

City of Atlanta General Employees' Pension Fund

Actuarial Valuation and Review as of July 1, 2020



This report has been prepared at the request of the Board of Trustees to assist in administering the Pension Fund. This valuation report may not otherwise be copied or reproduced in any form without the consent of the Board of Trustees and may only be provided to other parties in its entirety, unless expressly authorized by Segal. The measurements shown in this actuarial valuation may not be applicable for other purposes.

© 2021 by The Segal Group, Inc. All rights reserved.

Segal



2727 Paces Ferry Road SE, Building One Suite 1400
Atlanta, GA 30339-4053
segalco.com
T 678.306.3100

August 13, 2021

Board Members
City of Atlanta General Employees' Pension Fund
Atlanta, Georgia

Dear Board Members:

We are pleased to submit this Actuarial Valuation and Review as of July 1, 2020. It summarizes the actuarial data used in the valuation, analyzes the preceding year's experience, and establishes the funding requirements for the fiscal year ending June 30, 2022.

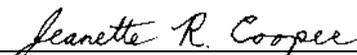
This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist in administering the Pension Fund. The census information on which our calculations were based was prepared by Strategic Benefits Advisors and financial information was provided by KPMG. That assistance is gratefully acknowledged.

The actuarial calculations were directed under the supervision of Jeanette R. Cooper, FSA, FCA, MAAA, Enrolled Actuary with the assistance of Ben Kirkland and Jody Martin. Ms. Cooper is a member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of her knowledge, the information supplied in this actuarial valuation is complete and accurate. Further, in her opinion, the assumptions as approved by the Board are reasonably related to the experience of and the expectations for the Fund.

We hereby certify that the City of Atlanta General Employees' Pension Fund has been funded in conformity with the minimum funding standards specified in Code Section 47-20-10 of the Official Code of Georgia Annotated known as the Public Retirement Systems Standards Law. This certification covers the 2020 fiscal year of the Fund.

We look forward to reviewing this report at your next meeting and to answering any questions.

Sincerely,
Segal



Jeanette R. Cooper, FSA, FCA, MAAA, EA
Vice President and Consulting Actuary

Table of Contents

Section 1: Actuarial Valuation Summary	4
Purpose and basis.....	4
Valuation highlights.....	5
Summary of key valuation results	8
Important information about actuarial valuations.....	9
Section 2: Actuarial Valuation Results.....	11
Participant data.....	11
Financial information.....	16
Actuarial experience	20
Actuarially determined contribution	25
Risk	28
GFOA funded liability by type	30
Actuarial balance sheet	31
Actuarial Present Value of Accumulated Plan Benefits	32
Section 3: Supplemental Information.....	35
Exhibit A: Table of Plan Demographics.....	35
Exhibit B: Participants in Active Service as of June 30, 2020 by Age, Years of Service, and Average Payroll	36
Exhibit C: Reconciliation of Participant Data	37
Exhibit D: Summary Statement of Income and Expenses on a Market Value Basis.....	38
Exhibit E: Asset Allocation as of June 30, 2020	39
Exhibit F: Development of the Fund through June 30, 2020.....	40
Exhibit G: Definition of Pension Terms.....	41
Section 4: Actuarial Valuation Basis.....	45
Exhibit I: Actuarial Assumptions and Actuarial Cost Method	45
Exhibit II: Summary of Plan Provisions	50

Section 1: Actuarial Valuation Summary

Purpose and basis

This report was prepared by Segal to present a valuation of the City of Atlanta General Employees' Pension Fund as of July 1, 2020. The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits. The measurements shown in this actuarial valuation may not be applicable for other purposes. In particular, the measures herein are not necessarily appropriate for assessing the sufficiency of Fund assets to cover the estimated cost of settling the Fund's benefit obligations. Future actuarial measurements may differ significantly from the current measurements 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; and changes in plan provisions or applicable law.

The contribution requirements presented in this report are based on:

- The benefit provisions of the Pension Fund, as administered by the Board;
- The characteristics of covered active participants, inactive vested participants, and retired participants and beneficiaries as of June 30, 2020, provided by Strategic Benefits Advisors;
- The assets of the Fund as of June 30, 2020, provided by the KPMG;
- Economic assumptions regarding future salary increases and investment earnings;
- Other actuarial assumptions regarding employee terminations, retirement, death, etc. and
- The funding policy adopted by the City.

Certain disclosure information required by GASB Statements No 67 and 68 as of June 30, 2021 and June 30, 2020 for the Fund was provided in separate reports.

Section 1: Actuarial Valuation Summary

Valuation highlights

1. The July 1, 2020 valuation is used to determine the recommended, or actuarially determined contribution (ADC) for the fiscal year period July 1, 2021 to June 30, 2022 (FY'22). The recommended contribution is adjusted for interest to the middle of the fiscal period and satisfies the minimum funding standards under Georgia law Code Section 47-20-10.
2. The plan receives employee contributions of 8% of base salary for employees hired after August 31, 2011 and Hybrid Participants, and 12% or 13% of base salary for employees hired before September 1, 2011. The City contributes the recommended contribution amount which is net of employee contributions. The recommended contribution amount is composed of the employer normal cost including administrative expenses and a payment to amortize the Unfunded Actuarial Accrued Liability (UAAL) over 21 years. The recommended contribution is actuarially determined as a level percentage of payroll and will increase 3.00% annually if all assumptions are met.
3. The following actuarial assumptions and methods were approved by the Board on April 21, 2021, following the completion of an experience study for the period July 1, 2014 through June 30, 2019. The study was limited to a review of methods and economic and mortality assumptions. The remaining demographic assumptions will be reviewed prior to the next valuation. Effective with this valuation, the following assumptions and methods were changed:
 - The annual investment return assumption was decreased from 7.25% to 7.00%.
 - The age-related salary scale was modified from rates starting at 14.75% grading down to an ultimate rate of 3.00% at age 65 to rates starting at 10.00% with an ultimate rate of 3.00% at age 65.
 - The mortality rates for employees, inactive vested participants, healthy retirees, beneficiaries of living retirees, disabled annuitants, and contingent beneficiaries were updated to reflect mortality based on the recent Pri-2012 mortality tables published by the Society of Actuaries.
 - The generational mortality projection scale was updated from using sex-distinct improvement rates under the 2016 OASDI Trustees Report under the intermediate alternative to sex-distinct improvement rates under the Society of Actuaries scale MP- 2020.
 - The amortization period was reset to 21 years consistent with the Police Officers' and Firefighters' Funds. Under the previous schedule, 20 years were remaining.

As a result of the assumption changes, the actuarial accrued liability increased by \$46.1 million, or 2.4%, the employer normal cost increased by \$0.6 million, and the ADC increased by \$3.2 million, or 1.67% of projected payroll. The method change to reset the amortization period had no impact on the actuarial accrued liability or employer normal cost but caused the ADC to decrease by \$1.5 million, or 0.72% of projected payroll. The combined effect of the assumption and method changes was an increase in the ADC of \$1.7 million, or 0.95% of projected payroll.

Section 1: Actuarial Valuation Summary

4. Segal strongly recommends an actuarial funding method that targets 100% funding of the actuarial accrued liability. Generally, this implies payments that are ultimately at least enough to cover normal cost, interest on the unfunded actuarial accrued liability and the principal balance. The funding policy adopted by the City meets this standard.
5. The City's recommended contribution for FY '22 is \$51.8 million, or 25.12% of projected payroll. This amount is an increase of about \$3.0 million from the prior valuation's cost and is mainly attributable to the change in assumptions, partially offset by the resetting of the amortization period. See *Section 2: Reconciliation of ADC* for additional details.
6. Actual contributions made during the fiscal year ending June 30, 2020 were \$48,219,000, 100% of the actuarially determined contribution (ADC). In the prior fiscal year, actual contributions were \$47,220,000, 100% of the prior year ADC.
7. The total contributions made during the fiscal year ending June 30, 2020 were sufficient to cover the normal cost plus interest on the UAAL, thereby reducing the UAAL by \$1.9 million.
8. The funded ratio (the ratio of the actuarial value of assets to actuarial accrued liability) is 68.03%, compared to the prior year funded ratio of 69.41%. This ratio is one measure of funding status, and its history is a measure of funding progress. Using the market value of assets, the funded ratio is 67.06%, compared to 70.46% as of the prior valuation date. These measurements are not necessarily appropriate for assessing the sufficiency of Fund assets to cover the estimated cost of settling the Fund's benefit obligation or the need for or the amount of future contributions.
9. The unfunded actuarial accrued liability is \$628.3 million, which is an increase of \$49.2 million since the prior valuation.
10. The actuarial loss from investment and other experience is \$5.1 million, or 0.26% of actuarial accrued liability prior to assumption changes.
11. The net experience gain from sources other than investment experience was 0.07% of the actuarial accrued liability prior to reflection of assumption and method changes. This gain/loss is not significant.
12. The rate of return on the market value of assets was 3.66% for the July 1, 2019 to June 30, 2020 plan year. The return on the actuarial value of assets was 6.76% for the same period due to the recognition of prior years' investment gains and losses. This resulted in an actuarial loss of \$6.3 million when measured against the assumed rate of return of 7.25%. Effective with this valuation, the assumed rate of return has been lowered from 7.25% to 7.00%. Given the low fixed income interest rate environment, target asset allocation and expectations of future investment returns for various classes, we advise the Board to continue to monitor actual and anticipated investment returns relative to the assumed long-term rate of return on investments of 7.00%.
13. The actuarial value of assets is 101.45% of the market value of assets. The investment experience in the past years has only been partially recognized in the actuarial value of assets. As the deferred net loss of \$19.2 million is recognized in future years, the cost of the Fund is likely to increase unless the net loss is offset by future experience.

Section 1: Actuarial Valuation Summary

14. There have been no changes in plan provisions since the last valuation.
15. The disclosure information required for compliance with GASB Statement No. 67, *Financial Reporting for Pension Plans* for the fiscal year ended June 30, 2020, was released to the City's Finance Department on October 30, 2020. Information required for compliance with GASB Statement No. 68, *Accounting and Financial Reporting for Pensions*, for the fiscal year ended June 30, 2021, based on a June 30, 2020 measurement date was released to the City's Finance Department on June 18, 2021.
16. It is important to note that this actuarial valuation is based on plan assets as of June 30, 2020. The plan's funded status does not reflect short-term fluctuations of the market, but rather is based on the market values on the last day of the plan year. Moreover, this actuarial valuation does not include any possible short-term or long-term impacts on mortality of the covered population that may emerge after June 30, 2020 as a result of the COVID-19 pandemic. While it is impossible to determine how the pandemic will affect market conditions, mortality and other demographic experience of the plan in future valuations, Segal is available to prepare projections of potential outcomes upon request.
17. Since the actuarial valuation results are dependent on a given set of assumptions, there is a risk that emerging results may differ significantly as actual experience proves to be different from the assumptions. We have not been engaged to perform a detailed analysis of the potential range of the impact of risk relative to the Fund's future financial condition, but have included a brief discussion of some risks that may affect the Fund in Section 2.

Section 1: Actuarial Valuation Summary

Summary of key valuation results

Fiscal Year		2021	2020
Contributions for fiscal year beginning July 1:	• Actuarially determined contributions	\$51,750,478	\$48,763,497
	• Actuarially determined contributions as a percent of payroll	25.12%	25.84%
Plan Year		2020	2019
Actuarial accrued liability for plan year beginning July 1:	• Retired participants and beneficiaries	\$1,408,411,977	\$1,360,458,932
	• Inactive vested participants	16,050,574	15,596,923
	• Active participants	537,250,857	513,673,057
	• Inactive participants due a refund of employee contributions	3,511,454	3,343,990
	• Total	1,965,224,862	1,893,072,902
	• Normal cost including administrative expenses for plan year beginning July 1	26,024,941	24,589,938
Assets for plan year beginning July 1:	• Market value of assets (MVA)	\$1,317,795,000	\$1,333,862,000
	• Actuarial value of assets (AVA)	1,336,954,199	1,314,030,198
	• Actuarial value of assets as a percentage of market value of assets	101.45%	98.51%
Funded status for plan year beginning July 1:	• Unfunded actuarial accrued liability on market value of assets	\$647,429,862	\$559,210,902
	• Funded percentage on MVA basis	67.06%	70.46%
	• Unfunded actuarial accrued liability on actuarial value of assets	\$628,270,663	\$579,042,704
	• Funded percentage on AVA basis	68.03%	69.41%
	• Amortization period on an AVA basis	21 years	21 years
Key assumptions:	• Net investment return	7.00%	7.25%
	• Inflation rate	2.25%	2.25%
	• Payroll increase	3.00%	3.00%
Demographic data for plan year beginning July 1:	• Number of retired participants and beneficiaries	3,986	3,991
	• Number of inactive vested participants	148	125
	• Number of active participants	3,936	3,674
	• Number of inactive participants due a refund of employee contributions	792	759
	• Covered payroll	\$200,004,950	\$183,222,147
	• Average payroll	50,814	49,870
	• Projected payroll	\$206,005,099	\$188,718,811

Section 1: Actuarial Valuation Summary

Important information about actuarial valuations

An actuarial valuation is a budgeting tool with respect to the financing of future projected obligations of a pension plan. It is an estimated forecast – the actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

In order to prepare a valuation, Segal relies on a number of input items. These include:

Plan of benefits	Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. Even where they appear precise, outside factors may change how they operate. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan summary included in our report to confirm that Segal has correctly interpreted the plan of benefits.
Participant data	An actuarial valuation for a plan is based on data provided to the actuary by the plan administrator. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
Assets	The valuation is based on the market value of assets as of the valuation date, as provided by KPMG. The City uses an “actuarial value of assets” that differs from market value to gradually reflect year-to-year changes in the market value of assets in determining the contribution requirements.
Actuarial assumptions	In preparing an actuarial valuation, Segal projects the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This projection requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of each participant for each year. In addition, the benefits projected to be paid for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments. The projected benefits are then discounted to a present value, based on the assumed rate of return that is expected to be achieved on the plan’s assets. There is a reasonable range for each assumption used in the projection and the results may vary materially based on which assumptions are selected. It is important for any user of an actuarial valuation to understand this concept. Actuarial assumptions are periodically reviewed to ensure that future valuations reflect emerging plan experience. While future changes in actuarial assumptions may have a significant impact on the reported results, that does not mean that the previous assumptions were unreasonable.
Models	Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative and client requirements. Our Actuarial Technology and Systems unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility and user control. The client team programs the assumptions and the plan provisions, validates the models, and reviews test lives and results, under the supervision of the responsible actuary.

Section 1: Actuarial Valuation Summary

The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

The actuarial valuation is prepared at the request of the Board. Segal is not responsible for the use or misuse of its report, particularly by any other party.

An actuarial valuation is a measurement of the plan's assets and liabilities at a specific date. Accordingly, except where otherwise noted, Segal did not perform an analysis of the potential range of future financial measures. The actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

Actuarial results in this report are not rounded, but that does not imply precision.

If the Board is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.

Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. The Board should look to their other advisors for expertise in these areas.

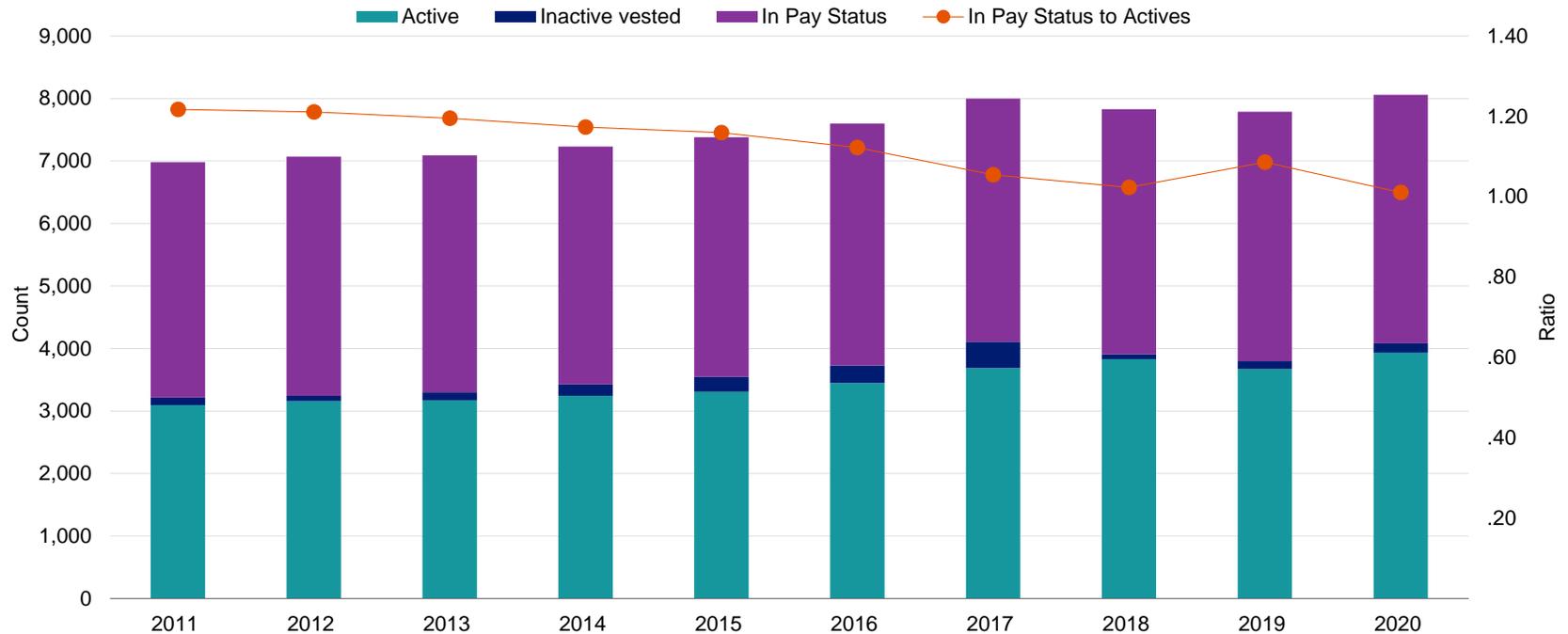
As Segal has no discretionary authority with respect to the management or assets of the Fund, it is not a fiduciary in its capacity as actuaries and consultants with respect to the Fund.

Section 2: Actuarial Valuation Results

Participant data

This section presents a summary of significant statistical data on covered participants.

Participant Population: 2011 – 2020



In Pay Status	3,765	3,826	3,790	3,805	3,834	3,874	3,889	3,920	3,991	3,986
Inactive Vested ¹	124	85	129	182	241	275	420	81	125	148
Active ²	3,093	3,159	3,171	3,243	3,307	3,452	3,688	3,830	3,674	3,936
Ratio ³	1.26	1.24	1.24	1.23	1.23	1.20	1.17	1.04	1.12	1.05

More detailed information for this valuation year and the preceding valuation can be found in *Section 3, Exhibits A, B, and C*.

¹Includes terminated participants due a refund of employee contributions through 2017. Beginning in 2018, excludes terminated participants due a refund of employee contributions

²Excludes participants receiving Workers' Compensation benefits.

³Represents ratio of in pay status and inactive vested participants to active participants.

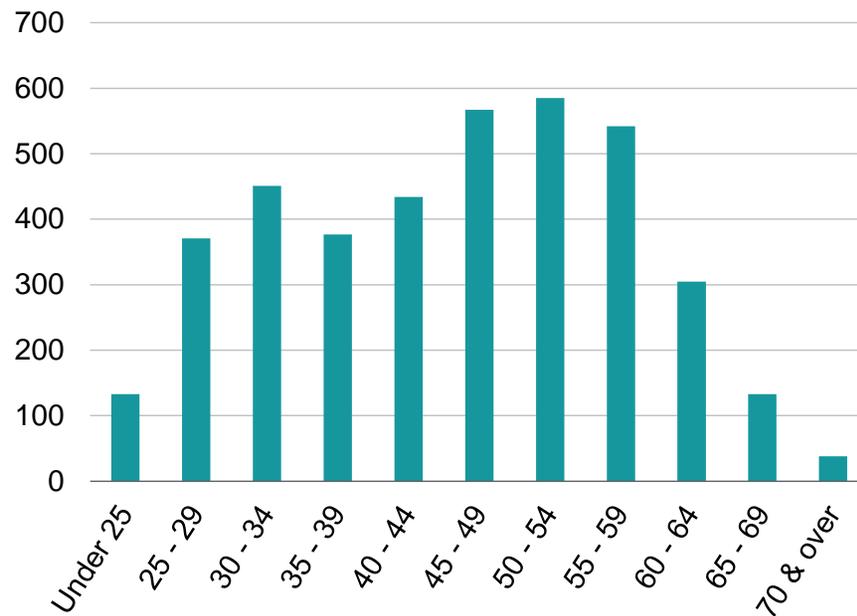
Section 2: Actuarial Valuation Results

Active participants

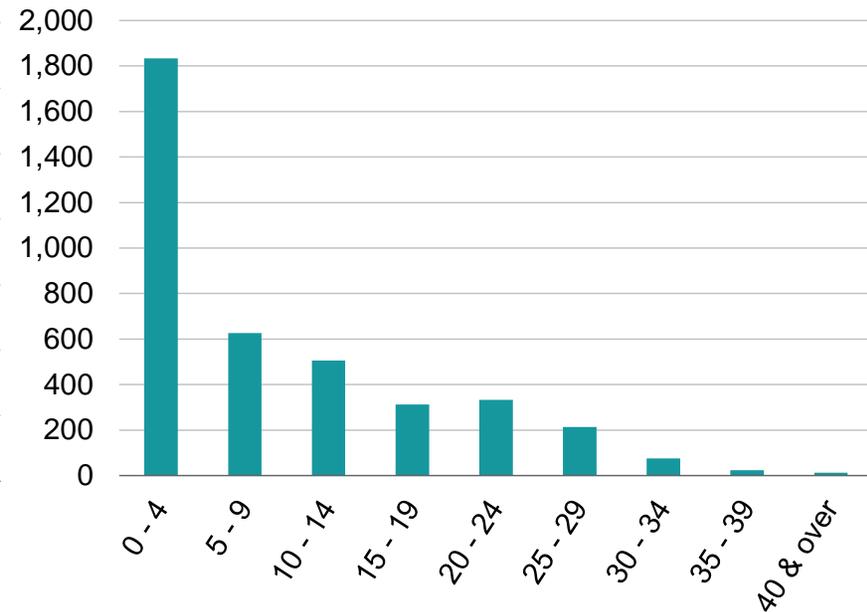
As of June 30,	2019	2020	Change
Active participants	3,674	3,936	7.1%
Average age	46.3	45.8	-0.5
Average years of service	10.3	9.6	-0.7
Average compensation	\$49,870	\$50,814	1.9%

Distribution of Active Participants as of June 30, 2020

Actives by Age



Actives by Years of Service



Section 2: Actuarial Valuation Results

Inactive participants

In this year's valuation, there were 148 participants with a vested right to a deferred or immediate vested benefit.

In addition, there were 792 participants entitled to a return of their employee contributions.

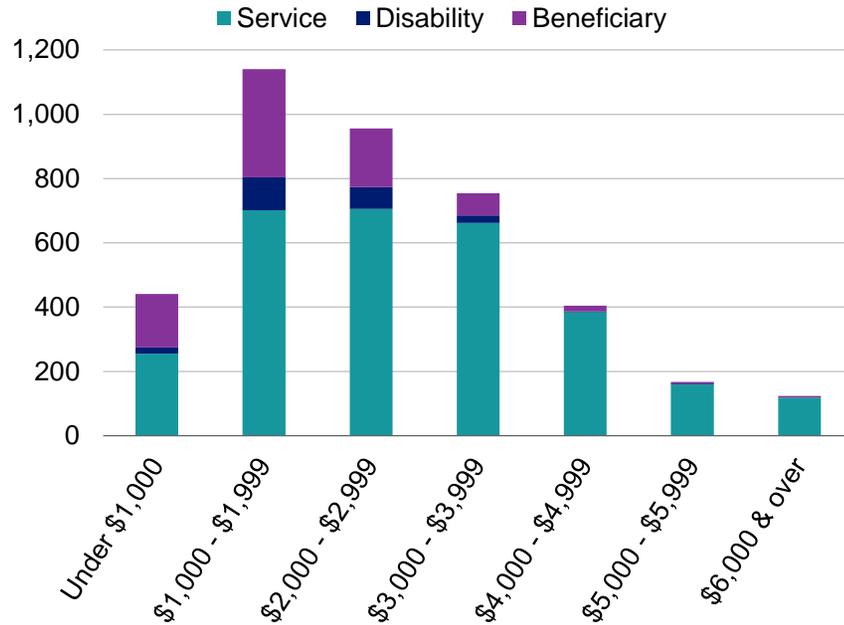
Section 2: Actuarial Valuation Results

Retired participants and beneficiaries

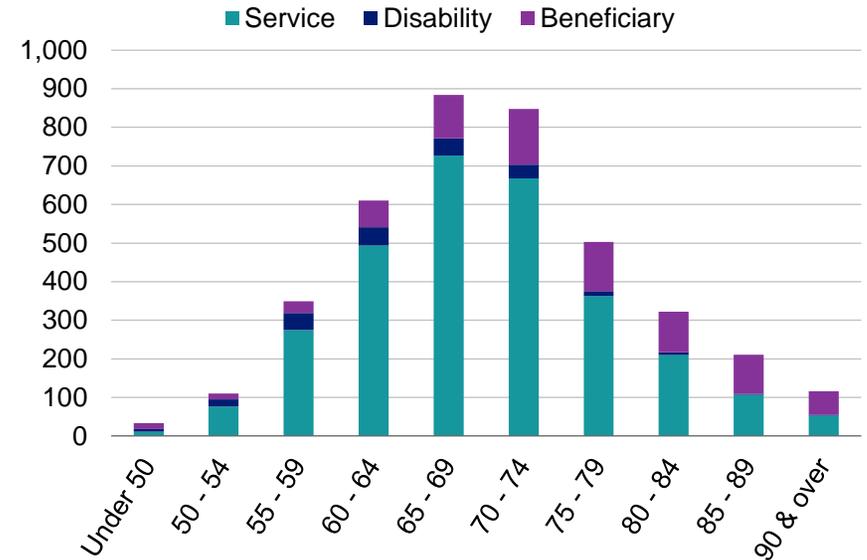
As of June 30,	2019	2020	Change
Retirees	3,203	3,204	0.0%
Beneficiaries	788	782	-0.8%
Average age	70.4	70.7	0.3
Average amount	\$2,598	\$2,675	3.0%
Total monthly amount	\$10,367,683	\$10,663,125	2.8%

Distribution of Retired Participants and Beneficiaries as of June 30, 2020

By Type and Monthly Amount



By Type and Age



Section 2: Actuarial Valuation Results

Historical plan population

Participant Data Statistics: 2011 – 2020

Year Ended June 30	Active Participants			Retired Participants and Beneficiaries		
	Count	Average Age	Average Service	Count	Average Age	Average Monthly Amount
2011	3,093	47.3	12.8	3,765	67.5	\$2,119
2012	3,159	47.2	12.5	3,826	67.7	2,210
2013	3,171	47.3	12.5	3,790	68.0	2,293
2014	3,243	47.4	12.4	3,805	68.3	2,342
2015	3,307	47.3	12.0	3,834	68.7	2,387
2016	3,452	46.8	11.2	3,874	69.3	2,417
2017	3,688	46.4	10.7	3,889	69.8	2,455
2018	3,830	46.3	10.4	3,920	70.1	2,525
2019	3,674	46.3	10.3	3,991	70.4	2,598
2020	3,936	45.8	9.6	3,986	70.7	2,675

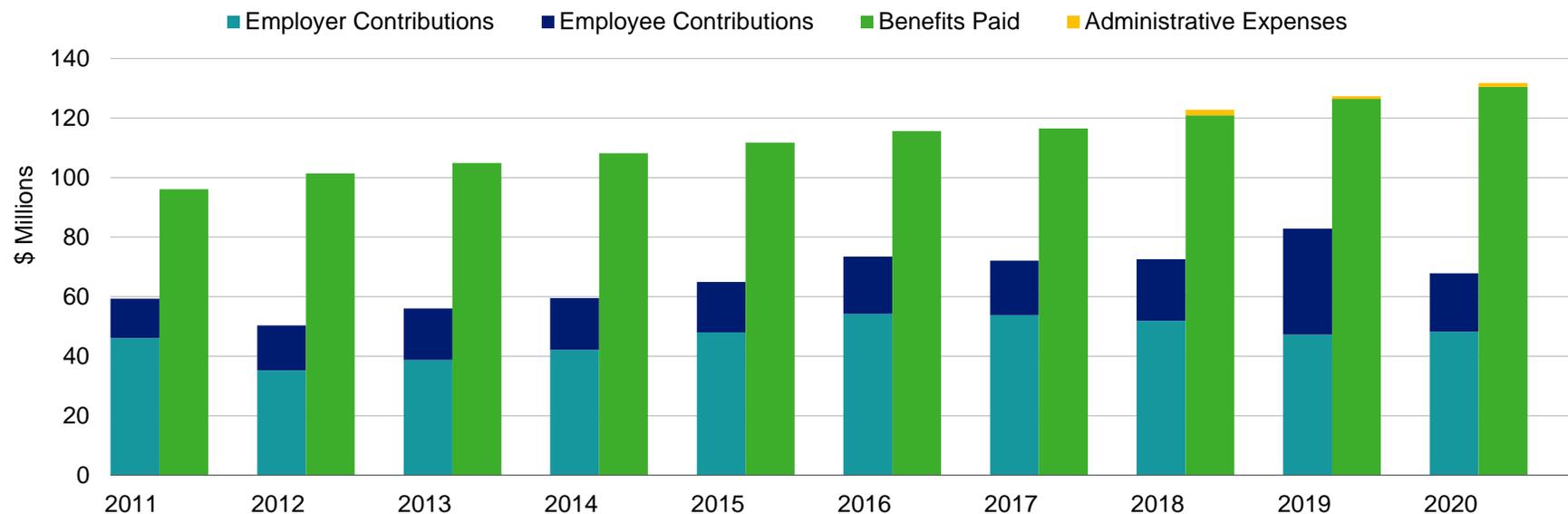
Section 2: Actuarial Valuation Results

Financial information

Retirement plan funding anticipates that, over the long term, both contributions (less administrative expenses) and investment earnings (less investment fees) will be needed to cover benefit payments. Retirement plan assets change as a result of the net impact of these income and expense components.

Additional financial information, including a summary of transactions for the valuation year, is presented in *Section 3, Exhibits D, E and F*.

Comparison of Contributions Made with Benefits and Expenses Paid
for Years Ended June 30, 2011 – 2020¹



¹Prior to 2018 investment earnings were net of investment fees and administrative expenses.

Section 2: Actuarial Valuation Results

It is desirable to have level and predictable plan costs from one year to the next. For this reason, the Board has approved an asset valuation method that gradually adjusts to market value. Under this valuation method, the full value of market fluctuations is not recognized in a single year and, as a result, the asset value and the plan costs are more stable. The amount of the adjustment to recognize market value is treated as income, which may be positive or negative. Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets has no immediate effect on the actuarial value.

Determination of Actuarial Value of Assets for Year Ended June 30, 2020

1	Market value of assets, June 30, 2020			\$1,317,795,000
2	Calculation of unrecognized return	Original Amount¹	Percent Deferred²	Unrecognized Amount³
	(a) Year ended June 30, 2020	-\$46,742,145	80%	-\$37,393,716
	(b) Year ended June 30, 2019	-15,375,919	60%	-9,225,551
	(c) Year ended June 30, 2018	34,365,719	40%	13,746,288
	(d) Year ended June 30, 2017	68,568,900	20%	13,713,780
	(e) Year ended June 30, 2016	-79,572,275	0%	0
	(f) Total unrecognized return			-\$19,159,199
3	Preliminary actuarial value: (1) - (2f)			1,336,954,199
4	Adjustment to be within 20% corridor			0
5	Final actuarial value of assets as of June 30, 2020: (3) + (4)			<u>1,336,954,199</u>
6	Actuarial value as a percentage of market value: (5) ÷ (1)			101.45%
7	Amount deferred for future recognition: (1) - (5)⁴			-\$19,159,199

¹Total return minus expected return on a market value basis

²Percent deferred applies to the current valuation year

³Recognition at 20% per year over five years

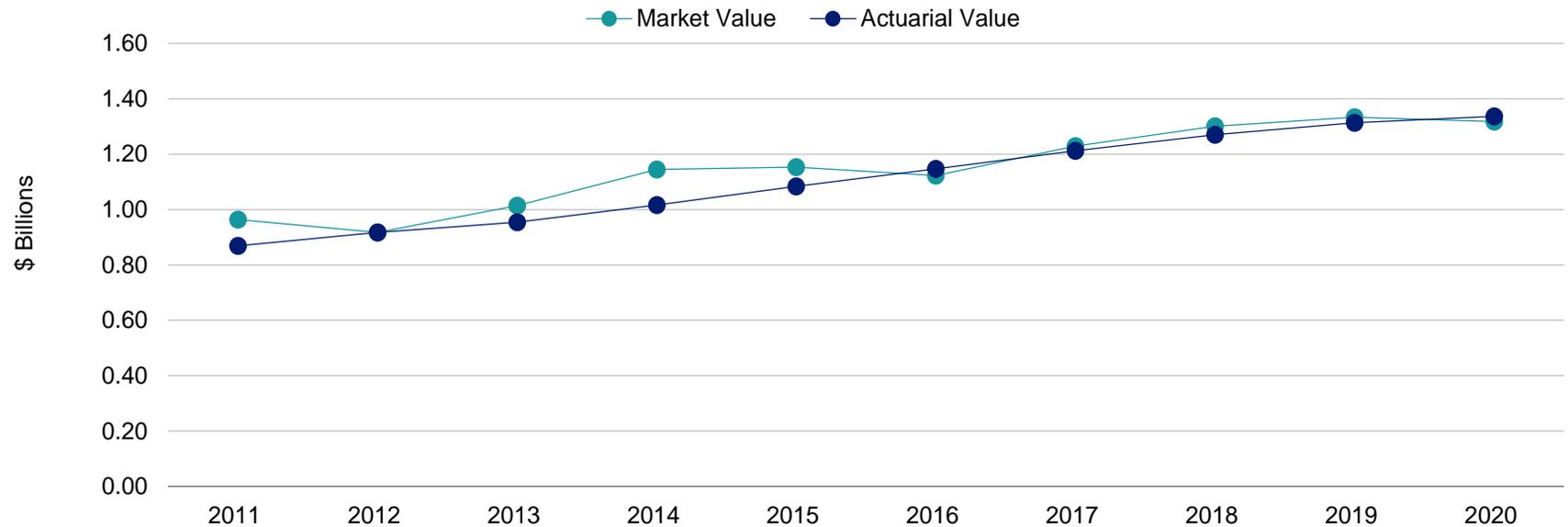
⁴Deferred return as of June 30, 2020 recognized in each of the next four years:

(a) Amount recognized on June 30, 2021	\$8,163,312
(b) Amount recognized on June 30, 2022	-5,550,469
(c) Amount recognized on June 30, 2023	-12,423,613
(d) Amount recognized on June 30, 2024	-9,348,429

Section 2: Actuarial Valuation Results

Both the actuarial value and market value of assets are representations of the Fund's financial status. As investment gains and losses are gradually taken into account, the actuarial value of assets tracks the market value of assets. The actuarial asset value is significant because the Fund's liabilities are compared to these assets to determine what portion, if any, remains unfunded. Amortization of the unfunded actuarial accrued liability is an important element in determining the contribution requirement.

Market Value of Assets vs. Actuarial Value of Assets



Market Value ¹	\$0.96	\$0.92	\$1.01	\$1.15	\$1.15	\$1.12	\$1.23	\$1.30	\$1.33	\$1.32
Actuarial Value ¹	0.87	0.92	0.95	1.02	1.08	1.15	1.21	1.27	1.31	1.34

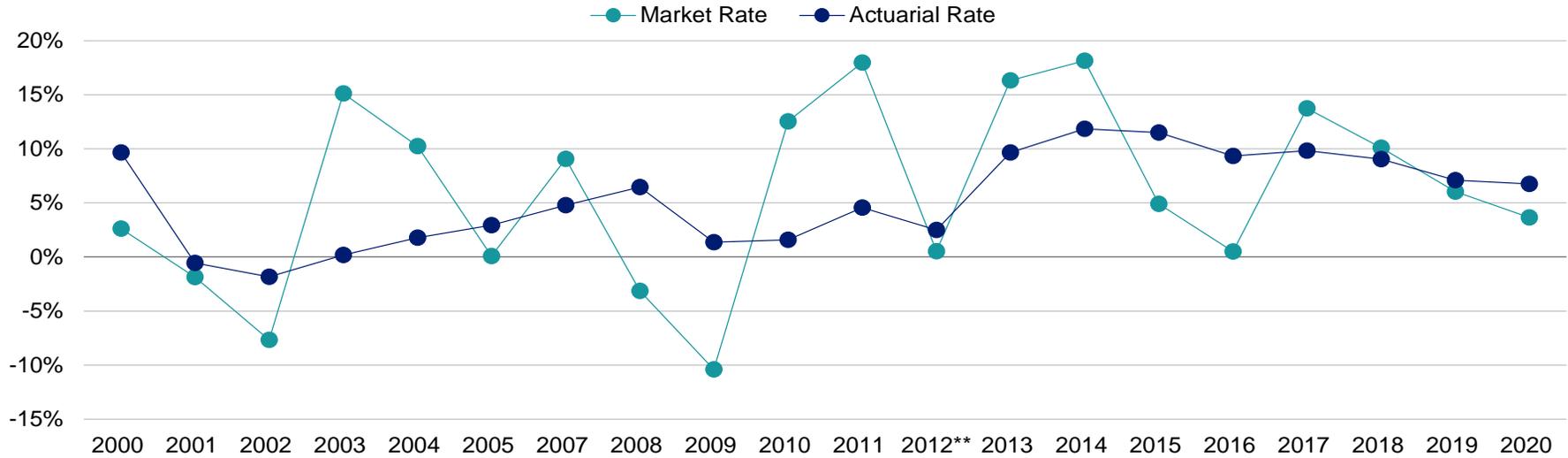
Because actuarial planning is long term, it is useful to see how the assumed investment rate of return has followed actual experience over time. The chart on the following page shows the rate of return on an actuarial basis compared to the actual market value investment return for the last 20 years, including averages over select time periods.

¹In \$ billions

Section 2: Actuarial Valuation Results

As described earlier in this section, the actuarial asset valuation method gradually recognizes fluctuations in the market value rate of return. The goal of this is to stabilize the actuarial rate of return and to produce more level pension plan costs.

Market and Actuarial Rates of Return for Years* Ended June 30, 2000 - 2020



	2000	2001	2002	2003	2004	2005	2007	2008	2009	2010	2011	2012**	2013	2014	2015	2016	2017	2018	2019	2020
Market rate	2.6%	-1.9%	-7.7%	15.1%	10.2%	0.1%	9.1%	-3.1%	-10.4%	12.5%	18.0%	0.5%	16.3%	18.1%	4.9%	0.5%	13.7%	10.1%	6.0%	3.7%
Actuarial rate	9.7%	-0.6%	-1.8%	0.2%	1.8%	2.9%	4.8%	6.4%	1.4%	1.6%	4.6%	2.5%	9.7%	11.8%	11.5%	9.3%	9.8%	9.0%	7.1%	6.8%
Assumed rate	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	7.5%	7.5%	7.5%	7.5%	7.2%	7.2%	7.2%	7.2%

*Prior to 2007, financial information was based on 12-month periods ending December 31.

**Actuarial value rate of return before method change.

Average Rates of Return	Actuarial Value	Market Value
Most recent five-year average return:	8.33%	6.70%
Most recent ten-year average return:	8.28%	8.69%
Most recent fifteen-year average return:	6.88%	6.73%
Twenty-year average return:	6.16%	6.13%

Section 2: Actuarial Valuation Results

Actuarial experience

To calculate any actuarially determined contribution, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year actual experience is measured against the assumptions. If overall experience is more favorable than anticipated (an actuarial gain), any contribution requirement will decrease from the previous year. On the other hand, any contribution requirement will increase if overall actuarial experience is less favorable than expected (an actuarial loss).

Taking account of experience gains or losses in one year without making a change in assumptions reflects the belief that the single year's experience was a short-term development and that, over the long term, experience will return to the original assumptions. For contribution requirements to remain stable, assumptions should approximate experience. If assumptions are changed, the contribution requirement is adjusted to take into account a change in experience anticipated for all future years.

The total loss is \$5,066,405, which includes \$6,313,338 from investment losses and \$1,246,933 in gains from all other sources. The net experience variation from individual sources other than investments was 0.1% of the actuarial accrued liability. A discussion of the major components of the actuarial experience is on the following pages.

Actuarial Experience for Year Ended June 30, 2020

1	Net loss from investments ¹	-\$6,313,338
2	Net gain from administrative expenses	48,976
3	Net gain from other experience	1,197,957
4	Net experience loss: 1 + 2 + 3	-\$5,066,405

¹Details on next page

Section 2: Actuarial Valuation Results

Investment experience

A major component of projected asset growth is the assumed rate of return. The assumed return should represent the expected long-term rate of return, based on the Fund's investment policy. The rate of return on the market value of assets was 3.66% for the year ended June 30, 2020.

For valuation purposes, the assumed rate of return on the actuarial value of assets is 7.00%, effective with this valuation. However, the experience is measured against the 7.25% assumption that was in place for last year. The actual rate of return on an actuarial basis for the 2019-2020 plan year was 6.76%. Since the actual return for the year was less than the assumed return, the Fund experienced an actuarial loss during the year ended June 30, 2020 with regard to its investments.

Investment Experience

		Year Ended June 30, 2020	
		Market Value	Actuarial Value
1	Net investment income	\$47,653,000	\$86,644,001
2	Average value of assets	1,302,002,000	1,282,170,198
3	Rate of return: 1 ÷ 2	3.66%	6.76%
4	Assumed rate of return	7.25%	7.25%
5	Expected investment income: 2 x 4	94,395,145	92,957,339
6	Actuarial gain/(loss): 1 - 5	<u>-\$46,742,145</u>	<u>-\$6,313,338</u>

Section 2: Actuarial Valuation Results

Non-investment experience

Administrative expenses

- Administrative expenses for the year ended June 30, 2020 totaled \$1,252,000, as compared to the assumption of \$1,254,607 as of the beginning of the year. This resulted in a gain of \$48,976 for the year. Because it is expected that these expenses will continue to increase, the actuarial assumption includes an annual 2.25% inflationary increase.

Mortality experience

- Mortality experience (more or fewer than expected deaths) yields actuarial gains or losses.
- Recent mortality experience was provided in the 2014-2019 experience study with new assumptions approved by the Board in April 2021. During this period, overall annuitant deaths were close to expected on a headcount basis. On an amount-weighted basis, annuitant deaths were lower than expected for retirees and slightly higher than expected for spouses. The experience from this plan was combined with the experience from the School Board plan to have sufficient credibility for both plans. Separate tables were developed for employees and terminated vested participants, retirees and spouses of living retirees, disabled annuitants and contingent beneficiaries.

Other experience

There are other differences between the expected and the actual experience that appear when the new valuation is compared with the projections from the previous valuation. These include:

- the extent of turnover among participants,
- retirement experience (earlier or later than projected),
- the number of disability retirements (more or fewer than projected), and
- salary increases (greater or smaller than projected), and
- inflationary cost-of-living adjustments higher or lower than anticipated.

The net gain from the demographic experience, including mortality, for the year ended June 30, 2020 amounted to \$1,197,957, which is 0.1% of the actuarial accrued liability.

Section 2: Actuarial Valuation Results

Actuarial assumptions and methods

An Actuarial Experience Review, covering the period July 1, 2014 through June 30, 2019, was completed in March 2021. The assumptions under the study were limited to a review of methods and economic and mortality assumptions. As a result of that study, the following assumption and method changes were proposed by the actuary, approved by the Board and reflected with this valuation:

- The annual investment return assumption was decreased from 7.25% to 7.00%.
- The age-related salary scale was modified from rates starting at 14.75% grading down to an ultimate rate of 3.00% at age 65 to rates starting at 10.00% with an ultimate rate of 3.00% at age 65.
- The mortality rates for employees, inactive vested participants, healthy retirees, beneficiaries of living retirees, disabled annuitants and contingent beneficiaries were updated to reflect mortality based on the recent Pri-2012 mortality tables published by the Society of Actuaries.
- The generational mortality projection scale was updated from using sex-distinct improvement rates under the 2016 OASDI Trustees Report under the intermediate alternative to sex-distinct improvement rates under the Society of Actuaries scale MP-2020.
- The amortization period was reset to 21 years consistent with the Police Officers' and Firefighters' Funds. Under the previous schedule, 20 years were remaining.

As a result of the assumption changes, the actuarial accrued liability increased by \$46.1 million, or 2.4%, the employer normal cost increased by \$0.6 million, and the ADC increased by \$3.2 million, or 1.67% of projected payroll. The method change to reset the amortization period had no impact on the actuarial accrued liability or employer normal cost but caused the ADC to decrease by \$1.5 million, or 0.72% of projected payroll. The combined effect of the assumption and method changes was an increase in the ADC of \$1.7 million, or 0.95% of projected payroll.

Details on actuarial assumptions and methods are in Section 4, Exhibit I.

Plan provisions

There were no changes in plan provisions since the prior valuation.

A summary of plan provisions is in Section 4, Exhibit II.

Section 2: Actuarial Valuation Results

Development of Unfunded Actuarial Accrued Liability for Year Ended June 30, 2020

1	Unfunded actuarial accrued liability at beginning of year	\$579,042,704
2	Normal cost at beginning of year	24,589,938
3	Total expected contributions	-67,818,000
4	Interest on 1, 2 & 3	41,304,964
5	Expected unfunded actuarial accrued liability	\$577,119,606
6	Changes due to:	
	(a) Experience gains and losses	\$5,066,405
	(b) Assumptions	<u>46,084,652</u>
	Total changes	<u>\$51,151,057</u>
7	Unfunded actuarial accrued liability at end of year	<u>\$628,270,663</u>

Section 2: Actuarial Valuation Results

Actuarially determined contribution

The actuarially determined contribution is equal to the employer normal cost payment and a payment on the unfunded actuarial accrued liability. As of July 1, 2020, the actuarially determined contribution is \$51,750,478, or 25.12% of payroll.

The Board sets the methodology used to calculate the actuarially determined contribution based on a closed level percentage of payroll amortization period of 30 years, established with the July 1, 2010 valuation. As of July 1, 2020, there are 20 years remaining on this schedule. The amortization schedule was reset to 21 years with this valuation to match the Police Officers' and Firefighters' Funds.

The contribution requirement for the, 2020-2021 fiscal year is based on the data previously described, the actuarial assumptions and Plan provisions described in *Section 4*, including all changes affecting future costs adopted at the time of the actuarial valuation, actuarial gains and losses, and changes in the actuarial assumptions.

Actuarially Determined Contribution for Fiscal Year Beginning July 1

	2021		2020	
	Amount	% of Projected Payroll	Amount	% of Projected Payroll
1 Total normal cost	\$24,742,105	12.01%	\$23,335,331	12.36%
2 Administrative expenses	1,282,836	0.62%	1,254,607	0.66%
3 Expected employee contributions	<u>-20,100,808</u>	<u>-9.75%</u>	<u>-18,975,672</u>	<u>-10.05%</u>
4 Employer normal cost: (1) + (2) + (3)	\$5,924,133	2.88%	\$5,614,266	2.97%
5 Actuarial accrued liability	\$1,965,224,862		\$1,893,072,902	
6 Actuarial value of assets	<u>1,336,954,199</u>		<u>1,314,030,198</u>	
7 Unfunded actuarial accrued liability: (5) - (6)	\$628,270,663		\$579,042,704	
8 Payment on projected unfunded actuarial accrued liability	42,647,784	20.70%	40,100,759	21.25%
9 Adjustment for timing ¹	3,178,561	1.54%	3,048,472	1.62%
10 Actuarially determined contribution: (8) + (9) + (10)	<u>\$51,750,478</u>	<u>25.12%</u>	<u>\$48,763,497</u>	<u>25.84%</u>
11 Projected payroll	\$206,005,099		\$188,718,811	

¹Actuarially determined contributions are assumed to be paid at the middle of every year. Calculated as $\{[(4) + (8)] \times [1.07^{0.50}] \times 1.03\} - (4) - (8)$ for fiscal year beginning July 1, 2021; calculated as $\{[(4) + (8)] \times [1.0725^{0.50}] \times 1.03\} - (4) - (8)$ for fiscal year beginning July 1, 2020.

Section 2: Actuarial Valuation Results

Reconciliation of actuarially determined contribution

The chart below details the changes in the actuarially determined contribution from the prior valuation to the current year's valuation.

Reconciliation of Actuarially Determined Contribution for Fiscal Year Ending 2021 to 2022

	Amount
1 Actuarially Determined Contribution as of July 1, 2020	\$48,763,497
2 Effect of expected change in amortization payment due to payroll growth	1,283,246
3 Effect of change in amortization period	-1,486,710
4 Effect of change in other actuarial assumptions	3,172,374
5 Effect of scheduled change in assumed administrative expense assumption	30,111
6 Effect of contributions more than actuarially determined contribution	-68,268
7 Effect of investment loss	481,222
8 Effect of other gains and losses on accrued liability	-95,045
9 Net effect of other changes, including composition and number of participants	-329,949
10 Total change	\$2,986,981
11 Actuarially Determined Contribution as of July 1, 2021	\$51,750,478

Section 2: Actuarial Valuation Results

History of employer contributions

A history of the most recent years of contributions is shown below.

History of Employer Contributions: 2012 – 2021

Fiscal Year Ended June 30	Actuarially Determined Employer Contribution (ADC¹)	Actual Employer Contribution	Percent Contributed
2012	\$35,237,651	\$35,237,000	100.00%
2013	38,688,054	38,694,000	100.02%
2014	42,145,284	42,145,000	100.00%
2015	47,969,283	48,015,000	100.10%
2016	54,235,740	54,236,000	100.00%
2017	53,815,973	53,817,000	100.00%
2018	51,902,994	51,903,000	100.00%
2019	47,220,491	47,220,000	100.00%
2020	48,218,811	48,219,000	100.00%
2021	48,763,497	--	--

¹Prior to GASB67/68, this amount was the Annual Required Contribution (ARC).

Section 2: Actuarial Valuation Results

Risk

Since the actuarial valuation results are dependent on a given set of assumptions and data as of a specific date, there is a risk that emerging results may differ significantly as actual experience differs from the assumptions.

This report does not contain a detailed analysis of the potential range of future measurements, but does include a brief discussion of some risks that may affect the Fund. Upon request, a more detailed assessment can be provided to enable a better understanding of the risks inherent in the Fund. This assessment may include scenario testing, sensitivity testing, stress testing and stochastic modeling.

- Investment Risk (the risk that returns will be different than expected)

Since the Fund's assets are much larger than contributions, investment performance may create volatility in contribution requirements.

The market value rate of return over the last 20 years has ranged from a low of -10.39% to a high of 18.14%.

- Longevity Risk (the risk that mortality experience will be different than expected)

The actuarial valuation includes an expectation of future improvement in life expectancy. Emerging plan experience that does not match these expectations will result in either an increase or decrease in the actuarially determined contribution.

- Contribution Risk (the risk that actual contributions will be different from actuarially determined contribution)

The City's funding policy requires payment of the actuarially determined contribution. As long as this policy is adhered to, contribution risk is negligible.

As part of the funding policy, if the valuation results calculated under the actuarial assumptions and methods in effect at the time of the 2011 Pension Reform would result in the Actual Required Contribution (ARC) exceeding 35% of total payroll (the "cap"), a Cost Recovery Plan would be implemented to reduce the ARC to no more than 35%. A Cost Recovery Plan can include increasing the City or employee contributions, modifying pension benefits, or using alternative funding sources. To date a Cost Recovery Plan has not needed to be implemented.

- Demographic Risk (the risk that participant experience will be different than assumed)

Examples of this risk include:

- Actual retirements occurring earlier or later than assumed. The value of retirement plan benefits is sensitive to the rate of benefit accruals and any early retirement subsidies that apply.
- More or less active participant turnover than assumed.

Section 2: Actuarial Valuation Results

While it is difficult to quantify the impact of potential experience, for your Fund, each 1% change in the actuarial cost factors would result in a change in this year's recommended contribution of \$3.2 million, or 1.56% of projected payroll.

- Actual Experience Over the Last Ten Years and Implications for the Future

Past experience can help demonstrate the sensitivity of key results to the Fund's actual experience. Over the past ten years:

The investment gain/(loss) on a market value basis for a year has ranged from a loss of \$79,572,275 in 2016 to a gain of \$105,310,725 in 2014.

The investment gain/(loss) on an actuarial value basis has ranged from a loss of \$46,424,667 in 2012 to a gain of \$40,388,059 in 2014.

The funded percentage on the market value of assets has ranged from a low of 51.02% as of July 1, 2012 to a high of 70.46% as of July 1, 2019.

The funded percentage on the actuarial value of assets has ranged from a low of 51.02% as of July 1, 2012 to a high of 69.41% as of July 1, 2019.

- Maturity Measures

As pension plans mature, the cash needed to fulfill benefit obligations will increase over time. Therefore, cash flow projections and analysis should be performed to assure that the Fund's asset allocation is aligned to meet emerging pension liabilities.

Currently the Fund has a non-active to active participant ratio of 1.05. For the prior year benefits paid and administrative expenses were \$63,987,000 more than contributions received. As the Fund matures, more cash will be needed from the investment portfolio to meet benefit payments.

Section 2: Actuarial Valuation Results

GFOA funded liability by type

The Actuarial Accrued Liability represents the present value of benefits earned, calculated using the plan's actuarial cost method. The Actuarial Value of Assets reflects the financial resources available to liquidate the liability. The portion of the liability covered by assets reflects the extent to which accumulated plan assets are sufficient to pay future benefits, and is shown for liabilities associated with employee contributions, pensioner liabilities, and other liabilities. The Government Finance Officers Association (GFOA) recommends that the funding policy aim to achieve a funded ratio of 100 percent.

GFOA Funded Liability by Type as of June 30

	2020	2019
Actuarial accrued liability (AAL)		
• Active member contributions	\$153,168,775	\$149,115,925
• Retirees and beneficiaries	1,408,411,977	1,360,458,932
• Active and inactive members (employer-financed)	403,644,110	383,498,045
Total	\$1,965,224,862	\$1,893,072,902
Actuarial value of assets	\$1,336,954,199	\$1,314,030,198
Cumulative portion of AAL covered		
• Active member contributions	100.00%	100.00%
• Retirees and beneficiaries	84.05%	85.63%
• Active and inactive members (employer-financed)	0.00%	0.00%

Section 2: Actuarial Valuation Results

Actuarial balance sheet

An overview of the plan's funding is given by an Actuarial Balance Sheet. In this approach, first the amount and timing of all future payments that will be made by the Fund for current participants is determined. Then these payments are discounted at the valuation interest rate to the date of the valuation, thereby determining the present value, referred to as the "liability" of the Fund.

Second, this liability is compared to the assets. The "assets" for this purpose include the net amount of assets already accumulated by the Fund, the present value of future member contributions, the present value of future employer normal cost contributions, and the present value of future employer amortization payments for the unfunded actuarial accrued liability.

Actuarial Balance Sheet

	Year Ended	
	June 30, 2020	June 30, 2019
Liabilities		
• Present value of benefits for retired participants and beneficiaries	\$1,408,411,977	\$1,360,458,932
• Present value of benefits for inactive vested participants	19,562,028	18,940,913
• Present value of benefits for active participants	<u>721,653,853</u>	<u>686,912,758</u>
Total liabilities	\$2,149,627,858	\$2,066,312,603
Assets		
• Total valuation value of assets	\$1,336,954,199	\$1,314,030,198
• Present value of future contributions by members	161,785,666	151,796,597
• Present value of future employer contributions for:		
• Entry age cost	22,617,330	21,443,104
• Unfunded actuarial accrued liability	<u>628,270,663</u>	<u>579,042,704</u>
Total of current and future assets	<u>\$2,149,627,858</u>	<u>\$2,066,312,603</u>

Section 2: Actuarial Valuation Results

Actuarial Present Value of Accumulated Plan Benefits

The actuarial present value of accumulated plan benefits is shown below as of July 1, 2020 and as of July 1, 2019.

Actuarial Present Value of Accumulated Plan Benefits

	Benefit Information Date	
	July 1, 2020	July 1, 2019
Actuarial present value of vested accumulated plan benefits:		
> Participants currently receiving payments	\$1,408,411,977	\$1,360,458,932
> Other vested benefits	391,287,815	370,664,476
> Total vested benefits (PVVB)	1,799,699,792	1,731,123,408
Actuarial present value of non-vested accumulated plan benefits	40,959,293	44,095,616
Total actuarial present value of accumulated plan benefits (PVAB)	\$1,840,659,085	\$1,775,219,024
Actuarial Value of Assets (AVA)	\$1,336,954,199	\$1,314,030,198
Market Value of Assets (MVA)	\$1,317,795,000	\$1,333,862,000
Funded Ratios (PVVB):		
> AVA as a percentage of present value of vested accumulated benefits	74.29%	75.91%
> MVA as a percentage of present value of vested accumulated benefits	73.22%	77.05%
Funded Ratios (PVAB):		
> AVA as a percentage of present value of accumulated benefits	72.63%	74.02%
> MVA as a percentage of present value of accumulated benefits	71.59%	75.14%

Note: The amounts stated as vested benefits include employee contribution accounts, which are considered 100% vested.

Section 2: Actuarial Valuation Results

The factors that affected the change in the actuarial present value of accumulated plan benefits from the preceding to the current benefit information date are as follows:

Factors	Change in Actuarial Present Value of Accumulated Plan Benefits
Benefits accumulated, net experience gain or loss, changes in data	\$35,160,325
Benefits paid	-130,553,000
Interest	123,970,833
Change in assumptions	<u>36,861,903</u>
Total	<u>\$65,440,061</u>

Section 2: Actuarial Valuation Results

State minimum requirements

Under Georgia minimum funding requirements, the liability may be amortized as a percent of payroll, rather than a fixed dollar amount. In general, with fixed dollar amortization, actual experience close to the assumptions will result in a total contribution requirement (the normal cost plus the payment on the unfunded actuarial liability) that decreases over time as a percentage of payroll. With percentage of payroll amortization, given expected experience, the total contribution requirement should remain level as a percentage of payroll.

Prior to the 2005 valuation, the Plan had adopted the policy of amortizing the unfunded actuarial liability as a level percentage of payroll over a closed 40-year period from January 1, 1979. At January 1, 2005, the amortization was reset to a closed 20-year period. Effective July 1, 2008, the amortization period was changed to an open 30-year period and effective July 1, 2010, the amortization period was changed to a closed 30-year period. Effective with this valuation, the amortization period was reset to 21 years as of July 1, 2020 to be consistent with the Police Officers' and Firefighters' Funds. The contributions determined under this method continue to meet the Georgia minimum funding requirements by virtue of Georgia Code Section 47-20-10(b).

Section 3: Supplemental Information

Exhibit A: Table of Plan Demographics

Category	Year Ended June 30		Change From Prior Year
	2020	2019	
Active participants in valuation:			
• Number	3,936	3,674	7.1%
• Average age	45.8	46.3	-0.5
• Average years of service	9.6	10.3	-0.7
• Projected total payroll	\$200,004,950	\$183,222,147	9.2%
• Projected average payroll	50,814	49,870	1.9%
• Account balances	153,168,775	149,115,925	2.7%
• Total active vested participants	2,102	2,116	-0.7%
Inactive vested participants:			
Number of vested terminated participants	148	125	18.4%
Inactive nonvested participants due a refund	792	759	4.3%
Retired participants:			
• Number in pay status	2,975	2,967	0.3%
• Average age	70.0	69.5	0.5
• Average monthly benefit	\$2,947	\$2,869	2.7%
• Number in suspended status	9	10	-10.0%
Disabled participants:			
• Number in pay status	220	226	-2.7%
• Average age	64.4	64.0	0.4
• Average monthly benefit	\$2,013	\$1,998	0.8%
Beneficiaries:			
• Number in pay status	782	788	-0.8%
• Average age	75.4	75.5	-0.1
• Average monthly benefit	\$1,839	\$1,758	4.6%

Section 3: Supplemental Information

Exhibit B: Participants in Active Service as of June 30, 2020 by Age, Years of Service, and Average Payroll

Age	Years of Service									
	Total	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 & over
Under 25	133	133	--	--	--	--	--	--	--	--
	\$45,181	\$45,181	--	--	--	--	--	--	--	--
25 - 29	371	349	22	--	--	--	--	--	--	--
	44,119	44,069	\$44,923	--	--	--	--	--	--	--
30 - 34	451	348	87	15	1	--	--	--	--	--
	44,822	43,329	49,519	\$52,277	\$43,962	--	--	--	--	--
35 - 39	377	222	83	60	12	--	--	--	--	--
	47,449	43,169	50,717	57,084	55,852	--	--	--	--	--
40 - 44	434	195	77	99	45	17	1	--	--	--
	51,308	45,152	50,432	60,939	55,312	\$59,035	\$54,256	--	--	--
45 - 49	567	209	106	89	54	83	22	4	--	--
	52,127	44,879	49,336	56,797	62,333	58,997	64,990	\$49,820	--	--
50 - 54	585	164	98	97	66	81	63	16	--	--
	54,878	45,891	51,747	59,658	59,013	61,582	60,084	65,702	--	--
55 - 59	542	132	79	72	61	86	81	27	4	--
	53,511	46,201	47,481	58,117	55,930	57,770	58,363	61,217	\$52,219	--
60 - 64	305	56	49	51	50	41	32	14	11	1
	56,785	44,485	50,706	57,635	62,142	61,939	59,909	64,311	76,405	\$99,868
65 - 69	133	22	23	15	17	21	11	11	5	8
	53,815	39,970	46,261	55,623	72,321	48,989	55,282	58,780	74,307	61,912
70 & over	38	4	2	7	6	4	4	3	4	4
	55,714	44,431	57,689	53,474	59,517	44,449	86,421	42,101	60,178	50,530
Total	3,936	1,834	626	505	312	333	214	75	24	13
	\$50,814	\$44,388	\$49,689	\$58,250	\$59,517	\$58,867	\$60,129	\$61,022	\$69,232	\$61,329

Section 3: Supplemental Information

Exhibit C: Reconciliation of Participant Data

	Active Participants	Inactive Vested Participants ¹	Disableds	Retired Participants	Beneficiaries	Total
Number as of July 1, 2019	3,674	125	226	2,977	788	7,790
• New participants ²	653	N/A	N/A	N/A	N/A	653
• Terminations – with vested rights	-49	49	0	0	0	0
• Terminations – without vested rights	-104	N/A	N/A	N/A	N/A	-104
• Retirements	-93	-9	N/A	102	N/A	0
• New disabilities	-2	-2	4	N/A	N/A	0
• Return to work	13	-13	0	0	N/A	0
• Deceased	-12	-1	-12	-95	-45	-165
• New beneficiaries	0	0	0	0	41	41
• Lump sum cash-outs	-139	-6	0	0	0	-145
• Certain period expired	N/A	N/A	0	0	-2	-2
• Data adjustments ³	-5	5	2	0	0	2
Number as of July 1, 2020	3,936	148	220	2,984	782	8,070

¹Excludes terminated participants with contributions remaining in the plan.

²177 of the 653 new active participants included in the data for the first time this year have over one year of service.

³The following data adjustments were made per the TPA:

Five actives were deemed non-participants by the City;

Six inactive vested participants were included for the first time with this valuation;

One inactive vested participant was deemed deceased prior to July 1, 2019 with lump sum death benefit payable to estate;

Two annuitants listed as healthy retirees last year were changed to disabled retirees this year;

Two healthy retirees were included for the first time with this valuation.

Section 3: Supplemental Information

Exhibit D: Summary Statement of Income and Expenses on a Market Value Basis

	Year Ended June 30, 2020	Year Ended June 30, 2019
Net assets at market value at the beginning of the year	\$1,333,862,000	\$1,300,987,000
Contribution income:		
• Employer contributions	\$48,219,000	\$47,220,000
• Employee contributions	19,599,000	35,639,000
• Less administrative expenses	<u>-1,252,000</u>	<u>-832,000</u>
<i>Net contribution income</i>	<i>\$66,566,000</i>	<i>\$82,027,000</i>
Other income	\$267,000	\$5,000
Investment income:		
• Asset appreciation	\$37,841,000	\$63,615,000
• Investment income	13,467,000	17,347,000
• Less investment fees	<u>-3,655,000</u>	<u>-3,628,000</u>
<i>Net investment income</i>	<i><u>\$47,653,000</u></i>	<i><u>\$77,334,000</u></i>
Total income available for benefits	\$114,486,000	\$159,366,000
Less benefit payments	-\$130,553,000	-\$126,491,000
Change in reserve for future benefits	-\$16,067,000	\$32,875,000
Net assets at market value at the end of the year	\$1,317,795,000	\$1,333,862,000

Section 3: Supplemental Information

Exhibit E: Asset Allocation as of June 30, 2020

	General Employees	School Board	Total
1. Market value of assets as of July 1, 2019	\$1,333,862,000	\$168,996,000	\$1,502,858,000
2. Employer contributions	\$48,219,000	\$56,700,000	\$104,919,000
3. Employee contributions	19,599,000	1,541,000	21,140,000
4. Other income not in yields	<u>267,000</u>	<u>0</u>	<u>267,000</u>
5. Total contributions and other income: (2) + (3) + (4)	\$68,085,000	\$58,241,000	\$126,326,000
6. Benefit payments and refunds	-\$130,553,000	-\$50,145,000	-\$180,698,000
7. Administrative expenses	<u>-1,252,000</u>	<u>-204,000</u>	<u>-1,456,000</u>
8. Total benefit payments and expenses: (6) + (7)	-\$131,805,000	-\$50,349,000	-\$182,154,000
9. Net cash flow: (5) + (8)	-\$63,720,000	\$7,892,000	-\$55,828,000
10. Net investment return	47,653,000	4,920,000	52,573,000
11. Market value of assets as of July 1, 2020: (1) + (9) + (10)	\$1,317,795,000	\$181,808,000	\$1,499,603,000

Section 3: Supplemental Information

Exhibit F: Development of the Fund through June 30, 2020

Year Ended June 30	Employer Contributions	Employee Contributions	Net Investment Return ¹	Admin. Expenses	Benefit Payments	Market Value of Assets at Year-End	Actuarial Value of Assets at Year-End	Actuarial Value as a Percent of Market Value
2011	\$46,078,000	\$13,230,000	\$149,657,731	\$0	\$96,095,000	\$963,515,000	\$868,798,754	90.17%
2012	35,237,000	15,142,000	4,967,000	0	101,375,000	917,486,000	917,486,000	100.00%
2013	38,694,000	17,322,000	145,776,000	0	104,849,000	1,014,429,000	954,964,648	94.14%
2014	42,145,000	17,366,000	179,568,000	0	108,175,000	1,145,333,000	1,016,486,156	88.75%
2015	48,015,000	16,975,000	55,130,000	0	111,738,000	1,153,715,000	1,084,009,929	93.96%
2016	54,236,000	19,173,000	11,293,000 ²	0	115,631,000	1,122,786,000	1,146,863,597	102.14%
2017	53,817,000	18,243,000	151,110,000	0	116,536,000	1,229,420,000	1,212,852,870	98.65%
2018	51,903,000	20,671,000	121,682,000 ³	1,806,000	120,993,000	1,300,987,000 ⁴	1,269,985,380	97.62%
2019	47,220,000	35,639,000	77,334,000	832,000	126,491,000	1,333,862,000 ⁵	1,314,030,198	98.51%
2020	48,219,000	19,599,000	47,653,000	1,252,000	130,553,000	1,317,795,000 ⁶	1,336,954,199	101.45%

¹On a market basis, net of investment fees (and administrative expenses prior to 2018)

²Includes \$5,706,000 asset adjustment

³Includes \$155,000 asset adjustment

⁴Includes an additional \$110,000 in other income not in yields

⁵Includes an additional \$5,000 in other income not in yields

⁶Includes an additional \$267,000 in other income not in yields

Section 3: Supplemental Information

Exhibit G: Definition of Pension Terms

The following list defines certain technical terms for the convenience of the reader:

Actuarial Accrued Liability for Actives:	The equivalent of the accumulated normal costs allocated to the years before the valuation date.
Actuarial Accrued Liability for Retirees and Beneficiaries:	Actuarial Present Value of lifetime benefits to existing retirees and beneficiaries. This sum takes account of life expectancies appropriate to the ages of the annuitants and the interest that the sum is expected to earn before it is entirely paid out in benefits.
Actuarial Cost Method:	A procedure allocating the Actuarial Present Value of Future Benefits to various time periods; a method used to determine the Normal Cost and the Actuarial Accrued Liability that are used to determine the actuarially determined contribution.
Actuarial Gain or Loss:	A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two Actuarial Valuation dates. To the extent that actual experience differs from that assumed, Actuarial Accrued Liabilities emerge which may be the same as forecasted, or may be larger or smaller than projected. Actuarial gains are due to favorable experience, e.g., assets earn more than projected, salary increases are less than assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, actuarial losses are the result of unfavorable experience, i.e., actual results yield actuarial liabilities that are larger than projected.
Actuarially Equivalent:	Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions.
Actuarial Present Value (APV):	The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. Each such amount or series of amounts is: Adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, marital status, etc.) Multiplied by the probability of the occurrence of an event (such as survival, death, disability, withdrawal, etc.) on which the payment is conditioned, and Discounted according to an assumed rate (or rates) of return to reflect the time value of money.

Section 3: Supplemental Information

Actuarial Present Value of Future Benefits:	The Actuarial Present Value of benefit amounts expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age, anticipated future compensation, and future service credits. The Actuarial Present Value of Future Benefits includes the liabilities for active members, retired members, beneficiaries receiving benefits, and inactive members entitled to either a refund of member contributions or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.
Actuarial Valuation:	The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan, as well as Actuarially Determined Contributions.
Actuarial Value of Assets (AVA):	The value of the Plan's assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets, but commonly plans use a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the Actuarially Determined Contribution.
Actuarially Determined:	Values that have been determined utilizing the principles of actuarial science. An actuarially determined value is derived by application of the appropriate actuarial assumptions to specified values determined by provisions of the Plan.
Actuarially Determined Contribution (ADC):	The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation, determined under the Plan's funding policy. The ADC consists of the Employer Normal Cost and the Amortization Payment.
Amortization Method:	A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the Unfunded Actuarial Accrued Liability. Under the Level Percentage of Pay method, the Amortization Payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the Unfunded Actuarial Accrued Liability. Under the Level Percentage of Pay method, the stream of payments increases at the assumed rate at which total covered payroll of all active members will increase.
Amortization Payment:	The portion of the pension plan contribution, or ADC, that is intended to pay off the Unfunded Actuarial Accrued Liability.

Section 3: Supplemental Information

Assumptions or Actuarial Assumptions:	<p>The estimates upon which the cost of the Plan is calculated, including:</p> <p><u>Investment return</u> - the rate of investment yield that the Plan will earn over the long-term future;</p> <p><u>Mortality rates</u> - the rate or probability of death at a given age for employees and retirees;</p> <p><u>Retirement rates</u> - the rate or probability of retirement at a given age or service;</p> <p><u>Disability rates</u> - the rate or probability of disability retirement at a given age;</p> <p><u>Withdrawal rates</u> - the rate or probability at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement;</p> <p><u>Salary increase rates</u> - the rates of salary increase due to inflation, real wage growth and merit and promotion increases.</p>
Closed Amortization Period:	<p>A specific number of years that is counted down by one each year, and therefore declines to zero with the passage of time. For example, if the amortization period is initially set at 20 years, it is 19 years at the end of one year, 18 years at the end of two years, etc. See Open Amortization Period.</p>
Decrements:	<p>Those causes/events due to which a member's status (active-inactive-retiree-beneficiary) changes, that is: death, retirement, disability, or withdrawal.</p>
Defined Benefit Plan:	<p>A retirement plan in which benefits are defined by a formula based on the member's compensation, age and/or years of service.</p>
Defined Contribution Plan:	<p>A retirement plan, such as a 401(k) plan, a 403(b) plan, or a 457 plan, in which the contributions to the plan are assigned to an account for each member, the plan's earnings are allocated to each account, and each member's benefits are a direct function of the account balance.</p>
Employer Normal Cost:	<p>The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.</p>
Experience Study:	<p>A periodic review and analysis of the actual experience of the Plan that may lead to a revision of one or more actuarial assumptions. Actual rates of decrement and salary increases are compared to the actuarially assumed values and modified based on recommendations from the Actuary.</p>
Funded Ratio:	<p>The ratio of the Actuarial Value of Assets (AVA) to the Actuarial Accrued Liability (AAL). Plans sometimes also calculate a market funded ratio, using the Market Value of Assets (MVA), rather than the AVA.</p>

Section 3: Supplemental Information

GASB 67 and GASB 68:	Governmental Accounting Standards Board (GASB) Statements No. 67 and No. 68. These are the governmental accounting standards that set the accounting rules for public retirement systems and the employers that sponsor or contribute to them. Statement No. 68 sets the accounting rules for the employers that sponsor or contribute to public retirement systems, while Statement No. 67 sets the rules for the systems themselves.
Investment Return:	The rate of earnings of the Plan from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one year to the next.
Net Pension Liability (NPL):	The Net Pension Liability is equal to the Total Pension Liability minus the Plan Fiduciary Net Position.
Normal Cost:	The portion of the Actuarial Present Value of Future Benefits and expenses allocated to a valuation year by the Actuarial Cost Method. Any payment with respect to an Unfunded Actuarial Accrued Liability is not part of the Normal Cost (see Amortization Payment). For pension plan benefits that are provided in part by employee contributions, Normal Cost refers to the total of member contributions and employer Normal Cost unless otherwise specifically stated.
Open Amortization Period:	An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. If the initial period is set as 30 years, the same 30-year period is used in each future year in determining the Amortization Period.
Plan Fiduciary Net Position:	Market value of assets.
Total Pension Liability (TPL):	The actuarial accrued liability under the entry age normal cost method and based on the blended discount rate as described in GASB 67 and 68.
Unfunded Actuarial Accrued Liability:	The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. This value may be negative, in which case it may be expressed as a negative Unfunded Actuarial Accrued Liability, also called the Funding Surplus or an Overfunded Actuarial Accrued Liability.
Valuation Date or Actuarial Valuation Date:	The date as of which the value of assets is determined and as of which the Actuarial Present Value of Future Benefits is determined. The expected benefits to be paid in the future are discounted to this date.

Section 4: Actuarial Valuation Basis

Exhibit I: Actuarial Assumptions and Actuarial Cost Method

Rationale for Assumptions:	The information and analysis used in selecting methods and each economic and mortality assumption that has a significant effect on this actuarial valuation is shown in in the Review of Actuarial Experience for the five-year period ended June 30, 2019 dated March 17, 2021. The information used in selecting each other demographic assumption that has a significant effect on this valuation is shown in the Review of Actuarial Experience for the five-year period ended June 30, 2016 dated June 7, 2017.	
Net Investment Return:	7.00%, the investment return rate is assumed to be net of investment expenses. The net investment return assumption was chosen by the Pension Fund's Board of Trustees, with input from the actuary. This assumption is a long-term estimate derived from historical data, current and recent market expectations, and professional judgment. As part of the analysis, a building block approach was used that reflects inflation expectations and anticipated risk premiums for each of the portfolio's asset classes as provided by Marquette and Segal Marco Advisors, as well as the Fund's target asset allocation.	
Administrative Expenses:	\$1,200,000 per year beginning in 2017, projected annually with 2.25% inflation. As of July 1, 2020, the assumed annual expense is \$1,282,836. The annual administrative expenses were based on historical and current data and adjusted to reflect estimated future experience and professional judgment.	
Salary Increases:	Age	Rate (%)
	Under 25	10.00
	25 - 29	8.50
	30 - 34	7.50
	35 - 39	6.50
	40 - 44	5.75
	45 - 49	5.00
	50 - 54	4.25
	55 - 59	3.75
	60 - 64	3.25
	65 & over	3.00
	Salary increases include an assumed inflation rate of 2.25% and 0.75% productivity.	

Section 4: Actuarial Valuation Basis

Vacation Pay Adjustment:	Retirement benefits are increased by 4% to reflect vacation pay for participants hired prior to September 1, 2011.
Payroll Growth:	3.00%, used to amortize the unfunded actuarial accrued liability as a level percentage of payroll.
Cost-of-Living Adjustments:	
<i>Hired prior to September 1, 2011</i>	2.25%, compounded annually after retirement
<i>Hired after August 31, 2011</i>	1.00%, compounded annually after retirement
Mortality Rates:	
<i>Pre-retirement:</i>	Sex-distinct Pri-2012 Blue Collar Employee Amount-weighted Mortality Table with rates increased by 15%, projected generationally with scale MP-2020
<i>Healthy annuitants and beneficiaries of living retirees:</i>	Sex-distinct Pri-2012 Blue Collar Healthy Retiree Amount-weighted Mortality Table with rates increased by 15%, projected generationally with scale MP-2020
<i>Disabled annuitants:</i>	Sex-distinct Pri-2012 Disabled Retiree Amount-weighted Mortality Table with rates increased by 15%, projected generationally with scale MP-2020
<i>Contingent survivors:</i>	Sex-distinct Pri-2012 Blue Collar Healthy Contingent Survivor Amount-weighted Mortality Table with rates increased by 15%, projected generationally with scale MP-2020
	The underlying tables with the generational projection to the ages of participants as of the measurement date reasonably reflect the mortality experience of the Fund as of the measurement date. These mortality tables were then adjusted to future years using the generational projection to reflect future mortality improvement between the measurement date and those years.

Annuitant Mortality Rates:	Rate (%)						
	Healthy ¹		Disabled ¹		Contingent Survivor ¹		
	Age	Male	Age	Male	Age	Male	
	55	0.74	0.56	2.50	1.69	1.94	0.95
	60	1.07	0.81	2.71	1.97	2.36	1.26
	65	1.46	1.24	3.29	2.45	2.98	1.76
	70	2.36	1.88	4.53	3.26	3.93	2.51
	75	3.83	3.01	6.68	4.64	5.42	3.68
	80	6.57	5.00	10.26	7.07	7.80	5.55
	85	11.25	8.61	15.77	11.35	11.73	8.83
	90	19.02	15.00	23.60	18.53	18.77	15.00

¹Rates shown do not include generational projection.

Section 4: Actuarial Valuation Basis

Mortality and Disability Rates Before Retirement:

Age	Rate (%)			
	Mortality ¹		Ordinary Disability ²	
	Male	Female	Male	Female
20	0.08	0.02	0.00	0.00
25	0.07	0.03	0.00	0.00
30	0.07	0.03	0.00	0.00
35	0.08	0.04	0.09	0.09
40	0.10	0.07	0.14	0.13
45	0.13	0.10	0.22	0.20
50	0.20	0.15	0.37	0.32
55	0.32	0.23	0.64	0.54
60	0.51	0.35	0.95	0.66

¹Rates shown do not include generational projection.

²Occupational disability rates are 10% of the ordinary disability rates.

Termination Rates Before Retirement:

Years of Service	Rate (%) ³
Less than 1	18.00
1	15.00
2	12.00
3	11.00
4	10.00
5	9.00
6	7.00
7	7.00
8	6.50
9	5.50
10	5.00
11	4.50
12	4.00
13	3.50
14	3.00
15 or more	2.50

³Withdrawal rates do not apply at or beyond the later of eligibility for early retirement or age 55.

Section 4: Actuarial Valuation Basis

Retirement Rates:	Less than 30 Years of Service		30 or More Years of Service	
	Age	Rate	Age	Rate
	50-52	2%	50-52	30%
	53-54	3	53-54	30
	55	5	55	30
	56	6	56	30
	57	6	57	35
	58-59	7	58-59	35
	60	20	60	35
	61-64	15	61-64	20
	65-66	25	65-66	25
	67-68	15	67-68	25
69	25	69	25	
70	100	70	100	
	<p>The retirement rates were based on historical and current demographic data, adjusted to reflect estimated future experience and professional judgment. As part of the analysis, a comparison was made between the actual number of retirements by age and the projected number based on the prior year's assumption over the five-year period ended June 30, 2016.</p>			
Weighted Average Retirement Age:	<p>Age 61.7, determined as follows: The weighted average retirement age for each participant is calculated as the sum of the product of each potential current or future retirement age times the probability of surviving from current age to that age and then retiring at that age, assuming no other decrements. The overall weighted retirement age is the average of the individual retirement ages based on all the active participants included in the July 1, 2020 actuarial valuation.</p>			
Retirement Rates for Inactive Vested Participants:	<p>Age 60 or current age, if later</p>			
Additional Accumulated Unused Sick Leave at Retirement:	<p>None</p>			
Unknown Data for Participants:	<p>There were no records that were missing both service amounts and dates of hire. For participants with less than one year of benefit service, salaries were annualized.</p>			
Percent Married:	<p>75%</p>			
Age of Spouse:	<p>Females are assumed to be three years younger than their male spouses.</p>			

Section 4: Actuarial Valuation Basis

Form of Payment:	Married participants hired prior to September 1, 2011 are assumed to elect a 75% joint and survivor annuity. Unmarried participants hired prior to September 1, 2011 and all participants hired after August 31, 2011 are assumed to elect a life annuity.
Refunds of Employee Contributions for Terminated Vested Participants:	75% of participants hired before September 1, 2011 elect a refund of their employee contribution balances. 100% of participants hired after August 31, 2011 elect a refund of their employee contribution balances.
Actuarial Value of Assets:	Market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual market return and the expected return on the actuarial value, and is recognized over a five-year period, further adjusted, if necessary, to be within 20% of the market value.
Actuarial Cost Method:	Entry Age Actuarial Cost Method. Entry Age is current age minus years of service. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are allocated by salary.
Justification for Change in Actuarial Assumptions or Methods:	<p>An Actuarial Experience Review, analyzing methods and economic and mortality assumptions for the period July 1, 2014 through June 30, 2019, was completed. As a result, the following assumption and method changes were proposed by the actuary and subsequently approved by the Board on April 21, 2021. These changes are reflected for the first time in this valuation.</p> <ul style="list-style-type: none"> • The investment return assumption was lowered from 7.25% to 7.00%. • The pre-retirement mortality assumption was changed from the approximate sex-distinct RP-2006 Blue Collar Employee Mortality Table with rates increased by 25% to the sex-distinct Pri-2012 Blue Collar Employee Amount-weighted Mortality Table with rates increased by 15%. • The post-retirement mortality assumption for healthy retirees and beneficiaries of living retirees was changed from the approximate sex-distinct RP-2006 Blue Collar Healthy Annuitant Mortality Table with rates increased by 25% to the sex-distinct Pri-2012 Blue Collar Healthy Retiree Amount-weighted Mortality Table with rates increased by 15%. • The mortality assumption for disabled retirees was changed from the approximate sex-distinct RP-2006 Disabled Retiree Mortality Table with rates increased by 25% to the sex-distinct Pri-2012 Disabled Retiree Amount-weighted Mortality Table with rates increased by 15%. • The post-retirement mortality assumption for contingent beneficiaries was changed from the sex-distinct approximate RP-2006 Blue Collar Healthy Annuitant Mortality Table with rates increased by 25% to the sex-distinct Pri-2012 Blue Collar Healthy Contingent Survivor Amount-weighted Mortality Table with rates increased by 15%. • In conjunction with the revised mortality tables, the generational projection scale was changed from using sex-distinct improvement rates under the 2016 OASDI Trustees report under the intermediate alternative to sex-distinct improvement rates under the Society of Actuaries scale MP-2020. • The age-related salary scale was modified from rates starting at 14.75% for participants under age 25 grading down to an ultimate rate of 3.00% at age 65 to rates starting at 10.00% for participants under age 25 grading down to an ultimate rate of 3.00% at age 65. • The amortization period was reset to 21 years at July 1, 2020, consistent with the Police Officers' and Firefighters' Funds.

Section 4: Actuarial Valuation Basis

Exhibit II: Summary of Plan Provisions

This exhibit summarizes the major provisions of the Plan included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Plan Year:	July 1 through June 30
Plan Status:	Ongoing
Normal Pension:	
<i>Eligibility:</i>	
<i>Hired before July 1, 2010</i>	<ul style="list-style-type: none">• Age 60 after completing 10 years of service.
<i>Hired between July 1, 2010 and August 31, 2011</i>	<ul style="list-style-type: none">• Age 60 after completing 15 years of service.
<i>Hired after August 31, 2011</i>	<ul style="list-style-type: none">• Age 62 after completing 15 years of service.
<i>Monthly Amount:</i>	
<i>Hired before July 1, 2010</i>	<ul style="list-style-type: none">• 2.5% of average monthly salary for each year of service.
<i>Hired between July 1, 2010 and August 31, 2011</i>	<ul style="list-style-type: none">• 2.0% of average monthly salary for each year of service.
<i>Hired after August 31, 2011</i>	<ul style="list-style-type: none">• 1.0% of average monthly salary for each year of service. <p>This amount cannot be less than \$12 per month for each year of service, capped at 80% of average monthly salary. Participants hired before September 1, 2011 had a one-time option to elect to have benefits earned for service after October 31, 2011 use the same 1% accrual rate, average monthly salary, and COLA as participants hired after August 31, 2011. Benefits for service earned prior to November 1, 2011 follow the plan provisions in their predecessor plan. The participants who made this election are referred to as Hybrid Participants.</p>
<i>Average Monthly Salary:</i>	
<i>Hired before September 1, 2011</i>	<ul style="list-style-type: none">• Average of the highest consecutive 36 months of salary
<i>Hired after August 31, 2011</i>	<ul style="list-style-type: none">• Average of the highest consecutive 120 months of salary
<i>Normal Form of Payment:</i>	
<i>Hired prior to September 1, 2011</i>	<ul style="list-style-type: none">• 75% Joint-and-Survivor (no reduction in benefit for providing survivor coverage)
<i>Hired after August 31, 2011</i>	<ul style="list-style-type: none">• Single life annuity

Section 4: Actuarial Valuation Basis

Early Retirement:

Service Requirement

Hired before July 1, 2010

*Hired between July 1, 2010
and August 31, 2011*

Hired after August 31, 2011

- 10 years of service
- 15 years of service
- Age 52 and 15 years of service

For Hybrid Participants, early retirement eligibility and reductions under their predecessor plan apply to their entire benefit.

Monthly Amount

Hired before September 1, 2011

- Normal pension monthly amount reduced by $\frac{1}{2}$ of 1% per month for the first 60 months and by $\frac{1}{4}$ of 1% per month for the remaining months by which age at retirement is less than 60. More favorable early retirement adjustments may apply to participants in prior plans. Unreduced early retirement is available with 30 years of service.

Hired after August 31, 2011

- Normal pension monthly amount reduced by $\frac{1}{2}$ of 1% per month before age 62.

Disability:

Service Requirement

Monthly Amount

- 5 years of service for non-job-related disability. None for job related disability.
- Normal pension based on service accrued and final average salary at disability, payable immediately; cannot be less than 50% of average monthly salary. This amount is payable until attainment of normal retirement age at which time the benefit is recalculated to include years while disabled as years of service.

Section 4: Actuarial Valuation Basis

Vesting:

- An employee who terminates employment may receive a percentage of the accrued benefit payable at normal retirement as determined below:

Completed Years of Service	Percentage Vested ¹	
	Hired before July 1, 2010	Hired after June 30, 2010
Less than 5	0%	0%
5	25	25
6	30	30
7	35	35
8	40	40
9	45	45
10	100	50
11	100	55
12	100	60
13	100	65
14	100	70
15 or more	100	100

¹A participant is always 100% vested in their contributions to the Fund.

Hybrid Participants are subject to the vesting schedule in their predecessor plan.

Termination:

- A participant terminating employment may elect a refund of their own contributions with interest. A refund will cause the forfeiture of any other vested accrued benefit from the Fund.

Death Benefits:

- If a participant dies prior to attainment of eligibility for retirement, a lump sum of contributions with interest is payable to a beneficiary or estate.
- If an active participant who is eligible to retire, or a retired participant, dies, 75% of the accrued pension benefit is payable to the beneficiary. Eligible beneficiaries are the spouse or unmarried children under 23 (18 if not in post-secondary school).

Credited Service:

- Service is credited for employment as a general employee of the City of Atlanta. Additional credit is granted for accumulated sick leave if hired prior to September 1, 2011 and for other prior service as specified in the plan.

Participation:

- All employees of the City of Atlanta, excluding temporary employees, firefighters, police officers, and employees hired after 2001 in job grades 19 and above. Also includes employees hired between 2001 and 2005 in any job grade who elected to transfer from the Defined Contribution plan to this Fund and who agreed to roll over their DC plan balances to this Fund and pay additional contributions as if they had been participants in this Fund from date of hire.

Section 4: Actuarial Valuation Basis

Employee Contributions:	% of Base Salary		
	Employee	Participants Hired before September 1, 2011 ¹	Hybrid Participants and Participants Hired after August 31, 2011 ¹
	Unmarried employees without beneficiaries	12%	8%
	Unmarried employees with beneficiaries	13%	8%
	Married employees	13%	8%

¹Excludes employees hired prior to January 1, 1984.

Interest on Employee Contributions:	<ul style="list-style-type: none"> Employee contributions earn 5% interest each year.
Cost of Living Provision: <i>Hired before September 1, 2011</i> <i>Hired after August 31, 2011</i>	<p>Benefits for retirees and beneficiaries are adjusted annually on January 1 of each year based on the change in the Consumer Price Index from November 1 through October 31 of the preceding year.</p> <ul style="list-style-type: none"> Such annual adjustment cannot exceed 3%; also applied to Hybrid Participants' benefits for service prior to November 1, 2011. Such annual adjustment cannot exceed 1%; also applied to Hybrid Participants' benefits for service after October 31, 2011.
Changes in Plan Provisions:	There have been no changes in plan provisions since the last valuation

9321665v8/02398.033