Covered-Employee Payroll	3,021.33 %	3,132.91 %	3,167.96 %	3,043.36 %	2,946.97 %	2,873.29 %	2,405.76 %	2,671.35 %	
Single Discount Rate, Beginning of Year	6.37 %	6.41 %	6.68 %	6.66 %	6.60 %	6.91 %	5.11 %	5.39 %	
Single Discount Rate, End of Year	6.30 %	6.37 %	6.41 %	6.68 %	6.66 %	6.60 %	6.91 %	5.11 %	5.39 %
Long-Term Municipal Bond Rate	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, 2021	June 26, 2020	June 28, 2019	June 29, 2018	June 30, 2017	June 30, 2016	June 25, 2015	June 26, 2014	June 27, 2013

[a] *Fiscal year end 2021 change of assumptions from change in GASB 67/68 discount rate.*

[b] *Covered payroll is based on the requirements of GASB Statement No. 82.*

Schedules of Required Supplementary Information
Schedule of the Net 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	Covered Payroll[a]	Net Pension Liability as a % of Covered Payroll
2014	$ 397,502,761	$ 56,789,460	$ 340,713,301	14.29 %	$ 12,754,356	2,671.35 %
2015	333,336,936	54,574,264	278,762,672	16.37 %	11,587,285	2,405.76 %
2016	373,665,822	49,052,073	324,613,749	13.13 %	11,297,614	2,873.29 %
2017	378,405,604	54,348,908	324,056,696	14.36 %	10,996,284	2,946.97 %
2018	382,791,456	56,816,384	325,975,072	14.84 %	10,711,024	3,043.36 %
2019	381,562,351	59,719,220	321,843,131	15.65 %	10,159,312	3,167.96 %
2020	382,275,599	63,011,803	319,263,796	16.48 %	10,190,658	3,132.91 %
2021	384,421,539	79,808,941	304,612,598	20.76 %	10,082,079	3,021.33 %

[a] *Covered payroll is based on the requirements of GASB Statement No. 82.*

Schedules of Required Supplementary Information
Schedule of Contributions – Multiyear

Last 10 Fiscal Years

Fiscal Year	Actuarially Determined Contribution[a]	Actual Contribution[b]	Contribution Deficiency (Excess)	Covered Payroll	Actual Contribution as a % of Covered Payroll	Statutory Contribution	Statutory Contribution Deficiency/(Excess)
7/1/11 - 6/30/12	$ 13,365,820	$ 10,502,000	$ 2,863,820	$ 15,263,164	68.81%	$ 10,502,000	$ -
7/1/12 - 6/30/13	17,064,640	14,150,000	2,914,640	14,876,335	95.12%	14,150,000	-
7/1/13 - 6/30/14	17,110,135	13,956,669	3,153,466	12,754,356	109.43%	13,856,000	(100,669)
7/1/14 - 6/30/15	16,900,876	15,870,941	1,029,935	11,587,285	136.97%	15,809,000	(61,941)
7/1/15 - 6/30/16	17,140,656	16,073,000	1,067,656	11,297,614	142.27%	16,073,000	-
7/1/16 - 6/30/17	26,984,621	21,721,000	5,263,621	10,996,284	197.53%	21,721,000	-
7/1/17 - 6/30/18	32,082,644	21,155,000	10,927,644	10,711,024	197.51%	21,155,000	-
7/1/18 - 6/30/19	32,650,450	23,253,426	9,397,024	10,159,312	228.89%	23,253,426	-
7/1/19 - 6/30/20	34,410,810	25,754,000	8,656,810	10,190,658	252.72%	25,754,000	-
7/1/20 - 6/30/21	34,432,777	27,299,000	7,133,777	10,082,079	270.77%	27,299,000	-

[a] The GARS statutory funding may not conform with Actuarial Standards of Practice; therefore, the actuarially determined contribution is equal to the normal cost plus an amount to amortize the unfunded actuarial accrued liability as a level percentage of total payroll. The amortization period for fiscal years 2009 through 2016 is an open 30-year period, and a closed 20-year period for fiscal years on and after 2017. The actuarially determined contribution for each fiscal year was determined as of the valuation two years prior.

[b] The actual contributions for FYE June 30, 2009 through June 30, 2017 were obtained from the System's comprehensive annual financial reports. The actual contributions for FYE June 30, 2018 and later were provided by the System.

Schedules of Required Supplementary Information
Notes to Schedule of Contributions

Actuarial Valuation Date:	June 30, 2019
Notes	Actuarially determined contribution rates and Statutory contribution rates are calculated as of June 30, which is 12 months prior to the beginning of the fiscal year in which the contributions will be made.

Methods and Assumptions Used to Determine Contribution Rates for Fiscal Year ended June 30, 2021:

Actuarial Cost Method	Projected Unit Credit
Amortization Method	**Statutory Contributions:** Equal to the level percentage of pay contributions determined so that the Plan attains a 90 percent funded ratio by the end of 2045. An amortization payment is not directly calculated. The amortization payment is the difference between the total statutory contribution and the employer normal cost contribution. **Actuarially Determined Contributions (ADC):** The ADC for fiscal years ending on and after June 30, 2017, is calculated as the employer's normal cost plus a 20-year level percent of capped payroll closed-period amortization of the unfunded accrued liability. As of June 30, 2019, the remaining amortization period was 16 years.
Asset Valuation Method	5-year smoothed market
Inflation	2.25 percent
Salary Increases	2.50 percent per year (consisting of an inflation component of 2.25 percent per year, a productivity / merit / promotion component of 0.25 percent per year).
Postretirement Benefit Increases	Postretirement benefit increases of 3.00 percent, compounded, for Tier 1 and 3.00 percent or one-half of the annual increase in the Consumer Price Index, whichever is less, simple, for Tier 2.
Investment Rate of Return	6.50 percent
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition. Last updated for the June 30, 2019, actuarial valuation pursuant to an experience study of the period July 1, 2015 to June 30, 2018.
Post-retirement:	Pub-2010 Above-Median Income General Healthy Retiree Mortality tables, sex distinct, with scaling factors of 99 percent for males and females, and the MP-2018 two-dimensional generational mortality improvement scale.
Pre-retirement:	Pub-2010 Above-Median Income General Employee Mortality tables, sex distinct, and the MP-2018 two-dimensional generational mortality improvement scale.

SECTION D

NOTES TO FINANCIAL STATEMENTS

Auditor's Note – This information is intended to assist in preparation of the financial statements of the General Assembly 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.

Sensitivity of Net Pension Liability to the Single Discount Rate Assumption

Single Discount Rate

A Single Discount Rate of 6.30 percent 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 percent and a municipal bond rate of 1.92 percent. The projection of cash flows used to determine this Single Discount Rate 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 difference between statutory contribution rates and the member rate. Based on these assumptions, the pension plan's fiduciary net position and future contributions were sufficient to finance the benefit payments through the year 2074. As a result, the long-term expected rate of return on pension plan investments was applied to projected benefit payments through the year 2074, 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 6.30 percent, 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 Rate Assumption	1% Increase
5.30%	**6.30%**	**7.30%**
$ 346,782,543	$ 304,612,598	$ 269,291,901

Summary of Population Statistics

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	443
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	65
Active Plan Members	122
Total Plan Members	630

Additional information about the member data used is included in the June 30, 2021, actuarial valuation report.

SECTION E

GASB STATEMENT NO. 68 PENSION EXPENSE

Schedule of Changes in Net Pension Liability and Related Ratios

Fiscal year End 6/30	2021	2020
A. Total Pension Liability		
1. Service Cost Including Pension Plan Administrative Expense	$ 2,729,135	$ 2,859,384
2. Interest on the Total Pension Liability	23,603,996	23,720,171
3. Changes of Benefit Terms	-	-
4. Difference Between Expected and Actual Experience of the Total Pension Liability	(314,744)	(1,547,100)
5. Changes of Assumptions	2,676,810	1,929,204
6. Benefit Payments, Including Refunds of Employee Contributions	(26,218,641)	(25,847,714)
7. Pension Plan Administrative Expense	(330,616)	(400,697)
8. Net Change in Total Pension Liability	**$ 2,145,940**	**$ 713,248**
9. Total Pension Liability – Beginning	**382,275,599**	**381,562,351**
10. Total Pension Liability – Ending	**$ 384,421,539**	**$ 382,275,599**
B. Plan Fiduciary Net Position		
1. Contributions – Employer	$ 27,299,000	$ 25,754,000
2. Contributions – Employee	1,238,024	1,205,930
3. Net Investment Income	14,809,371	2,581,064
4. Benefit Payments, Including Refunds of Employee Contributions	(26,218,641)	(25,847,714)
5. Pension Plan Administrative Expense	(330,616)	(400,697)
6. Other	-	-
7. Net Change in Plan Fiduciary Net Position	**$ 16,797,138**	**$ 3,292,583**
8. Plan Fiduciary Net Position – Beginning	**63,011,803**	**59,719,220**
9. Plan Fiduciary Net Position – Ending	**$ 79,808,941**	**$ 63,011,803**
C. Net Pension Liability	**$ 304,612,598**	**$ 319,263,796**
D. Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	**20.76%**	**16.48%**
E. Covered-Employee Payroll	**$ 10,082,079**	**$ 10,190,658**
F. Net Pension Liability as a Percentage of Covered-Employee Payroll	**3021.33%**	**3132.91%**

Statement of Pension Expense under GASB Statement No. 68
Plan Year Ended June 30, 2021
Applicable to Fiscal Year Ending June 30, 2022

A. Expense		
1. Service Cost Including Pension Plan Administrative Expense		2,729,135
2. Interest on the Total Pension Liability		23,603,996
3. Current-Period Benefit Changes		-
4. Employee Contributions (made negative for addition here)		(1,238,024)
5. Projected Earnings on Plan Investments (made negative for addition here)		(4,159,353)
6. Other Changes in Plan Fiduciary Net Position		-
7. Recognition of Outflow/(Inflow) of Resources due to Liabilities		(819,918)
8. Recognition of Outflow/(Inflow) of Resources due to Assumption Changes		2,389,956
9. Recognition of Outflow/(Inflow) of Resources due to Assets		(2,178,012)
10. Total Pension Expense*	**$**	**20,327,780**
B. Reconciliation of Net Pension Liability		
1. Net Pension Liability Beginning of Year	**$**	**319,263,796**
2. Total Pension Expense		20,327,780
3. Employer Contributions (made negative for addition here)		(27,299,000)
4. Change in Deferred Liability Experience (Inflows)/Outflows		505,174
5. Change in Deferred Assumption Changes Experience (Inflows)/Outflows		286,854
6. Change in Deferred Investment Experience (Inflows)/Outflows		(8,472,006)
7. Net Pension Liability End of Year*	**$**	**304,612,598**

** Totals may not add due to rounding.*

The pension expense is based on a measurement date of June 30, 2021, but will be used for fiscal year ending June 30, 2022. Our understanding is that GARS is a single employer defined benefit pension plan. If the sponsor has component units, a proportionate share allocation of the pension expense and net pension liability under paragraph 342 of GASB Statement No. 68 may be required.

Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods
Plan Year Ended June 30, 2021*

A. Outflows and (Inflows) of Resources Recognized in Current and Future Pension Expenses as of Plan Year End June 30, 2021

Experience (Gain)/Loss	Original Balance	Date Established	Original Recognition Period/ Amortization Factor	Amount Recognized in Past Pension Expenses	Amount Recognized in Current Pension Expense	Deferred (Inflows) to be Recognized in Future Pension Expenses	Deferred Outflows to be Recognized in Future Pension Expenses
1. Differences Between Expected	$ (314,744)	June 30, 2021	1.6704	$ -	$ (188,424)	$ (126,320)	$ -
and Actual Non-Investment Experience	(1,547,100)	June 30, 2020	1.6897	(915,606)	(631,494)	-	-
	4,007,760	June 30, 2019	1.6038	4,007,760	-	-	-
	1,197,364	June 30, 2018	1.6314	1,197,364	-	-	-
	2,093,742	June 30, 2017	1.6625	2,093,742	-	-	-
	$ 5,437,022		1.6516	$ 6,383,260	$ (819,918)	$ (126,320)	$ -
2. Assumption Changes	$ 2,676,810	June 30, 2021	1.6704	$ -	$ 1,602,496	$ -	$ 1,074,314
	1,929,204	June 30, 2020	1.6897	1,141,744	787,460	-	-
	(8,252,643)	June 30, 2019	1.6038	(8,252,643)	-	-	-
	(1,213,112)	June 30, 2018	1.6314	(1,213,112)	-	-	-
	(2,430,609)	June 30, 2017	1.6625	(2,430,609)	-	-	-
	$ (7,290,350)		1.6516	$ (10,754,620)	$ 2,389,956	$ -	$ 1,074,314
3. Difference Between Expected	$ (10,650,018)	June 30, 2021	5.0000	$ -	$ (2,130,004)	$ (8,520,014)	$ -
and Actual Investment Earnings	1,323,446	June 30, 2020	5.0000	264,689	$ 264,689	-	794,068
	367,544	June 30, 2019	5.0000	147,018	$ 73,509	-	147,017
	(106,983)	June 30, 2018	5.0000	(64,191)	$ (21,397)	(21,395)	-
	(1,824,037)	June 30, 2017	5.0000	(1,459,228)	$ (364,809)	-	-
	$ (10,890,048)		5.0000	$ (1,111,712)	$ (2,178,012)	$ (8,541,409)	$ 941,085
4. Total	**$ (12,743,376)**			**$ (5,483,072)**	**$ (607,974)**	**$ (8,667,729)**	**$ 2,015,399**

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

Year Ending June 30	Differences Between Expected and Actual Non-Investment Experience	Assumption Changes	Differences Between Expected and Actual Investment Experience
2022	$ (126,320)	$ 1,074,314	$ (1,813,201)
2023	-	-	(1,791,807)
2024	-	-	(1,865,314)
2025	-	-	(2,130,002)
2026	-	-	-
Thereafter	-	-	-
Total	**$ (126,320)**	**$ 1,074,314**	**$ (7,600,324)**

Year Ending June 30	Deferred Outflows of Resources	Deferred (Inflows) of Resources	Net Deferred Outflows/ (Inflows) of Resources
2022	$ 1,412,512	$ (2,277,719)	$ (865,208)
2023	338,197	(2,130,004)	(1,791,807)
2024	264,690	(2,130,004)	(1,865,314)
2025	-	(2,130,002)	(2,130,002)
2026	-	-	-
Thereafter	-	-	-
Total	**$ 2,015,399**	**$ (8,667,729)**	**$ (6,652,330)**

**Based on a measurement date of June 30, 2021, but will be used for employer's fiscal year ending June 30, 2022. Employer's proportionate share of calculations of the net pension liability, pension expense and deferred inflows and outflows are outside the scope of this report.*
Numbers may not add due to rounding.

SECTION F

SUMMARY OF RETIREMENT SYSTEM PLAN PROVISIONS

Summary of Retirement System Plan Provisions
(as of June 30, 2021)

1. Participation. A person eligible for membership must participate in the system as a condition of employment unless an "Election Not to Participate" is filed within 24 months from the date of assuming office.

2. Member Contributions. All members of the system are required to contribute to the system the following percentage of their salaries:

Retirement Annuity	8.5%
Automatic Annuity Increase	1.0
Survivor's Annuity	2.0
Total	11.5%

3. Retirement Annuity – Eligibility. A member who has at least eight years of creditable service is entitled to a retirement annuity upon attainment of age 55. A member with at least four years of service but less than eight years of service is entitled to a retirement annuity upon attainment of age 62.

   A member with at least eight years of service who becomes disabled while in service is entitled to a retirement annuity regardless of age.

4. Retirement Annuity – Amount. The retirement annuity is determined according to the following formula based upon the member's final rate of salary:

   - 3.0% for each of the first 4 years of service, plus
   - 3.5% for each of the next 2 years of service, plus
   - 4.0% for each of the next 2 years of service, plus
   - 4.5% for each of the next 4 years of service, plus
   - 5.0% for each year of service in excess of 12

   The maximum retirement annuity is 85% of the final rate of salary.

5. Automatic Increase in Retirement Annuity. (a) Annual automatic increases of 3% of the current amount of retirement annuity are provided. The initial increase is effective in the month of January or July of the year next following the year in which the first anniversary of retirement occurs, but in no event prior to attainment of age 60.

   (b) Beginning January 1, 1990, for persons who become participants prior to August 8, 2003, and who remain in service after attaining 20 years of creditable service, 3% annual automatic increases begin to accrue on January 1 next following the date the participant attains age 55 or completes 20 years of creditable service, whichever occurs later. For any person who has service credit for the entire period from January 15, 1969 through December 31, 1992, the increases shall accrue from age 50 instead of age 55. However, such increases shall not become payable until the January 1 or July 1 next following the first anniversary of retirement, or the first of the month following attainment of age 60, whichever occurs later.

6. Survivor's Annuity – Eligibility. A surviving spouse without children is eligible for survivor benefits at age 50 or over provided marriage to the member had been in effect for at least one year immediately prior to the member's death.

   A surviving spouse with unmarried eligible children is eligible for a survivor's annuity benefit at any age provided the above marriage requirements have been met. When all children are disqualified because of death, marriage or attainment of age 18 or age 22 in the case of a fulltime student, the spouse's benefit is suspended if the spouse is under age 50 until the attainment of such age.

   An unmarried eligible child under age 18 or under age 22 and a full-time student or over age 18 and disabled may qualify for the survivor's annuity if there is no surviving spouse or if the spouse dies. Legally adopted children are eligible for survivor benefits on the same basis as other children.

   If the member dies in service as a member, the member must have at least two years of service credit for survivor's annuity eligibility. If death occurs after termination of service but before retirement, the deceased member must have at least four years of service credit for survivor's annuity eligibility.

7. Survivor's Annuity – Amount. (a) A surviving spouse is entitled to a survivor's annuity of 66 2/3% of the amount of retirement annuity to which the member was entitled on the date of death, without regard to whether the member had attained age 55 as of the time of death, subject to a minimum payment of 10% of salary.

   (b) If a surviving spouse has in his or her care eligible children, the survivor's annuity shall be the greater of the following:

      (1) 66 2/3% of the amount of retirement annuity to which the member was entitled on the date of death, or (2) 30% of the member's salary increased by 10% of salary on account of each eligible child, subject to a total payment for the surviving spouse and children of 50% of salary. If only unmarried children survive, each such child shall be entitled to an annuity of 20% of salary, subject to a maximum total payment for all children of 50% of salary.

   (c) Upon the death of a member after termination of service, or upon the death of an annuitant, the maximum total payment to a surviving spouse and eligible children, or eligible children alone if there is no surviving spouse, shall be 75% of the retirement annuity to which the member or annuitant was entitled.

   (d) Survivor's annuities are subject to annual automatic increases of 3% of the current amount of annuity.

   (e) The minimum survivor's annuity provided by the system is $300 per month.

   (f) In the case of a proportional survivor's annuity under the Retirement Systems Reciprocal Act, if the amount payable by the system on January 1, 1993, is less than $300 per month, the amount shall be increased as of that date by $2 per month for each full year elapsed since the annuity began.

8. Refund of Contributions. Upon termination of service, a member is entitled to a refund of his total contributions without interest.

   A member who has no eligible survivor's annuity beneficiaries, or is unmarried at the time of retirement, is entitled to a refund of his or her contributions for the survivor's annuity.

9. Retirement System Reciprocal Act. According to the provisions of the Retirement System Reciprocal Act provided in Illinois Compiled statutes 40 ILCS 5/20, a member who has pension credit in two or more participating systems may be entitled to a proportional retirement annuity if his or her combined pension credit satisfies the longest minimum retirement eligibility requirement of any such system.

   In calculating the proportional retirement annuity, the earnings credits under all participating systems shall be considered in determining final average salary.

Persons Who First Become Participants on or after January 1, 2011

The following changes to the above provisions apply to persons who first become participants on or after January 1, 2011:

1. The highest salary for annuity purposes is equal to the average monthly salary obtained by dividing the participant's total salary during the 96 consecutive months of service within the last 120 months of service in which the total compensation was the highest by the number of months in that period.

2. Required contributions shall not exceed the contributions that would be due on the highest salary for annuity purposes.

3. For 2011, the final average salary is limited to the Social Security wage base of $106,800. Limitations for future years shall automatically be increased or decreased, as applicable, by a percentage change in the Consumer Price Index-U during the preceding 12-month calendar year.

4. A participant is eligible to retire with unreduced benefits after attainment of age 67 with at least eight years of service credit. However, a participant may elect to retire at age 62 with at least eight years of service credit and receive a retirement annuity reduced by one-half of 1% for each month that his or her age is under 67.

5. The annual retirement annuity provided is equal to 3% of the participant's final average salary for each year of service. The maximum retirement annuity payable shall be 60% of the participant's final average salary.

6. Automatic annual increases are provided in the retirement annuity then being paid equal to 3% or the annual change in the Consumer Price Index for all Urban Consumers, whichever is less. Such increases are payable in the January or July next following the first anniversary of retirement, and in the same month of each year thereafter.

7. Automatic annual increases are provided in the survivor annuity then being paid equal to 3% or the annual change in the Consumer Price Index for all Urban Consumers, whichever is less. Such increases are payable: (1) on each January 1 occurring on or after the commencement of the annuity if the deceased member died while receiving a retirement annuity; or (2) in other cases, on each January 1 occurring on or after the first anniversary of the commencement of the annuity.

8. The retirement annuity being paid is suspended when an annuitant accepts full-time employment in a position covered under the General Assembly Retirement System or any other Article of the Illinois Pension Code. Upon termination of the employment, the retirement annuity shall resume and, if appropriate, be recalculated.

9. Salary and COLA development for members hired on or after January 1, 2011, are shown in the table below:

Year Ending	CPI-U	COLA	Maximum Annual Pensionable Earnings
2011		3.00%	$106,800.00
2012	3.90%	3.00%	$110,004.00
2013	2.00%	2.00%	$112,204.08
2014	1.20%	1.20%	$113,550.53
2015	1.70%	1.70%	$115,480.89
2016	0.00%	0.00%	$115,480.89
2017	1.50%	1.50%	$117,213.10
2018	2.20%	2.20%	$119,791.79
2019	2.30%	2.30%	$122,547.00
2020	1.70%	1.70%	$124,630.30
2021	1.40%	1.40%	$126,375.12

SECTION G

ACTUARIAL COST METHOD AND ACTUARIAL ASSUMPTIONS

Valuation Methods — Calculation of the Total Pension Liability

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 the Statutory Contributions, Actuarial Cost Method Adopted June 30, 1989, by Statute

The projected unit credit normal cost method is used. Under this method, the projected pension at retirement age is first calculated and the value thereof at the individual member's current or attained age is determined. The normal cost for the member for the current year is equal to the value so determined divided by the member's projected service at retirement. The normal cost for the plan for the year is the sum of the individual normal costs.

The actuarial liability at any point in time is the value of the projected pensions at that time less the value of future normal costs.

For ancillary benefits for active members, in particular death and survivor benefits, termination benefits, and the postretirement increases, the same procedure as outlined above is followed.

Estimated annual administrative expenses are added to the normal cost.

For valuation purposes, as well as projection purposes, an actuarial value of assets is used.

Appropriation Requirements under P.A. 88-0593

The law governing the System under P.A. 88-0593 provides that:

For fiscal years 2011 through 2045, the minimum contribution to the System for each fiscal year shall be an amount determined to be sufficient to cause the total assets of the System to equal 90 percent of the total actuarial liabilities of the System by the end of fiscal year 2045. In making these determinations, the required contribution shall be calculated each year as a level-percentage-of-payroll over the years remaining to and including fiscal year 2045 and shall be determined under the projected unit credit actuarial cost method. For fiscal years 1997 through 2010, the minimum contribution to the System, as a percentage of the payroll, shall be increased in equal annual increments so that by fiscal year 2010, the contribution rate is at the same level as the contribution rate for fiscal years 2011 through 2045.

Most Actuarial Assumptions Adopted June 30, 2019

Actuarial assumptions are set by the Board of Trustees. Additional information regarding the rationale for the assumptions may be found in the experience review of the General Assembly Retirement System for the three-year period ending June 30, 2018. All actuarial assumptions are expectations of future experience, not market measures.

Mortality

Post-Retirement Mortality

Pub-2010 Above-Median Income General Healthy Retiree Mortality tables, sex distinct, with scaling factors of 99 percent for males and females, and the MP-2018 two-dimensional generational mortality improvement scale. This assumption provides a margin for future mortality improvements.

Pre-Retirement Mortality, including terminated vested members prior to attaining age 50

Pub-2010 Above-Median Income General Employee Mortality tables, sex distinct, with no scaling factors, and the MP-2018 two-dimensional generational mortality improvement scale. This assumption provides a margin for future mortality improvements.

Future mortality improvements are reflected by projecting the base mortality tables forward from the year 2010 using the MP-2018 projection scale.

Interest

6.50 percent per year, compounded annually, net of investment expenses.

General Inflation

2.25 percent per year, compounded annually.

This assumption serves as the basis for the determination of Tier Two pay cap growth and annual increases that are equal to the lesser of 3.0 percent or the annual change in the consumer price index-u during the preceding 12-month calendar year.

Marriage Assumption

75.0 percent of active and retired participants are assumed to be married.

Termination

Rates of withdrawal are assumed to be equal to six percent for all ages 20 through 65.

It is assumed that terminated employees will not be rehired. The rates apply only to employees who have not fulfilled the service requirement necessary for retirement at any given age.

Salary Increases

A salary increase assumption of 2.50 percent per annum, compounded annually, was used. This 2.50 percent salary increase assumption includes an inflation component of 2.25 percent per year, and a productivity/merit/promotion component of 0.25 percent per annum.

Load for Inactive Members Eligible for Deferred Vested Pension Benefits

Deferred vested liability is increased by 10 percent to account for increases in final average salary due to participation in a reciprocal system. This assumption was developed based on the average increase in actuarial liability due to reciprocal salary increases of inactive members over the period July 1, 2013, to June 30, 2018, and will be reviewed during the next experience study. Below is the analysis used to develop this assumption:

Impact of Reciprocal Salary Increases of Inactive Members			
	Estimated Benefits of Inactive Members who Retired During Year	Actual Benefits of Inactive Members who Retired during Year	Increase in Benefits
6/30/2013	$ 243,726	$ 257,156	5.5%
6/30/2014	122,961	137,838	12.1%
6/30/2015	97,204	106,026	9.1%
6/30/2016	181,647	190,816	5.0%
6/30/2017	118,439	122,802	3.7%
6/30/2018	160,213	199,518	24.5%
Total	$ 924,190	$ 1,014,157	
Average			**9.8%**

Disability

No assumption for disability was assumed.

Population Projection

For purposes of determining the annual appropriation as a percent of total covered payroll, the size of the active group is projected to decrease from 122 members as of the valuation date, to 65 members in 2045, and ultimately reach 61 members in 2056, due to the assumption that 50 percent of future members will elect to opt out of the pension system. New entrants are assumed to enter with an average age and average pay as disclosed below. The new entrant profile is based on the averages for all current active members. New entrant pay is assumed to increase by the salary scale assumption, and is limited by the projected statutory salary cap.

New Entrant Profile			
Age Group	No.	Uncapped Salary	Capped Salary
Under 20			
20-24	1	$ 69,464	$ 69,464
25-29	10	817,116	817,116
30-34	18	1,547,875	1,522,775
35-39	22	1,802,118	1,802,118
40-44	19	1,613,245	1,579,323
45-49	15	1,255,126	1,255,126
50-54	12	1,051,054	1,038,504
55-59	9	738,840	738,840
60-64			
65-69	1	69,464	69,464
70 & Over			
Total	**107**	**$ 8,964,302**	**$ 8,892,730**
Avg. Salary		**$ 83,779**	**$ 83,110**
Avg. Age			**41.27**
Percent Male			**58.88%**

Retirement

Employees are assumed to retire in accordance with the rates shown below. The rates apply only to employees who have fulfilled the service requirement necessary for retirement at any given age.

Retirement Rates	
Age	Males & Females
55	5.00%
56-64	15.00%
65-74	20.00%
75	100.00%

Assets

The Fiduciary Net Position is used for GASB reporting purposes. The asset valuation method to project contributions is prescribed by statute; a description for this method can be found in the June 30, 2021, actuarial valuation report.

Expenses

As estimated and advised by GARS staff, based on current expenses and are expected to increase in relation to the projected capped payroll. Expenses are included in the service cost.

Spouse's Age

The female spouse is assumed to be four years younger than the male spouse.

Decrement Timing

All decrements are assumed to occur beginning of year.

Decrement Relativity

Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.

Decrement Operation

Turnover decrements do not operate after member reaches retirement eligibility.

Eligibility Testing

Eligibility for benefits is determined based upon the age nearest birthday and service on the date the decrement is assumed to occur.

415(b) and 401(a)(17) Limits

No explicit assumption is made with respect to these items.

Assumptions as a Result of Public Act 96-0889

Members hired after December 31, 2010, are assumed to make contributions on salary up to the final average compensation cap in a given year until this plan provision or administrative procedure is clarified.

State contributions, expressed as a percentage of pay, are calculated based upon capped pay.

Retirement rates for Tier Two members to account for the change in retirement age, as follows:

Retirement Rates for Tier Two Members	
Age	**Male & Female**
67	35.00%
68-70	25.00%
71-74	20.00%
75	100.00%
Early Retirement Rates for Tier Two Members	
Age	**Males and Females**
62	20.00%
63	10.00%
64	12.00%
65	14.00%
66	16.00%

Rates of withdrawal for Tier Two members are assumed to be equal to 6.00 percent for all ages 20 through 65.

Projection Methodology and Appropriation Requirements under P.A. 93-0002, P.A. 94-0004, P.A. 96-0043, and P.A. 100-0023

State Contributions under P.A. 93-0002

In general, for each year during the life of the GOB program, the state contributions to the System are to be calculated as follows:

1. Calculation of the contribution maximum
    a. A projection of contributions will be made from the valuation date to June 30, 2045. Such projection will be based on hypothetical asset values determined using the following assumptions:
        i) That the System had received no portion of the general obligation bond proceeds in excess of the scheduled contributions for the remainder of fiscal year 2003 and for the entirety of 2004,
        ii) That hypothetical state contributions had been made each fiscal year from 2005 through the valuation date, based on the funding process in place prior to P.A. 93-0002 (without regard to prior state minimum requirements),
        iii) That the actual amounts of member contributions and the actual cash outflows (benefit payments, refunds and administrative expenses) for each year prior to the valuation date were realized, and
        iv) That the hypothetical fund earned returns in each prior fiscal year equal to the rate of total return actually earned by the retirement fund in that year.
    b. The hypothetical asset values developed in a., above, will not exceed the actual assets of the fund.
    c. A projection of maximum contributions for each year of the GOB program will be performed each year, by reducing the contributions produced in a., above, by the respective amount of debt service allocated to the System for each year.
2. Calculation of the contribution with GOB proceeds
    a. The basic projection of State contributions from the valuation date through June 30, 2045, will be made, taking into account all assets of the System, including the GOB proceeds.
    b. State contribution rates (expressed as a percentage of covered pay), in the pattern required by the funding sections of the statutes, are calculated.
    c. In those projections, the dollars of state contributions which are added to assets each year during the GOB program are limited by the contribution maximum. Because the bonds are to be liquidated by the end of fiscal year 2033, there is no contribution maximum thereafter.

State Contributions under P.A. 94-0004

The following is an excerpt from the Illinois Compiled statutes 40 ILCS 5/2-124:

(c) Notwithstanding any other provision of this Article, the total State contribution for fiscal year 2006 is $4,157,000.

Notwithstanding any other provision of this Article, the total State contribution for fiscal year 2007 is $5,220,300.

For each State fiscal years 2008 through 2010, the State contribution to the System, as a percentage of the applicable payroll, shall be increased in equal annual increments from the required State contribution for State fiscal year 2007, so that by State fiscal year 2011, the State is contributing at a rate otherwise required under this Section.

State Contributions under P.A. 96-0043

The following is an excerpt from the Illinois Compiled statutes 40 ILCS 5/2-124:

(d) For purposes of determining the required State contribution to the System, the value of the System's assets shall be equal to the actuarial value of the System's assets, which shall be calculated as follows:

As of June 30, 2008, the actuarial value of the System's assets shall be equal to the market value of the assets as of that date. In determining the actuarial value of the System's assets for fiscal years after June 30, 2008, any actuarial gains or losses from investment return incurred in a fiscal year shall be recognized in equal annual amounts over the 5-year period following that fiscal year.

(e) For purposes of determining the required State contribution to the system for a particular year, the actuarial value of assets shall be assumed to earn a rate of return equal to the system's actuarially assumed rate of return.

State Contributions under P.A. 100-0023

Public Act ("P.A.") 100-0023, effective July 6, 2017, modified the State's funding policy to include smoothing State contribution rate increases or decreases due to changes in actuarial assumptions, including investment return assumptions, over a five-year period in equal annual amounts beginning in fiscal year 2018. In addition, changes in actuarial or investment assumptions that increased or decreased the State contribution rate in fiscal years 2014 through 2017 are to be smoothed over a five-year period in equal annual amounts, applying only to the portion of the five-year phase-in that is applicable to fiscal years on and after 2018.

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, 2013, actuarial valuation, there were changes to the economic and demographic assumptions.
2. Beginning with the June 30, 2015, actuarial valuation, there were changes to the new entrant population assumptions.
3. Beginning with the June 30, 2016, actuarial valuation, there were changes to the economic and demographic assumptions.
4. Beginning with the June 30, 2018, actuarial valuation, there were changes to the economic assumptions.
5. Beginning with the June 30, 2019, actuarial valuation, there were changes to the economic and demographic assumptions.

Valuation Year Ending June 30,	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Applicable Fiscal Year Ending June 30,	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
					$ in Millions After Impact of GOB Proceeds						
Contribution Before Assumption Change											
(1) Contribution Dollar	$ -	$ 16.207	$ 23.261	$ -	$ 25.578	$ 27.643	$ -	$ -			
(2) Contribution Rate	0.000%	140.241%	221.533%	0.000%	255.977%	282.677%	0.000%	0.000%			
Contribution After Assumption Change											
(3) Contribution Dollar	$ -	$ 21.721	$ 26.679	$ -	$ 26.088	$ 26.825	$ -	$ -			
(4) Contribution Rate	0.000%	194.949%	255.539%	0.000%	261.122%	273.142%	0.000%	0.000%			
(5) Assumption Change Impact as a Percentage of Capped Payroll [(4) - (2)]	0.000%	54.708%	34.006%	0.000%	5.145%	-9.535%	0.000%	0.000%			
(6) Assumption Change Impact Recognized This Year (5-year Recognition)											
(6a) From This Year	0.000%	10.942%	6.801%	0.000%	1.029%	-1.907%	0.000%	0.000%			
(6b) From One Year Ago	2.746%	0.000%	10.942%	6.801%	0.000%	1.029%	-1.907%	0.000%	0.000%		
(6c) From Two Years Ago	0.000%	2.746%	0.000%	10.942%	6.801%	0.000%	1.029%	-1.907%	0.000%	0.000%	
(6d) From Three Years Ago	0.000%	0.000%	2.746%	0.000%	10.942%	6.801%	0.000%	1.029%	-1.907%	0.000%	0.000%
(6e) From Four Years Ago	0.000%	0.000%	0.000%	2.744%	0.000%	10.940%	6.802%	0.000%	1.029%	-1.907%	0.000%
(6f) Total Recognized Assumption Change Impact	2.746%	13.688%	20.489%	20.487%	18.772%	16.863%	5.924%	-0.878%	-0.878%	-1.907%	0.000%

SECTION H

CALCULATION OF THE SINGLE DISCOUNT RATE

Calculation of the Single Discount Rate

GASB Statements Nos. 67 and 68 include 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) 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 percent; the municipal bond rate is 1.92 percent; and the resulting Single Discount Rate is 6.30 percent.

The sponsor finances benefits using a funding policy defined in state statute. Sponsor contributions are calculated as a level percentage of capped payroll contributions needed to attain a funded status of 90 percent in 2045 under the Projected Unit Credit cost method. After 2045, the sponsor makes a contribution such that the funded status remains at 90 percent. The statutory contribution does not explicitly separate projected employer contributions between current and future plan members.

For purposes of developing the Single Discount Rate, we have projected actuarial liabilities on an Entry Age Normal basis, and compared against projected market value of assets. We have assumed the actuarial liability for future members will be fully financed, to the extent that assets are available, and any remaining asset will be assigned to current plan members. Based on this assignment of assets and employer contributions, plan assets assigned to current plan members are projected to be depleted by 2074.

The tables in this section provide background for the development of the Single Discount Rate.

The following tables show the assignment of assets and employer contributions and the projection of assets for current members as of the valuation date. Our projections assume the sponsor will make the required statutory contributions. The projections are based on the statutory funding projections performed during the June 30, 2021 actuarial valuation.

Total administrative expenses are assumed to increase at the same rate of projected capped payroll increases. Total administrative expenses are allocated between current and future hires by total payroll.

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.

Projection of Funded Status and Assignment of Assets

PYE 6/30	Open Group EAN Actuarial Liability	Closed Group EAN Actuarial Liability	Future Member EAN Actuarial Liability	Open Group Assets	Future Member Assigned Assets	Closed Group Assigned Assets	Funded Ratio Current Members	Funded Ratio Future Members
	(a)	(b)	(c)=(a)-(b)	(d)	(e)=min[(c),(d)]	(f)=(d)-(e)	(g)=(f)/(b)	(h)=(e)/(c)
2021	$ 376,860,051	$ 376,860,051	$ -	$ 79,808,941	$ -	$ 79,808,941	21.18%	0.00%
2022	374,882,260	374,882,260	-	85,715,426	-	85,715,426	22.86%	0.00%
2023	372,312,914	372,222,188	90,726	90,987,315	90,726	90,896,589	24.42%	100.00%
2024	368,888,982	368,632,400	256,582	95,086,086	256,582	94,829,504	25.72%	100.00%
2025	364,740,236	364,236,981	503,255	98,152,073	503,255	97,648,817	26.81%	100.00%
2026	360,006,871	359,177,265	829,605	100,510,050	829,605	99,680,445	27.75%	100.00%
2027	354,716,062	353,497,667	1,218,395	102,171,462	1,218,395	100,953,067	28.56%	100.00%
2028	348,876,960	347,183,872	1,693,088	103,633,746	1,693,088	101,940,658	29.36%	100.00%
2029	342,484,651	340,236,659	2,247,992	104,887,312	2,247,992	102,639,320	30.17%	100.00%
2030	335,623,104	332,751,095	2,872,009	105,749,462	2,872,009	102,877,453	30.92%	100.00%
2031	328,383,597	324,776,154	3,607,443	106,635,703	3,607,443	103,028,260	31.72%	100.00%
2032	320,837,955	316,404,265	4,433,689	107,372,925	4,433,689	102,939,235	32.53%	100.00%
2033	312,976,463	307,607,261	5,369,202	108,395,158	5,369,202	103,025,956	33.49%	100.00%
2034	304,797,359	298,383,293	6,414,066	109,973,893	6,414,066	103,559,827	34.71%	100.00%
2035	296,437,318	288,874,918	7,562,401	112,018,983	7,562,401	104,456,582	36.16%	100.00%
2036	287,956,698	279,135,475	8,821,223	114,604,632	8,821,223	105,783,409	37.90%	100.00%
2037	279,390,587	269,183,437	10,207,150	118,126,917	10,207,150	107,919,767	40.09%	100.00%
2038	270,736,249	259,038,395	11,697,854	122,307,455	11,697,854	110,609,601	42.70%	100.00%
2039	262,174,473	248,859,153	13,315,319	127,685,848	13,315,319	114,370,529	45.96%	100.00%
2040	253,659,870	238,610,507	15,049,363	134,295,797	15,049,363	119,246,435	49.98%	100.00%
2041	245,330,597	228,423,645	16,906,952	142,334,562	16,906,952	125,427,610	54.91%	100.00%
2042	237,220,461	218,337,260	18,883,201	151,924,653	18,883,201	133,041,451	60.93%	100.00%
2043	229,364,394	208,389,037	20,975,357	163,181,154	20,975,357	142,205,796	68.24%	100.00%
2044	221,832,157	198,651,424	23,180,733	176,265,256	23,180,733	153,084,523	77.06%	100.00%
2045	214,616,902	189,089,493	25,527,410	191,659,167	25,527,410	166,131,757	87.86%	100.00%
2046	207,724,032	179,740,626	27,983,406	184,609,120	27,983,406	156,625,714	87.14%	100.00%
2047	201,179,112	170,629,847	30,549,265	178,690,881	30,549,265	148,141,616	86.82%	100.00%
2048	194,929,728	161,687,162	33,242,565	173,030,981	33,242,565	139,788,416	86.46%	100.00%
2049	188,978,007	152,933,693	36,044,314	167,637,142	36,044,314	131,592,828	86.05%	100.00%
2050	183,399,605	144,425,980	38,973,625	162,572,927	38,973,625	123,599,301	85.58%	100.00%
2051	178,199,503	136,176,356	42,023,147	157,843,936	42,023,147	115,820,789	85.05%	100.00%
2052	173,394,634	128,235,081	45,159,553	153,474,453	45,159,553	108,314,900	84.47%	100.00%
2053	168,842,663	120,437,120	48,405,543	149,326,625	48,405,543	100,921,082	83.80%	100.00%
2054	164,587,471	112,831,320	51,756,151	145,439,294	51,756,151	93,683,142	83.03%	100.00%
2055	160,627,170	105,421,525	55,205,645	141,811,719	55,205,645	86,606,074	82.15%	100.00%
2056	157,043,795	98,300,027	58,743,769	138,519,043	58,743,769	79,775,275	81.15%	100.00%
2057	153,799,703	91,471,616	62,328,087	135,536,671	62,328,087	73,208,584	80.03%	100.00%
2058	150,930,174	84,945,143	65,985,031	132,888,265	65,985,031	66,903,234	78.76%	100.00%
2059	148,366,123	78,654,745	69,711,378	130,511,048	69,711,378	60,799,670	77.30%	100.00%
2060	146,118,921	72,617,986	73,500,935	128,415,825	73,500,935	54,914,890	75.62%	100.00%
2061	144,231,444	66,882,924	77,348,520	126,641,357	77,348,520	49,292,837	73.70%	100.00%
2062	142,709,093	61,455,499	81,253,593	125,192,376	81,253,593	43,938,783	71.50%	100.00%
2063	141,545,728	56,337,543	85,208,186	124,063,523	85,208,186	38,855,337	68.97%	100.00%
2064	140,708,450	51,501,734	89,206,715	123,225,015	89,206,715	34,018,299	66.05%	100.00%
2065	140,213,524	46,971,965	93,241,559	122,692,494	93,241,559	29,450,936	62.70%	100.00%
2066	140,056,819	42,742,902	97,313,917	122,462,353	97,313,917	25,148,437	58.84%	100.00%
2067	140,227,944	38,805,291	101,422,653	122,525,042	101,422,653	21,102,389	54.38%	100.00%
2068	140,716,449	35,149,692	105,566,757	122,870,990	105,566,757	17,304,233	49.23%	100.00%
2069	141,510,333	31,765,916	109,744,418	123,489,514	109,744,418	13,745,096	43.27%	100.00%
2070	142,596,323	28,640,975	113,955,348	124,368,725	113,955,348	10,413,377	36.36%	100.00%
2071	143,960,876	25,761,115	118,199,761	125,496,406	118,199,761	7,296,645	28.32%	100.00%
2072	145,587,894	23,111,534	122,476,360	126,857,925	122,476,360	4,381,565	18.96%	100.00%
2073	147,464,126	20,678,272	126,785,853	128,441,261	126,785,853	1,655,407	8.01%	100.00%
2074	149,575,992	18,446,983	131,129,009	130,234,164	130,234,164	-	0.00%	99.32%
2075	151,910,482	16,404,169	135,506,313	132,224,947	132,224,947	-	0.00%	97.58%

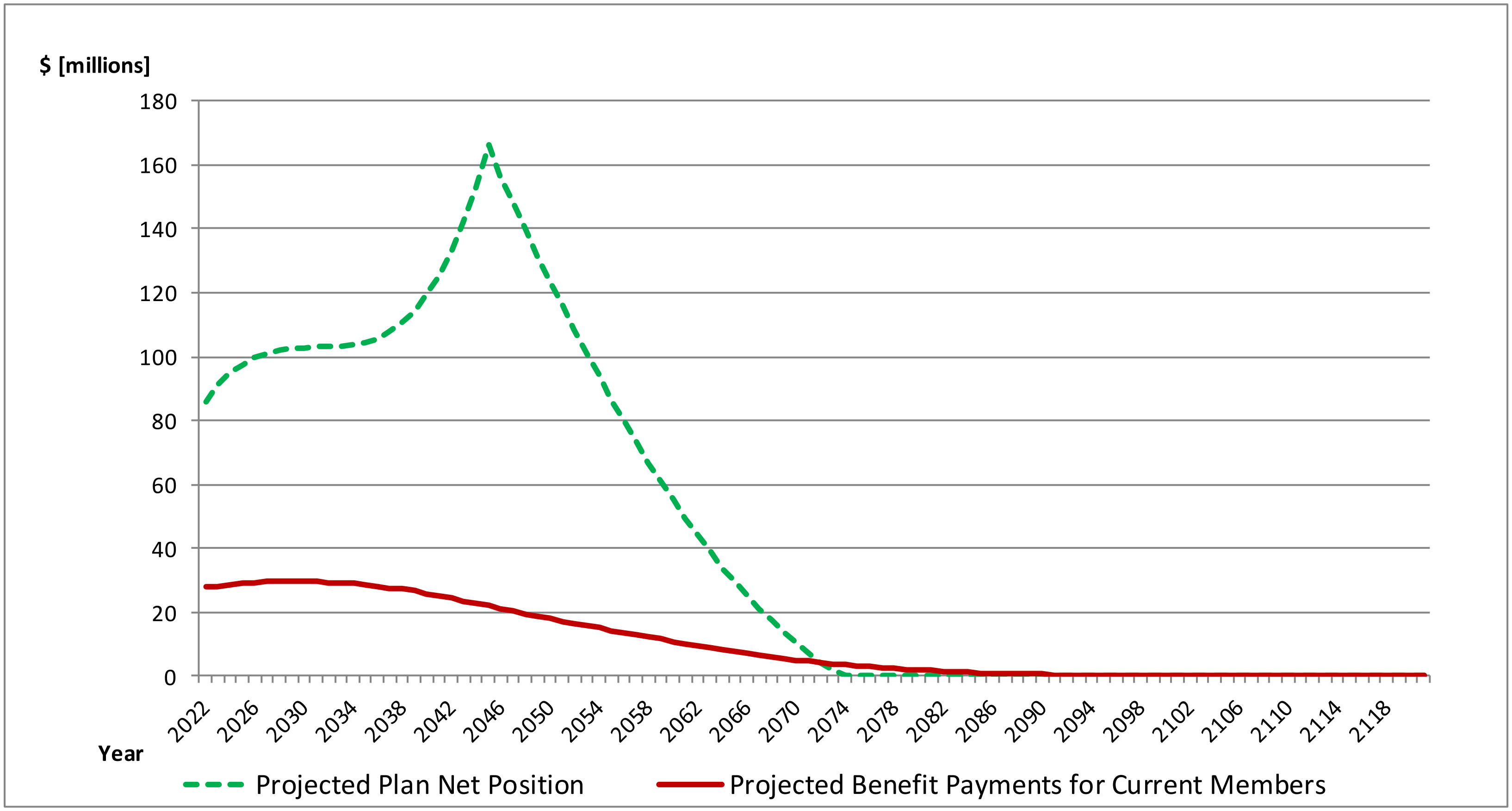
Current Member Projection of Assets and Assignment of Employer Contributions

PYE 6/30	Assets (BOY)	Member Contributions	Administrative Expenses	Benefit Payments	Assigned Employer Contribution	Income on Cash Flow	Income on Assigned Contribution	Total Investment Income	Assets (EOY)
2022	$ 79,808,941	$ 1,118,384	$ 400,480	$ 27,841,284	$ 27,820,000	$ 4,319,948	$ 889,917	$ 5,209,865	$ 85,715,426
2023	85,715,426	1,058,854	379,163	28,183,858	27,125,927	4,691,689	867,714	5,559,403	90,896,589
2024	90,896,589	985,657	352,952	28,706,817	26,159,978	5,010,233	836,815	5,847,048	94,829,504
2025	94,829,504	908,076	325,171	29,090,769	25,266,933	5,251,998	808,248	6,060,246	97,648,817
2026	97,648,817	841,807	301,441	29,326,572	24,604,429	5,426,349	787,056	6,213,405	99,680,445
2027	99,680,445	788,411	282,320	29,466,543	23,915,235	5,552,831	765,009	6,317,841	100,953,067
2028	100,953,067	730,681	261,648	29,595,849	23,725,245	5,630,230	758,932	6,389,162	101,940,658
2029	101,940,658	677,625	242,649	29,683,903	23,505,180	5,690,517	751,892	6,442,410	102,639,320
2030	102,639,320	622,797	223,016	29,653,810	23,020,022	5,735,767	736,373	6,472,140	102,877,453
2031	102,877,453	573,527	205,373	29,555,846	22,854,067	5,753,368	731,064	6,484,432	103,028,260
2032	103,028,260	527,883	189,029	29,342,644	22,428,269	5,769,053	717,444	6,486,497	102,939,235
2033	102,939,235	484,648	173,547	29,143,574	22,432,857	5,768,746	717,591	6,486,337	103,025,956
2034	103,025,956	443,412	158,781	28,927,781	22,671,360	5,780,439	725,220	6,505,659	103,559,827
2035	103,559,827	406,105	145,421	28,549,867	22,635,405	5,826,464	724,070	6,550,534	104,456,582
2036	104,456,582	368,321	131,891	28,111,213	22,581,263	5,898,009	722,338	6,620,347	105,783,409
2037	105,783,409	334,019	119,608	27,640,043	22,832,980	5,998,620	730,390	6,729,010	107,919,767
2038	107,919,767	301,131	107,831	27,146,427	22,762,237	6,152,598	728,127	6,880,725	110,609,601
2039	110,609,601	271,000	97,042	26,500,522	23,004,146	6,347,480	735,865	7,083,345	114,370,529
2040	114,370,529	247,251	88,538	25,880,501	23,242,905	6,611,286	743,503	7,354,789	119,246,435
2041	119,246,435	220,382	78,916	25,140,223	23,477,574	6,951,349	751,009	7,702,358	125,427,610
2042	125,427,610	198,318	71,015	24,369,207	23,719,657	7,377,336	758,753	8,136,089	133,041,451
2043	133,041,451	177,905	63,706	23,574,673	23,961,110	7,897,232	766,477	8,663,709	142,205,796
2044	142,205,796	159,642	57,166	22,719,246	24,201,429	8,519,903	774,164	9,294,067	153,084,523
2045	153,084,523	142,431	51,003	21,914,370	24,823,693	9,252,414	794,070	10,046,483	166,131,757
2046	166,131,757	126,843	45,421	21,086,033	1,329,382	10,126,661	42,525	10,169,186	156,625,714
2047	156,625,714	111,871	40,060	20,251,641	2,093,609	9,535,151	66,971	9,602,123	148,141,616
2048	148,141,616	99,970	35,798	19,495,468	2,006,288	9,007,630	64,178	9,071,807	139,788,416
2049	139,788,416	84,134	30,127	18,733,980	1,933,821	8,488,705	61,860	8,550,565	131,592,828
2050	131,592,828	71,574	25,630	17,933,263	1,853,165	7,981,348	59,280	8,040,627	123,599,301
2051	123,599,301	61,033	21,855	17,138,304	1,776,796	7,486,981	56,837	7,543,818	115,820,789
2052	115,820,789	52,462	18,786	16,313,275	1,711,372	7,007,593	54,744	7,062,337	108,314,900
2053	108,314,900	45,861	16,422	15,666,089	1,649,782	6,540,277	52,774	6,593,051	100,921,082
2054	100,921,082	37,560	13,450	14,980,797	1,586,566	6,081,430	50,752	6,132,182	93,683,142
2055	93,683,142	29,748	10,652	14,306,294	1,528,845	5,632,380	48,905	5,681,285	86,606,074
2056	86,606,074	23,482	8,409	13,556,087	1,467,045	5,196,240	46,928	5,243,168	79,775,275
2057	79,775,275	18,873	6,758	12,819,835	1,419,914	4,775,695	45,421	4,821,115	73,208,584
2058	73,208,584	15,041	5,386	12,094,888	1,364,272	4,371,971	43,641	4,415,612	66,903,234
2059	66,903,234	12,395	4,438	11,452,691	1,316,448	3,982,612	42,111	4,024,723	60,799,670
2060	60,799,670	9,421	3,373	10,809,226	1,271,328	3,606,402	40,668	3,647,070	54,914,890
2061	54,914,890	7,401	2,650	10,134,636	1,223,272	3,245,429	39,130	3,284,560	49,292,837
2062	49,292,837	4,970	1,780	9,474,202	1,178,196	2,901,072	37,689	2,938,761	43,938,783
2063	43,938,783	3,489	1,249	8,831,622	1,136,014	2,573,583	36,339	2,609,923	38,855,337
2064	38,855,337	2,354	843	8,235,501	1,099,573	2,262,205	35,174	2,297,379	34,018,299
2065	34,018,299	1,769	634	7,634,139	1,064,564	1,967,022	34,054	2,001,076	29,450,936
2066	29,450,936	1,410	505	7,057,246	1,032,233	1,688,590	33,019	1,721,609	25,148,437
2067	25,148,437	1,125	403	6,508,129	1,002,795	1,426,487	32,078	1,458,565	21,102,390
2068	21,102,390	608	218	5,986,584	976,630	1,180,167	31,241	1,211,408	17,304,234
2069	17,304,234	241	86	5,492,915	954,035	949,071	30,518	979,589	13,745,098
2070	13,745,098	197	70	5,028,950	934,639	732,567	29,898	762,465	10,413,378
2071	10,413,378	160	57	4,594,627	918,512	529,898	29,382	559,280	7,296,646
2072	7,296,646	131	47	4,190,021	905,635	340,253	28,970	369,223	4,381,567
2073	4,381,567	-	-	3,813,523	895,894	162,813	28,658	191,471	1,655,407
2074	1,655,407	-	-	3,464,551	1,756,190	(3,224)	56,178	52,954	-
2075	-	-	-	3,141,380	3,141,380	(100,488)	100,488	-	-

Development of Single Discount Rate

PYE 6/30	Benefit Payments	Discount Rate	Discounted Benefit Payment	Single Discount Rate	Discounted Benefit Payment
2022	$ 27,841,284	6.50%	$ 26,978,292	6.30%	$ 27,003,096
2023	28,183,858	6.50%	25,643,425	6.30%	25,714,219
2024	28,706,817	6.50%	24,525,113	6.30%	24,638,062
2025	29,090,769	6.50%	23,336,277	6.30%	23,486,879
2026	29,326,572	6.50%	22,089,611	6.30%	22,273,066
2027	29,466,543	6.50%	20,840,414	6.30%	21,052,151
2028	29,595,849	6.50%	19,654,335	6.30%	19,890,546
2029	29,683,903	6.50%	18,509,682	6.30%	18,766,596
2030	29,653,810	6.50%	17,362,363	6.30%	17,635,736
2031	29,555,846	6.50%	16,248,831	6.30%	16,535,034
2032	29,342,644	6.50%	15,147,061	6.30%	15,442,213
2033	29,143,574	6.50%	14,126,102	6.30%	14,427,853
2034	28,927,781	6.50%	13,165,732	6.30%	13,471,707
2035	28,549,867	6.50%	12,200,690	6.30%	12,507,203
2036	28,111,213	6.50%	11,280,030	6.30%	11,584,686
2037	27,640,043	6.50%	10,414,053	6.30%	10,714,996
2038	27,146,427	6.50%	9,603,823	6.30%	9,899,530
2039	26,500,522	6.50%	8,803,113	6.30%	9,090,859
2040	25,880,501	6.50%	8,072,442	6.30%	8,351,640
2041	25,140,223	6.50%	7,362,949	6.30%	7,631,621
2042	24,369,207	6.50%	6,701,537	6.30%	6,958,854
2043	23,574,673	6.50%	6,087,362	6.30%	6,332,724
2044	22,719,246	6.50%	5,508,429	6.30%	5,740,998
2045	21,914,370	6.50%	4,988,996	6.30%	5,209,200
2046	21,086,033	6.50%	4,507,435	6.30%	4,715,042
2047	20,251,641	6.50%	4,064,857	6.30%	4,259,901
2048	19,495,468	6.50%	3,674,253	6.30%	3,857,639
2049	18,733,980	6.50%	3,315,247	6.30%	3,487,117
2050	17,933,263	6.50%	2,979,857	6.30%	3,140,107
2051	17,138,304	6.50%	2,673,957	6.30%	2,822,939
2052	16,313,275	6.50%	2,389,891	6.30%	2,527,688
2053	15,666,089	6.50%	2,155,003	6.30%	2,283,450
2054	14,980,797	6.50%	1,934,963	6.30%	2,054,066
2055	14,306,294	6.50%	1,735,063	6.30%	1,845,250
2056	13,556,087	6.50%	1,543,735	6.30%	1,644,792
2057	12,819,835	6.50%	1,370,791	6.30%	1,463,214
2058	12,094,888	6.50%	1,214,342	6.30%	1,298,601
2059	11,452,691	6.50%	1,079,686	6.30%	1,156,725
2060	10,809,226	6.50%	956,830	6.30%	1,026,989
2061	10,134,636	6.50%	842,362	6.30%	905,791
2062	9,474,202	6.50%	739,407	6.30%	796,546
2063	8,831,622	6.50%	647,190	6.30%	698,485
2064	8,235,501	6.50%	566,672	6.30%	612,711
2065	7,634,139	6.50%	493,233	6.30%	534,286
2066	7,057,246	6.50%	428,132	6.30%	464,620
2067	6,508,129	6.50%	370,723	6.30%	403,058
2068	5,986,584	6.50%	320,201	6.30%	348,770
2069	5,492,915	6.50%	275,865	6.30%	301,031
2070	5,028,950	6.50%	237,149	6.30%	259,259
2071	4,594,627	6.50%	203,444	6.30%	222,821
2072	4,190,021	6.50%	174,205	6.30%	191,148
2073	3,813,523	6.50%	148,875	6.30%	163,655
2074	3,464,551	6.50%	432,269	6.30%	139,862
2075	3,141,380	1.92%	1,135,643	6.30%	119,295
2076	2,842,228	1.92%	1,008,140	6.30%	101,533
2077	2,565,583	1.92%	892,871	6.30%	86,215
2078	2,309,859	1.92%	788,730	6.30%	73,018
2079	2,073,440	1.92%	694,664	6.30%	61,657
2089	542,738	1.92%	150,342	6.30%	8,757
2099	69,381	1.92%	15,890	6.30%	607
2109	2,933	1.92%	555	6.30%	14
2114	246	1.92%	42	6.30%	1
2120	5	1.92%	1	6.30%	0
Total Present Value			**$ 398,714,053**		**$ 398,714,053**

Projection of Plan Net Position and Benefit Payments



SECTION I

GLOSSARY OF TERMS

Glossary of Terms

Accrued Service	Service credited under the system that was rendered before the date of the actuarial valuation.
Actuarial Accrued Liability (AAL)	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."
Actuarial Assumptions	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.
Actuarial Cost Method	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.
Actuarial Equivalent	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.
Actuarial Gain (Loss)	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.
Actuarial Present Value (APV)	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.
Actuarial Valuation	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.
Actuarial Valuation Date	The date as of which an actuarial valuation is performed.
Actuarially Determined Contribution (ADC) or Annual Required Contribution (ARC)	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

Amortization Method — 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).

Amortization Payment — The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.

Cost-of-Living Adjustments — Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.

Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (cost-sharing pension plan) — 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.

Covered-Employee Payroll — The payroll of employees that are provided with pensions through the pension plan.

Deferred Inflows and Outflows — 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.

Deferred Retirement Option Program (DROP) — 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.

Discount Rate — 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:

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; and
2. The present value of the benefit payments not in (1) above, discounted using the municipal bond rate.

Glossary of Terms

Entry Age Actuarial Cost Method (EAN) 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.

Fiduciary Net Position The fiduciary net position is the market value of the assets of the trust dedicated to the defined benefit provisions.

GASB The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.

Long-Term Expected Rate of Return 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.

Money-Weighted Rate of Return 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.

Multiple-Employer Defined Benefit Pension Plan A multiple-employer plan is a defined benefit pension plan that is used to provide pensions to the employees of more than one employer.

Municipal Bond Rate 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.

Net Pension Liability (NPL) The NPL is the liability of employers and non-employer contributing entities to plan members for benefits provided through a defined benefit pension plan.

Non-Employer Contributing Entities 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.

Normal Cost 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

Other Postemployment Benefits (OPEB) 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.

Real Rate of Return The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.

Service Cost The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year.

Total Pension Expense The total pension expense is the sum of the following items that are recognized at the end of the employer's fiscal year:

1. Service Cost
2. Interest on the Total Pension Liability
3. Current-Period Benefit Changes
4. Employee Contributions (made negative for addition here)
5. Projected Earnings on Plan Investments (made negative for addition here)
6. Pension Plan Administrative Expense
7. Other Changes in Plan Fiduciary Net Position
8. Recognition of Outflow (Inflow) of Resources due to Liabilities
9. Recognition of Outflow (Inflow) of Resources due to Assets

Total Pension Liability (TPL) The TPL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service.

Unfunded Actuarial Accrued Liability (UAAL) The UAAL is the difference between actuarial accrued liability and valuation assets.

Valuation Assets 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.