Cavanaugh Macdonald
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FULTON COUNTY SCHOOLS EMPLOYEES' PENSION FUND

Fulton County Schools
Where Students Come First

ACTUARIAL VALUATION REPORT

AS OF

JUNE 30, 2022

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Cavanaugh Macdonald
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January 18, 2023

Retirement Board
Fulton County Schools Employees' Pension Fund
6201 Powers Ferry Road NW
Atlanta, GA 30339

Ladies and Gentlemen:

This report represents the results of the actuarial valuation of the Fulton County Schools Employees' Pension Fund as of June 30, 2022. The purpose of this report is to provide a summary of the funded status of the Plan as of June 30, 2022 and to determine the minimum required contribution amount for the 2023/2024 fiscal year. Our calculations were prepared based on member data and financial information provided by the System. While not verifying data at the source, the actuary performed tests for consistency and reasonableness. The asset values used to determine unfunded liabilities are not market values but less volatile market related values. A smoothing technique is applied to market values to determine the market related values. The unfunded liability amounts using the market value of assets would be different. The interest rate used for determining liabilities is based on the expected return on assets. Therefore, liability amounts in this report cannot be used to assess a settlement of the obligation.

The System receives contributions from the Fulton County Board of Education and Members. The annual contribution rate required by the Fulton County Board of Education is 37.20% of compensation for the fiscal year ending 2024.

In determining the Employer's contribution requirement, we have included interest to reflect our understanding that the Employer makes monthly contributions throughout the fiscal year. In the table below we present the Employer's contribution requirements whether the Employer elects to pay the full amount on July 1, 2023 or in monthly installments throughout the 2023/2024 fiscal year.

Employer contribution payable July 1, 2023	$23,686,554
Interest for monthly payments during 2023/2024 fiscal year	$809,283
Employer contribution payable in monthly installments	$24,495,837

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Since the previous valuation, various assumptions and methods have been revised to reflect the results of the experience investigation for the five-year period ending June 30, 2021. This increased the Unfunded Accrued Liability and the employer required contribution for the fiscal year ended June 30, 2024 by $14,123,587 and $420,516 respectively.

The System's unfunded liability was projected to be $11,665,722 as of June 30, 2022, taking into account total contributions from the Employer and Members of $28,883,273. The actual unfunded liability is $43,308,844 as of June 30, 2022. The primary source of the increase are greater than expected salary increase, less than expected return on an actuarial value of assets basis, assumption changes, offset by demographic gains. A summary of the System's experience is presented in Section IIIa.

The valuation is based on a series of actuarial assumptions, including an interest (actuarial asset return) rate of 6.95% per year. Actuarial gains and losses result when actual experience of the System (such as asset return, pay increases, turnover, deaths, etc.) is different from that expected by the actuarial assumptions.

A separate report will be required to disclose the financial reporting requirements under GASB statements 67 and 68. The valuation method used is the entry age normal cost method. The normal contribution rate to cover current cost has been determined as a level percent of payroll. New gains and losses are reflected in the unfunded accrued liability which is being amortized on a level dollar basis within a 15-year period.

The System is being funded in conformity with the minimum funding standard set forth in Code Section 47-20-10 of the Public Retirement Systems Standards Law. Assuming that contributions to the System are made by the employer from year to year in the future at the rates recommended on the basis of the successive actuarial valuations, the continued sufficiency of the retirement fund to provide the benefits called for under the System may be safely anticipated.

This is to certify that the independent consulting actuaries are members of the American Academy of Actuaries and have experience in performing valuations for public retirement systems, that the valuation was prepared in accordance with principles of practice prescribed by the Actuarial Standards Board, and that the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures based on the current provisions of the retirement system and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the System.

Future actuarial results may differ significantly from the current results presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

In order to prepare the results in this report we have utilized appropriate actuarial models that were developed for this purpose. These models use assumptions about future contingent events along with recognized actuarial approaches to develop the needed results.

Respectfully submitted,

Todd B. G

Todd B. Green, ASA, EA, FCA, MAAA
President

TBG/kdb

SECTION I: EXECUTIVE SUMMARY

A. Summary of Principal Results

	As of June 30, 2021	As of June 30, 2022
1. Number of Members		
a. Active Members (including New Participants)	**1,846**	**1,787**
b. Deferred Vested Members	**131**	**135**
c. Retired Members:		
i. Service	2,526	2,503
ii. Disability	148	139
iii. Beneficiary	288	292
iv. Sub-total	**2,962**	**2,934**
d. Total Members	**4,939**	**4,856**
e. Terminated Members Due Contributions	**887**	**1,330**
2. Total Annual Compensation	**$54,805,861**	**$65,840,706**
3. Total Retired Member Benefits	**$34,677,351**	**$33,707,856**
4. Derivation of Actuarially Determined Contribution		
a. Present Value of Future Benefits	$541,710,861	$573,259,515
b. Present Value of Future Normal Cost	(24,743,221)	(24,835,101)
c. Actuarial Accrued Liability (AAL)	516,967,640	548,424,414
d. Actuarial Value of Assets (AVA)	($483,454,540)	($505,115,570)
e. Unfunded Accrued Liability (c. + d.)	**$33,513,100**	**$43,308,844**
f. Funded Ratio	**93.5%**	**92.1%**
g. Normal Cost	$4,399,748	$4,861,185
h. Payment to Amortize Unfunded Liability	$19,382,296	$19,067,769
i. Administrative Expenses	$928,190	$1,527,969
j. Interest	$2,351,094	$2,348,521
k. Total (g. + h. + i. + j.)	**$27,061,329**	**$27,805,443**
5. Expected Employer Contributions Fiscal Year	**2022/2023**	**2023/2024**
a. Total Required Contribution (4.k above)	$27,061,329	$27,805,443
b. Expected Member Contributions	(2,699,669)	(3,309,607)
c. Expected County Contribution (a. + b.)	**$24,361,659**	**$24,495,836**
d. Expected Employer Contribution as % of Payroll	**44.45%**	**37.20%**
6. Market Value of Assets (MVA)	$542,056,687	$460,853,794

SECTION II: PLAN ASSETS

A. Summary of Assets Held

Asset Category	June 30, 2022
Cash and Cash Equivalents	$1,848,644
Investments	459,128,140
Receivable Investment Income and Deferred Revenue	(122,990)
Total Market Value of Assets	**$460,853,794**

B. Reconciliation of Market Value of Assets

	As of June 30, 2021	As of June 30, 2022
Market Value at Beginning of Plan Year	**$435,279,401**	**$542,056,687**
Adjustment	$0	$1,415,194
Adjusted Market Value at Beginning of Plan Year	**$435,279,401**	**$543,471,881**
Increases Due to:		
Employer Contributions	$23,974,947	$25,615,137
Employee Contributions	2,642,387	3,268,136
Investment income	116,376,699	(73,692,170)
Total Increases	$142,994,033	($44,808,897)
Decreases Due to:		
Benefit Payments	($34,440,825)	($35,827,081)
Refund of Contributions	(872,574)	(495,035)
Administrative expenses	(903,348)	(1,487,074)
Total Decreases	($36,216,747)	($37,809,190)
Market Value at End of Plan Year	**$542,056,687**	**$460,853,794**
Expected Market Value (7.00% Assumed Return)	**$455,813,567**	**$572,276,589**
Market Value Gain/(Loss)	**$86,243,120**	**($111,422,795)**
Approximate Net Return on Market Value	**27.03%**	**-13.67%**

C. Development of Market Value of Assets (Gain)/Loss

	Market Value As of June 30, 2022
1. Market Value of Assets	
a. Beginning of Plan Year	$542,056,687
b. Adjustment	$1,415,194
c. Adjusted Beginning of Plan Year	$543,471,881
2. Increases Due to:	
a. Contributions:	
i. Employer	$25,615,137
ii. Members	$3,268,136
iii. **Total Contributions**	$28,883,273
3. Decreases Due to:	
a. Benefit payments	$35,827,081
b. Refund of member contributions	$495,035
c. Administrative expenses	$1,487,074
d. Miscellaneous	
e. **Total Decreases**	$37,809,190
4. Expected Investment Income	$37,730,625
[((1.c) x 7.00%) + ((2a.iii - 3e) x 0.5 x 7.00%)] - 1.b	
5. Actual Investment Income	($73,692,170)
6. (Gain) / Loss [4 - 5]	$111,422,795

D. Determination of Actuarial Value of Assets and Investment Gain/(Loss)

1. Market Value as of June 30, 2022 $460,853,794

2. Delayed Recognition of Market Gains/(Losses)

Valuation Year	Market Gain/(Loss)	Percent Not Recognized	Amount Not Recognized
2022	($111,422,795)	80%	($89,138,236)
2021	86,243,120	60%	$51,745,872
2020	(13,654,056)	40%	($5,461,622)
2019	(7,038,949)	20%	(1,407,790)

(44,261,776)

3. Actuarial Value as of June 30, 2022: (1) - (2) 505,115,570

4. Approximate Net Rate of Return on Actuarial Value 6.39%

5. Actuarial Value Gain/(Loss) for Plan Year Ending June 30, 2022 (2,942,464)

SECTION III: DEVELOPMENT OF CONTRIBUTION

A. Gain and Loss Analysis

1. Actual Unfunded Accrued Liability as of June 30, 2021	$33,513,100
2. Total normal cost for this plan year (including expenses)	$5,327,938
3. Interest on 1. and 2.	$2,718,873
4. Total contribution for this plan year (including amounts expected to be paid)	($28,883,273)
5. Interest on 4.	($1,010,915)
6. Changes due to:	
a. Assumptions and methods	$14,123,587
b. Plan amendments	$0
c. Actuarial (gain)/loss	$17,519,534
7. Total Current Unfunded Actuarial Accrued Liability as of June 30, 2022 (1. + 2. + 3. + 4. + 5. + 6.)	$43,308,844

8. Items Affecting Calculation of Accrued Liability

a. Actuarial assumptions and methods used to determine actuarial accrued liability and normal cost (See Appendix A)

b. Plan provisions reflected in the unfunded accrued liability (See Appendix B)

c. Plan amendments reflected in item 6.b. above

d. Changes in actuarial assumptions and methods reflected in items 6.a. and 6.c. above

A. Gain and Loss Analysis (Continued)

9.	**Expected Unfunded Accrued Liability as of June 30, 2022 Valuation:**		$11,665,723
10.	**Changes in UAL Due to Actuarial (Gains)/Losses During the 2021/2022 Plan Year:**		
a.	Due to Salary	$21,131,594	
b.	Due to Turnover	(5,857,893)	
c.	Due to New Retirements	6,206,162	
d.	Due to Data Adjustments	(1,180,619)	
e.	Due to Mortality	(3,814,834)	
f.	Due to New Members	167,315	
g.	Due to Investment Performance	2,942,464	
h.	Other	(2,074,655)	
i.	Total		$17,519,534
11.	**Other Changes in UAL Payment During the 2021/2022 Plan Year:**		
a.	Assumption and method changes	$14,123,587	
b.	Plan changes	$0	
c.	Total change		$14,123,587
12.	**Unfunded Accrued Liability as of June 30, 2022 Valuation:**		$43,308,844

13. Comments on Change in Unfunded Accrued Liability:

Salary/Service: Average salary increases greater than expected.
Investment Performance: 6.39% actual vs. 7.00% expected return on the actuarial value of assets.
Turnover: Net effect on the valuation liabilities of actual deaths, terminations of employment and disabilities different from what was anticipated in the aggregate by the assumptions related to those events.
New retirements: Net effect of differences in expected vs. actual numbers of, and benefits for, new retirements and refund of employee contributions.
Data/Service Adjustments: Effect of service adjustments, status adjustments, and other data adjustments.
Other: Miscellaneous gains and losses resulting from changes in valuation software, timing of financial transactions, etc.
Assumption and Method Changes: Adoption of new economic and demographic assumptions as a result of the experience study for the five-year period ended June 30, 2021.
Plan Changes: None

B. Amortization of the Unfunded Actuarial Liability

Source and Date Established		Outstanding Balance as of June 30, 2021	2021/2022 Amortization Payment	Outstanding Balance as of June 30, 2022	2022/2023 Amortization Payment	Years Remaining June 30, 2022
1994	Initial Unfunded Actuarial Liability	$51,215,785	$18,239,122	$35,285,030	$18,235,003	2 years
2007	Assumption Changes	3,917,926	387,610	3,777,438	386,567	15 years
2007	Experience (Gain)/Loss	2,813,685	2,813,685	0	0	0 years
2008	Experience (Gain)/Loss	597,415	308,809	308,809	308,809	1 years
2009	Experience (Gain)/Loss	3,963,224	1,411,395	2,730,457	1,411,077	2 years
2010	Experience (Gain)/Loss	1,101,010	303,784	853,031	303,648	3 years
2012	Experience (Gain)/Loss	1,809,024	354,697	1,556,130	354,388	5 years
2012	Assumption Changes	(7,534,133)	(649,830)	(7,366,205)	(647,609)	20 years
2013	Experience (Gain)/Loss	2,672,959	463,529	2,364,090	463,030	6 years
2014	Experience (Gain)/Loss	(13,608,979)	(2,129,967)	(12,282,542)	(2,127,250)	7 years
2015	Experience (Gain)/Loss	(13,416,079)	(1,924,473)	(12,296,018)	(1,921,644)	8 years
2016	Experience (Gain)/Loss	(6,821,977)	(907,753)	(6,328,219)	(906,247)	9 years
2017	Experience (Gain)/Loss	9,230,673	1,150,443	8,645,846	1,148,322	10 years
2018	Experience (Gain)/Loss	(2,782,207)	(327,370)	(2,626,676)	(326,707)	11 years
2018	Assumption Changes	6,504,988	507,181	6,417,654	505,078	26 years
2019	Experience (Gain)/Loss	(1,851,259)	(207,014)	(1,759,342)	(206,559)	12 years
2020	Experience (Gain)/Loss	6,953,960	743,131	6,645,587	741,373	13 years
2021	Experience (Gain)/Loss	(11,252,915)	(1,154,682)	(10,805,109)	($1,151,760)	14 years
2022	Experience (Gain)/Loss*			14,065,296	$1,439,383	15 years
2022	Assumption Changes			14,123,587	$1,058,866	30 years
Total		**$33,513,100**	**$19,382,296**	**$43,308,844**	**$19,067,769**	

*The total experience (gain)/loss for 2021/2022 plan year of $17,519,534 is adjusted for contribution timing differences adjusted for interest equal to $3,454,238.

A. Historical Schedule of Funding Progress

Actuarial Valuation Date	Fiscal Year Ending June 30	(1) Actuarial Value of Assets	(2) Actuarial Accrued Liability (AAL)	(3) Unfunded AAL (UAAL) (2) - (1)	(4) Funded Ratio (1) / (2)	(5) Annual Covered Payroll	(6) UAAL as a Percentage of Covered Payroll (3) / (5)
6/30/2013	2015	$278,691,000	$466,958,000	$188,267,000	59.7%	$67,286,000	279.8%
6/30/2014	2016	$317,673,000	$471,694,000	$154,021,000	67.3%	$65,644,000	234.6%
6/30/2015	2017	$355,032,000	$477,926,000	$122,894,000	74.3%	$63,420,000	193.8%
6/30/2016	2018	$375,859,000	$477,413,000	$101,554,000	78.7%	$58,694,000	173.0%
6/30/2017	2019	$400,142,000	$499,892,000	$99,750,000	80.0%	$57,069,000	174.8%
6/30/2018	2020	$419,846,000	$508,769,000	$88,923,000	82.5%	$53,171,000	167.2%
6/30/2019	2021	$432,008,280	$503,590,784	$71,582,504	85.8%	$54,979,009	130.2%
6/30/2020	2022	$445,163,832	$507,674,270	$62,510,438	87.7%	$54,211,263	115.3%
6/30/2021	2023	$483,454,540	$516,967,640	$33,513,100	93.5%	$54,805,861	61.1%
6/30/2022	2024	$505,115,570	$548,424,414	$43,308,844	92.1%	$65,840,706	65.8%

B. Notes to Required Supplementary Information

Valuation Date	June 30, 2021	June 30, 2022
Actuarial Cost Method	Entry Age Normal	Entry Age Normal
Amortization Method	Level Dollar Amount, Layered	Level Dollar Amount, Layered
Amortization Period	30 years from 7/1/1994 for initial base; 30 years for assumption changes; 15 years for gains and losses	30 years from 7/1/1994 for initial base; 30 years for assumption changes; 15 years for gains and losses
Asset Valuation Method	5 - Year Smoothed Market	5 - Year Smoothed Market
Key Actuarial Assumptions		
Investment Rate of Return	7.00%	6.95%
Projected Salary Increases	5.75% for years 0-9, 2.75% afterward	5.00% for years 0-9, 3.50% afterward
Includes Inflation at	2.75%	2.75%
Cost-of-Living Adjustment	3.00%	3.00%

SECTION V: MEMBERSHIP DATA

A. Summary of Membership

Active Members	Number	Total Annual Salary	Average Salary	Average Age
Teachers				
No Dependent Coverage	98	$5,817,808	$59,365	53.1
With Dependent Coverage	64	4,226,827	66,044	55.4
Total	**162**	**10,044,635**	**62,004**	**54.0**
Non-Teacher Members				
No Dependent Coverage	1,221	$39,829,457	$32,620	50.3
With Dependent Coverage	404	15,966,615	39,521	52.2
Total	**1,625**	**55,796,072**	**34,336**	**50.8**
Total				
No Dependent Coverage	1,319	$45,647,265	$34,607	50.5
With Dependent Coverage	468	20,193,442	43,148	52.6
Total	**1,787**	**65,840,707**	**36,844**	**51.1**

A. Summary of Membership (Continued)

Inactive Members

Retired Participants Receiving Benefits	
Number*	2,359
Annual Benefits	$26,086,516
Disabled Participants Receiving Benefits	
Number*	133
Annual Benefits	$1,964,504
Beneficiaries Receiving Benefits	
Number	292
Annual Benefits	$5,656,836
Total Currently Receiving Benefits	
Number	2,784
Annual Benefits	$33,707,856
Average Annual Benefits	$12,108
Former Teacher Participants with Spouses Eligible to Receive Future Death Benefits	
Number	805
Annual Benefits	$32,732,839
Terminated Non-Vested Participants Due Employee Contributions	
Number	1,330
Employee Contributions Due	$5,334,310
Terminated Participants with Deferred Vested Benefits	
Number	135
Annual Benefits	$1,514,981
Terminated Teacher Participants with Spouses Eligible to Receive Future Death Benefits	
Number	0
Annual Benefits	$0

*Does not include 150 former teacher participants not currently in receipt with spouses eligible to receive future death benefits.

B. Reconciliation of Membership to Prior Valuation

	Active	Terminated Vested	Retired	Disabled	Beneficiary	Total
Number of members as of June 30, 2021	**1,846**	**1,018**	**2,526**	**148**	**288**	**5,826**
Change in Status during the plan year:						
a. Actives who became inactive	(335)	335				0
b. Actives who retired	(38)		38			0
c. Inactives who became active	14	(14)				0
d. Inactives who retired		(13)	13			0
e. Retirees who became active						0
f. Retirees who became inactive		1	(1)			0
No longer members due to:						
a. Death	(6)	(1)	(79)	(13)	(23)	(122)
b. Refund of contributions	(35)	(33)				(68)
c. Forfeiture of benefits						0
d. Expiration of certain period						0
e. Included in error last year		(5)	(3)			(8)
New members due to:						
a. Initial membership	339	164				503
b. Death of another member					22	22
c. Omitted in error last year	1	13	7	6	5	32
d. Correction	1		2	(2)		1
Number of members as of June 30, 2022	**1,787**	**1,465**	**2,503**	**139**	**292**	**6,186**

C. Distribution of Active Non-Teachers as of June 30, 2022: Age, Service and Average Annual Earnings

Age	Completed Years of Service										
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & Up	Total
Under 25	15	14	0	0	0	0	0	0	0	0	**29**
Avg. Pay	22,737	29,556	0	0	0	0	0	0	0	0	26,029
25 to 29	27	31	6	0	0	0	0	0	0	0	**64**
Avg. Pay	24,498	25,847	38,112	0	0	0	0	0	0	0	26,428
30 to 34	35	57	17	0	0	0	0	0	0	0	**109**
Avg. Pay	22,636	26,907	39,982	0	0	0	0	0	0	0	27,575
35 to 39	61	69	15	6	3	0	0	0	0	0	**154**
Avg. Pay	24,181	29,381	41,764	35,697	78,186	0	0	0	0	0	29,724
40 to 44	50	59	38	9	9	3	0	0	0	0	**169**
Avg. Pay	27,166	33,373	38,114	48,168	41,753	46,007	0	0	0	0	33,971
45 to 49	34	64	42	19	8	4	2	0	0	0	**174**
Avg. Pay	23,565	28,753	38,547	43,598	34,265	65,522	74,295	0	0	0	33,298
50 to 54	31	83	38	15	26	15	5	2	0	0	**215**
Avg. Pay	24,072	27,117	36,376	35,028	43,607	45,647	66,919	75,351	0	0	33,528
55 to 59	44	57	34	31	33	28	10	6	0	0	**244**
Avg. Pay	27,351	31,922	42,839	45,375	41,872	53,642	56,700	67,502	0	0	40,019
60 to 64	31	71	43	31	25	30	9	2	3	0	**246**
Avg. Pay	30,663	28,664	36,686	40,340	39,884	43,226	67,435	81,377	92,869	0	37,332
65 & Up	25	44	66	32	22	13	8	5	3	1	**221**
Avg. Pay	22,317	29,939	33,947	43,831	40,923	45,947	63,972	61,888	50,203	76,796	36,704
Total	353	549	299	143	126	93	34	15	6	1	**1,625**
Avg. Pay	25,177	29,158	37,655	42,386	42,043	48,182	63,790	68,527	71,536	76,796	34,359

D. Distribution of Active Teachers as of June 30, 2022: Age, Service and Average Annual Earnings

	Completed Years of Service										
Age	**Under 1**	**1 to 4**	**5 to 9**	**10 to 14**	**15 to 19**	**20 to 24**	**25 to 29**	**30 to 34**	**35 to 39**	**40 & Up**	**Total**
Under 25	0	0	0	0	0	0	0	0	0	0	**0**
Avg. Pay	0	0	0	0	0	0	0	0	0	0	0
25 to 29	0	0	1	0	0	0	0	0	0	0	**1**
Avg. Pay	0	0	42,608	0	0	0	0	0	0	0	42,608
30 to 34	0	1	4	1	0	0	0	0	0	0	**6**
Avg. Pay	0	45,797	51,135	70,017	0	0	0	0	0	0	53,392
35 to 39	0	2	6	2	1	0	0	0	0	0	**11**
Avg. Pay	0	36,153	59,788	49,525	75,780	0	0	0	0	0	55,078
40 to 44	0	1	9	0	5	1	0	0	0	0	**16**
Avg. Pay	0	37,459	53,356	0	55,119	50,956	0	0	0	0	52,763
45 to 49	0	0	5	5	5	3	0	0	0	0	**18**
Avg. Pay	0	0	54,696	53,486	60,984	64,090	0	0	0	0	57,672
50 to 54	0	1	4	4	5	3	2	0	0	0	**19**
Avg. Pay	0	48,998	41,742	61,478	59,983	56,816	90,177	0	0	0	58,558
55 to 59	0	0	4	2	10	5	4	2	5	0	**32**
Avg. Pay	0	0	40,754	41,629	54,544	56,565	60,866	62,577	78,772	0	57,407
60 to 64	0	2	4	5	2	3	4	2	11	1	**34**
Avg. Pay	0	40,816	55,211	76,551	71,364	62,733	64,668	70,419	84,561	120,513	72,540
65 & Up	0	0	3	4	2	1	1	3	11	0	**25**
Avg. Pay	0	0	58,592	55,546	90,102	52,758	61,771	56,923	79,758	0	69,632
Total	0	7	40	23	30	16	11	7	27	1	**162**
Avg. Pay	0	40,885	52,154	59,591	60,819	58,591	67,660	62,394	81,532	120,513	61,777

SECTION VI: RISK CONSIDERATIONS

Actuarial Standards of Practice are issued by the Actuarial Standards Board and are binding on credentialed actuaries practicing in the United States. These standards generally identify what the actuary should consider, document and disclose when performing an actuarial assignment. In September 2017, Actuarial Standard of Practice Number 51, Assessment and Disclosure of Risk in Measuring Pension Obligations, (ASOP 51) was issued as final with application to measurement dates on or after November 1, 2018. This ASOP, which applies to funding valuations, actuarial projections, and actuarial cost studies of proposed plan changes, is first applicable for the June 30, 2019 actuarial valuation for the Plan.

A typical retirement plan faces many different risks, but the greatest risk is the inability to make benefit payments when due. If plan assets are depleted, benefits may not be paid which could create legal and litigation risk or the plan could become "pay as you go." The term "risk" is most commonly associated with an outcome with undesirable results. However, in the actuarial world, risk can be translated as uncertainty. The actuarial valuation process uses many actuarial assumptions to project how future contributions and investment returns will meet the cash flow needs for future benefit payments. Of course, we know that actual experience will not unfold exactly as anticipated by the assumptions and that uncertainty, whether favorable or unfavorable, creates risk. ASOP 51 defines risk as the potential of actual future measurements to deviate from expected results due to actual experience that is different than the actuarial assumptions.

The various risk factors for a given plan can have a significant impact – positive or negative – on the actuarial projection of liability and contribution rates.

There are a number of risks inherent in the funding of a defined benefit plan. These include:

- economic risks, such as investment return and price inflation;
- demographic risks such as mortality, payroll growth, aging population including impact of baby boomers, and retirement ages;
- contribution risk, i.e., the potential for contribution rates to be too high for the plan sponsor/employer to pay and
- external risks such as the regulatory and political environment.

There is a direct correlation between healthy, well-funded retirement plans and consistent contributions equal to the full actuarial contribution rate each year. The Plan is primarily funded by member and employer contributions to the trust fund, together with the earnings on these accumulated contributions. These contributions fund benefit accruals for current active members and administrative expenses. The remainder of the contributions amortizes the unfunded actuarial accrued liability. The required contribution rate is the sum of the rates for the normal cost for the plan and the amortization of the unfunded actuarial accrued liability. The required contribution rate is sensitive to increases in the UAAL and periods of lower than expected returns would lead to much higher contribution rates as a percentage of payroll.

The other significant risk factor for the Plan is investment return because of the volatility of returns and the size of plan assets compared to payroll. A perusal of historical returns over 10-20 years reveals that the actual return each year is rarely close to the average return for the same period. This is to be expected, given the underlying capital market assumptions and the Plan's asset allocation. To the extent market rates of interest affect the expected return on assets, there is a risk of change to the discount rate which determines the present value of liabilities and actuarial valuation results.

A key demographic risk for the Plan is improvements in mortality (longevity) greater than anticipated. While the actuarial assumptions reflect a margin for improvement in mortality experience these assumptions are refined every experience study, the risk arises because there is a possibility of some sudden shift, perhaps from a significant medical breakthrough that could quickly increase liabilities. Likewise, there is some possibility of a significant public health crisis that could result in a significant number of additional deaths in a short time period, which would also be significant, although more easily absorbed. While either of these events could happen, it represents a small probability and thus represents much less risk than the volatility associated with investment returns.

A. Actuarial Assumptions

Each of the assumptions used in this valuation was set based on industry standard published tables and data, the particular characteristics of the plan, relevant information from the plan sponsor or other sources about future expectations, the results of a formal experience study conducted on the period July 2016 through July 2021, and our professional judgment regarding future experience. We believe the assumptions are reasonable for the contingencies they are measuring and are not anticipated to produce significant cumulative actuarial gains or losses over the measurement period.

Investment Return

6.95% per year net of investment-related expenses

Salary Increase

Service	Rate
0-9	5.00%
10+	3.50%

Consumer Price Index

2.75% per year

Administrative Expenses

Actual administrative expenses paid in the prior year, increased one year by the assumed Consumer Price Index.

Pre-retirement Mortality

PUB-2010 General Below Median Employees mortality table. Future improvement in mortality rates is reflected by applying the MP-2021 projection scale generationally.

Healthy Mortality

PUB-2010 General Below Median Healthy Retiree mortality table with ages set forward 2 years for females only. Future improvement in mortality rates is reflected by applying the MP-2021 projection scale generationally.

Disabled Mortality

PUB-2010 General Below Median Disabled Retiree mortality table. Future improvement in mortality rates is reflected by applying the MP-2021 projection scale generationally.

Beneficiary Mortality

PUB-2010 General Below Median Contingent Survivors mortality table with ages set back 1 year for males and set forward 2 years for females. Future improvement in mortality rates is reflected by applying the MP-2021 projection scale generationally.

Retirement

Age	Teachers	Non-Teachers
50-64	26%	18%
65	31	18
66-74	26	18
75+	100	100

In addition to the above, 4% of Teachers and 15% of Non-Teachers are assumed to retire at first eligibility for unreduced retirement.

Turnover

Years of Service	Teachers	Non-Teachers
0	15.00%	29.00%
1	15.00	22.00
2	15.00	19.50
3	15.00	18.50
4	15.00	13.00
5	15.00	12.00
6-10	8.50	9.50
11-18	8.50	7.50
19+	8.50	5.00

Disability

50% of the 1996 Social Security Rate of Disability Table for males and 75% of the 1996 Social Security Rate of Disability for females.

Beneficiaries

Males are assumed to be three years older than females. Spouses are assumed not to remarry. All members with dependent coverage are assumed to be married.

B. Actuarial Methods

Funding Method

Entry Age Normal Cost Method

Amortization of Unfunded Actuarial Accrued Liability/Surplus

Level dollar amortization over a period not to exceed 30 years from July 1, 1994 for initial base, 30 years for assumption changes, and 15 years for gains and losses.

Asset Valuation Method

The actuarial value of assets is calculated by recognizing market gains and losses over a five-year period.

This exhibit summarizes the major provisions of the Fund. It is not intended to be, nor should it be interpreted as a complete statement of all plan provisions. All eligibility requirement and benefit amounts shall be determined in strict accordance with the plan document itself.

A. Effective Date

May 1, 1945

B. Covered Employees

Teachers hired before July 1, 1988 and school employees of Fulton County are eligible for membership in the Pension Fund. Effective July 1, 1988, Teacher members are also covered under the Teachers' Retirement System of Georgia (TRS). Teachers will receive a retirement benefit from TRS. Teachers may also be eligible to receive benefits from the Fulton County School Employees' Pension Fund if Fund benefits exceed the TRS benefit.

C. Creditable Service

The Fund covers all time as an employee during which or for which maximum pension contributions were made. Service with other Georgia entities is credited under special rules.

D. Final Average Monthly Earnings

The average of the three highest consecutive twelve-month periods of employment.

E. Normal Retirement

Eligibility

An employee is eligible to retire with an unreduced benefit at the earliest of:

- Age 65 and 10 years of service;
- Age 60 and 25 years of service;
- 30 years of service

Benefits

For members covered under the 1978 Pension Law, 2% of the participant's Final Average Monthly Earnings multiplied by years of Creditable Service. For members covered under the 1962 Pension Law, 1.76% of the participant's Final Average Monthly Earnings multiplied by years of Creditable Service. The monthly maximum benefit is equal to 75% of final average monthly earnings.

F. Accrued Benefit

The accrued benefit at any date is the normal retirement pension earned through that date. The minimum benefit is $17 per month for each year of creditable service, not to exceed 40 years. (Minimum benefit became effective July 1, 1995). Cost-of-Living Increases are not applied to the minimum benefit. The minimum benefit does not apply to persons receiving a pension from TRS.

G. Early Retirement

Eligibility

An employee is eligible for early retirement at the attainment of age 55 and 25 years of Creditable Service.

Benefits

The accrued benefit reduced for each year between the date payments start and age 60. The reduction is 1/12 of 2% for each month by which the participant's retirement date precedes age 60.

H. Late Retirement

The amount of benefit for a participant retiring after his normal retirement date is the accrued benefit as of the actual retirement date.

I. Disability

Eligibility

An employee who becomes totally disabled before becoming eligible for retirement benefits under the Fund but after completing 10 years of service is eligible for disability retirement benefits. Employees disabled in the line of duty are eligible regardless of their years of service.

Benefits

The accrued benefit, as of the date of disability, not reduced for age. For participants disabled in the line of duty, the benefit will be at least equal to the accrued benefit at age 55 and 25 years of service.

J. Termination Benefits

Eligibility

A participant who has completed at least 25 years of service shall be entitled to a vested retirement pension deferred to commence at age 55, provided his or her accumulated contributions are not withdrawn. Any employee who has completed 10 years of service shall be entitled to a vested retirement pension deferred to commence at age 65, provided the accumulated contributions are not withdrawn.

Benefits

The vested retirement pension is equal to the accrued benefit. If the participant has less than 30 years of service, the accrued benefit shall be reduced by 1/12 of 2% for each month by which the benefit commencement date precedes age 60.

K. Refund of Contributions

A participant who terminates before he or she is eligible to receive benefits will receive a refund equal to the sum of his or her own contributions without interest.

L. Death Benefits

Death benefits for death in the line of duty will be payable in an amount equal to 70% of the benefit for disability in the line of duty to the surviving spouse, or in absence of spouse, to any unmarried children under age 21. The death benefit continues for the life of the spouse. Benefits payable to children would cease at age 21 or at marriage if sooner. Upon the death not in the line of duty of a member who has contributed toward beneficiaries' benefit coverage and who has attained age 65 or completed 10 years of service, a beneficiaries' pension equal to 70% of the member's accrued benefit paid to his spouse for life or until his children reach age 21.

M. Cost-of-Living Increases

The benefits paid to recipients that have been retired more than one year are increased annually by 3%.

N. Employee Contributions

Each member covered under the 1978 law contributes 6.6% of gross salary if beneficiary coverage was elected and 5.6% of gross salary if beneficiary coverage was not elected. Each member covered under the 1962 law contributes 6% of gross salary if beneficiary coverage was elected and 5% of gross salary if beneficiary coverage was not elected. Members covered under laws prior to 1962 contribute amounts prescribed in those laws.

If the member is also a member of TRS, the contribution is split between the two funds with 6.00% of gross salary being contributed to TRS. The remainder of the contribution as outlined in the preceding paragraph is made to the Fulton County School Employees' Pension Fund.

O. Changes in Plan Provisions Since Prior Valuation

None.

APPENDIX C: SUMMARY OF PLAN PROVISIONS FOR TRS

This exhibit summarizes the major provisions of the Plan. It is not intended to be, nor should it be interpreted as a complete statement of all plan provisions. All eligibility requirement and benefit amounts shall be determined in strict accordance with the plan document itself.

A. Effective Date

January 1, 1941

B. Covered Employees

All Teachers, as defined by TRS, employed by the State of Georgia, the county or independent board of education, the State Board of Education, the Board of Regents of the University System of Georgia, or any other agency of and within the State by which a Teacher is paid.

C. Creditable Service

The System covers all time as a Teacher during which or for which maximum pension contributions were made.

D. Final Average Monthly Earnings

The average of the twenty-four highest consecutive months of employment.

E. Normal Retirement

Eligibility

An employee is eligible to retire with an unreduced benefit at the earliest of:

- Age 60 and 10 years of service;
- 30 years of service

Benefits

- An annuity which is the actuarial equivalent of the participant's accumulated contributions at the time of retirement; and
- A pension that, together with the annuity, will provide a total of 2% of the participant's final average monthly earnings multiplied by the number of years of creditable service limited to 40 years.
- The accrued benefit is reduced 1/12 of 7% for each month between the date payments starts and the earlier of age 60 or 30 years of service.

F. Accrued Benefit

The accrued benefit at any date is the normal retirement pension earned through that date. The minimum benefit is $17 per month for each year of creditable service, not to exceed 40 years.

G. Late Retirement

The amount of benefit for a participant retiring after his normal retirement date is the accrued benefit as of the actual retirement date.

H. Disability

Eligibility

An employee who becomes totally disabled before becoming eligible for retirement benefits under the Plan but after completing 10 years of service is eligible for disability retirement benefits.

Benefits

The accrued benefit, as of the date of disability, not reduced for age.

I. Termination Benefits

Eligibility

Any employee who has completed 10 years of service shall be entitled to a vested retirement pension deferred to commence at age 60, provided the accumulated contributions are not withdrawn.

Benefits

The vested retirement pension is equal to the accrued benefit at the time of termination.

J. Refund of Contributions

A participant who terminates before he or she is eligible to receive benefits will receive a refund equal to the sum of his or her own contributions with interest. Other participants may elect to receive their contributions, plus interest in lieu of any other benefit.

K. Death Benefits

Upon the death of a member who has completed 10 years of service, a beneficiaries' pension equal to 100% of the member's accrued benefit shall be paid throughout the life of his beneficiary.

L. Cost-of-Living Increases

Based on the Consumer Price index, limited to 1.5% per six months with no adjustments if the increase is less than 0.5%. Adjustments are made each January 1 and July 1. No reductions will be made for the first 2.5% decrease in the CPI and benefits will not be reduced below the amounts initially paid upon retirement. In addition, for members who retired prior to January 1, 2013, a one-time 3% increase on the first $37,500 for members' allowances is made at retirement.

M. Employee Contributions

Each member contributes 6.00% of earnable compensation. However, no contributions are payable after the attainment of age 65 and the completion of 40 years of creditable service. Members may elect to cease making contributions after the completion of 40 years of creditable service but before the attainment of age 65. The state contributes at a specified percentage of active member payroll determined annually by actuarial valuation.

N. Changes in Plan Provisions Since Prior Valuation

None.