FULTON COUNTY, GEORGIA WATER & SEWERAGE SYSTEM FUND

(A Fund of Fulton County, Georgia)

Financial Statements
And
Independent Auditor's Report

December 31, 2018 and 2017

   

FULTON COUNTY, GEORGIA
WATER AND SEWERAGE SYSTEM FUND

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December 31, 2018 and 2017

PJC GROUP, LLC
CERTIFIED PUBLIC ACCOUNTANTS

INDEPENDENT AUDITOR'S REPORT

To the Board of Commissioners
Water and Sewerage System Fund
Fulton County, Georgia

We have audited the accompanying financial statements of the business activities of the Water and Sewerage System Fund of Fulton County, Georgia, which comprise the statements of net position as of December 31, 2018 and 2017, and the related statements of revenues, expenses and changes in net position and cash flows for the years then ended, and the related notes to the financial statements.

Management's Responsibility for the Financial Statements
Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility
Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards,* issued by the Comptroller General of the United States. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion
In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the business activities of the Water and Sewerage System Fund of Fulton County, Georgia as of December 31, 2018 and 2017, and the respective changes in financial position and cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

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Other Matters

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis on pages 3 through 7 and Required Supplementary Information on pages 36 through 39 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

PJC Group, LLC

Atlanta, Georgia
June 25, 2019

Within this section of the Fulton County Water and Sewerage System Fund (the "System") annual financial report, System management provides narrative discussion and analysis of the financial activities of the System for the fiscal years ended December 31, 2018 and 2017. The financial performance of the System is discussed and analyzed within the context of the accompanying financial statements and disclosure following this section. The System is the major enterprise fund of Fulton County, Georgia.

Financial Highlights

Total assets reported in the financial statements are $1,415,215 for the fiscal year ended December 31, 2018. This compares to the previous year when total assets reported were $1,422,521 representing a decrease of $7,306, as depreciation and amortization outpaced gains in other asset capitalizations.

System bonded debt of $430,397 decreased from 2017 by $21,336 net of principal payments and amortization of bond premiums on outstanding Water and Sewerage revenue bonds. All other liabilities remained relatively consistent with 2017 values.

System net position continues to increase by $7,107 during 2018 as compared to 2017's increase of $13,023. Fiscal 2018's water and sewerage service charges were higher by 10% from 2017, due to a full year of two 5% rate increases since October 1, 2017. Total net position at December 31, 2018 was $972,377, of which $38,204 is restricted for future debt service, and $700,451 represents the net investment of capital assets in excess of the related debt to acquire these assets. Unrestricted net position available for system operations and improvements was $233,722 as of December 31, 2018, a decrease of $19,084 from December 31, 2017.

Overview of the Financial Statements

Management's Discussion and Analysis introduces the System's basic financial statements. The basic financial statements include: (1) statements of net position, (2) statements of revenues, expenses and changes in net position, (3) statements of cash flows, and (4) notes to the financial statements.

Basic Financial Statements

The System's annual report includes three basic financial statements. These statements provide both long-term and short-term information about the overall status of the System. Financial reporting of the System uses a perspective similar to that found in the private sector with its basis in full accrual accounting.

The first of these basic statements is the *Statement of Net Position*. This statement presents information that includes all of the System assets and liabilities, with the difference reported as *net position*. Over time, increases or decreases in net position may serve as a useful indicator of whether the financial position of the System as a whole is improving or deteriorating.

Basic Financial Statements (continued)

The second System statement is the *Statement of Revenues, Expenses and Changes in Net Position* which reports how the System net position changed during the current fiscal year. All current year revenues and expenses are included regardless of when cash is received or paid.

The third System statement is the *Statement of Cash Flows* which reports how the System's cash position has changed during the current fiscal year.

The *Notes to the Financial Statements* provide additional information that is essential to a full understanding of the data provided in the other basic financial statements.

Financial Analysis

The table below provides a summary of Water and Sewerage System fund net position (in thousands):

				2018-2017	%		2017-2016	%
Assets:		**2018**	**2017**	**Net change**	**change**	**2016**	**Net change**	**change**
Current assets	$	176,607	186,690	(10,083)	(5)	196,989	(10,299)	(5)
Restricted assets		38,204	37,405	799	2	46,210	(8,805)	(19)
Capital assets, net of depreciation		1,130,908	1,126,850	4,058	-	1,111,567	15,283	1
Other non current assets		69,496	71,576	(2,080)	(3)	73,690	(2,114)	(3)
Total assets		1,415,215	1,422,521	(7,306)	(1)	1,428,456	(5,935)	-
Deferred Outflows of Resources:								
Deferred charge on refunding of bond		3,048	3,710	(662)	(18)	4,428	(718)	(16)
Total deferred outflows of resour		3,048	3,710	(662)	(18)	4,428	(718)	(16)
Liabilities:								
Current liabilities		31,819	24,690	7,129	29	22,717	1,973	9
Long-term liabilities		414,067	436,271	(22,204)	(5)	457,920	(21,649)	(5)
Total liabilities		445,886	460,961	(15,075)	(3)	480,637	(19,676)	(4)
Net postion:								
Net investment in capital assets		700,451	675,059	25,392	4	647,808	27,251	4
Restricted for debt retirement		38,204	37,405	799	2	37,422	(17)	-
Unrestricted		233,722	252,806	(19,084)	(8)	267,017	(14,211)	(5)
Total net position		972,377	965,270	7,107	1	952,247	13,023	1

The System's assets above decreased slightly from investments held for capital improvements, while capital assets increased slightly from 2017.

Long-term liabilities decreased due to reductions in scheduled principal during 2018, while short term payables increased slightly from the previous year. The Net investment in capital assets increases commensurately with the decrease in long term debt, as this liability finances system capital assets.

Financial Analysis (continued)

The table below provides a summary of changes in net position (in thousands):

Summary of Revenues, Expenses, and Changes in Net Position

	2018	2017	2018-2017 net change	% change	2016	2017-2016 net change	% change
Operating revenues:							
Water and sewerage charges	$ 132,274	120,830	11,444	9	130,119	(9,289)	(7)
Total Operating revenues	132,274	120,830	11,444	9	130,119	(9,289)	(7)
Operating expenses:							
Administrative and general	5,038	4,737	301	6	7,180	(2,443)	(34)
Depreciation and amortization	34,462	29,595	4,867	16	33,878	(4,283)	(13)
Personal services	22,377	23,343	(966)	(4)	21,398	1,945	9
Contractual services	34,237	27,666	6,571	24	28,948	(1,282)	(4)
Operating services	15,876	15,455	421	3	15,563	(108)	(1)
Total Operating expenses	111,990	100,796	11,194	11	106,967	(6,171)	(6)
Total Operating income	20,284	20,034	250	1	23,152	(3,118)	(13)
Nonoperating revenues (expenses):							
Gain (loss) on investment in joint venture	(5,757)	(2,114)	(3,643)	172	(2,142)	28	(1)
Interest income	3,700	1,426	2,274	159	858	568	66
Interest expense	(15,436)	(15,992)	556	(3)	(16,531)	539	(3)
Total nonoperating revenue(expense)	(17,493)	(16,680)	(813)	5	(17,815)	1,135	(6)
Change in net position before transfers	2,791	3,354	(563)	(17)	5,337	(1,983)	(37)
Transfers out	—	—	—	-	(31)	31	(100)
Capital contributions	4,316	9,669	(5,353)	(55)	—	9,669	-
Change in net position	7,107	13,023	(5,916)	(45)	5,306	7,717	145
Net position at beginning of year	965,270	952,247	13,023	1	946,941	5,306	1
Ending Net Position	$ 972,377	965,270	7,107	1	952,247	13,023	1

The System experienced a 10% increase in water and sewer revenues in 2018 as compared to 2017, largely due to the cumulative effect of the two 5% rate increases approved since October 1, 2017. Operating service costs increased slightly in 2018 for both increased flows and the related costs of operating sewerage treatment plants with these higher flows.

Operating as well as personnel costs to operate the system remain relatively flat from 2018 to 2017 values, demonstrating operating effectiveness of the system's ability to produce and treat clean drinking water as well as treat sewerage wastewater throughout the service area.

(in thousands of dollars)

Capital Assets

Capital asset balances and activity for 2018 and 2017 are shown below:

Water and Sewerage System fund:		January 1, 2018	Increases	Decreases	December 31, 2018
Capital assets not being depreciated:					
Land improvements	$	10,201	—	—	10,201
Construction in progress		93,165	32,493	(58,916)	66,742
Total capital assets not being depreciated		103,366	32,493	(58,916)	76,943
Capital assets being depreciated:					
Equipment		17,328	663	(396)	17,595
Water system		287,958	32,245	—	320,203
Sewer system		1,139,831	30,987	—	1,170,818
Intangible assets		174,220	475	—	174,695
Total capital assets being depreciated		1,619,337	64,370	(396)	1,683,311
Less accumulated depreciation for:					
Equipment		(14,039)	(807)	307	(14,539)
Water system		(103,578)	(5,305)	—	(108,883)
Sewer system		(417,012)	(22,125)	—	(439,137)
Intangible assets		(61,224)	(5,563)	—	(66,787)
Total accumulated depreciation		(595,853)	(33,800)	307	(629,346)
Net capital assets being depreciated		1,023,484	30,570	(89)	1,053,965
Net capital assets-Water & Sewerage System fund	$	1,126,850	63,063	(59,005)	1,130,908

		January 1, 2017	Increases	Decreases	December 31, 2017
Capital assets not being depreciated:					
Land improvements		10,201	—	—	10,201
Construction in progress	$	62,766	30,399	—	93,165
Total capital assets not being depreciated		72,967	30,399	—	103,366
Capital assets being depreciated:					
Equipment		17,882	1,243	(1,797)	17,328
Water system		284,894	3,962	(898)	287,958
Sewer system		1,132,936	6,895	—	1,139,831
Intangible assets		171,319	2,901	—	174,220
Total capital assets being depreciated		1,607,031	15,001	(2,695)	1,619,337
Less accumulated depreciation for:					
Equipment		(14,638)	(856)	1,455	(14,039)
Water system		(98,888)	(4,690)	—	(103,578)
Sewer system		(399,016)	(17,996)	—	(417,012)
Intangible assets		(55,889)	(5,335)	—	(61,224)
Total accumulated depreciation		(568,431)	(28,877)	1,455	(595,853)
Net capital assets being depreciated		1,038,600	(13,876)	(1,240)	1,023,484
Net capital assets-Water & Sewerage System fund	$	1,111,567	(9,868)	—	1,126,850

(in thousands of dollars)

Capital Assets (continued)

The primary change for 2018 and 2017 was investments made from System capital resources for sewerage treatment facilities. No interest was allocated to capital projects during both years, while the System recorded almost $4 million of capitalizations from donations of developer provided infrastructure in 2018.

Agreements with neighboring governments

The System is an equal equity partner in a joint-venture between the County and the City of Atlanta for the construction and operation of a water treatment facility in north Fulton County. The County and the City share equally the costs of construction of the plant, and each is entitled to receive 50% of the total water supply treated by the plant or 50% of the plant's capacity, whichever is greater. The System incurred approximately $7 million in 2018 for water produced at this facility. The net value of this joint venture is $69,496 and $71,576 as of December 31, 2018 and 2017, respectively.

The System has paid approximately $170 million in prior years for the purchase of wastewater treatment capacity from neighboring systems, and capitalized the costs up to a 40 year period as required by accounting pronouncements, or shorter periods if contractually stated. These costs are shown as intangible assets within the capital asset section on the financial statements of the Water and Sewerage System fund, and are being amortized using the straight-line method. Amortization of these intangible assets, approximately $5.6 and $5.3 million for 2018 and 2017, is classified as an operating cost on the Statement of Revenues, Expenses and Changes in Fund Net Position-Proprietary funds. $474 was additionally paid and capitalized during 2018, bringing the balance at December 31, 2018 to approximately $107.9 million.

Long term liabilities

This chart displays the System's long-term liabilities as of December 31, 2018. Detailed analysis of System debt is contained within the footnotes.

Issue year	Interest rate range	Final Maturity Date	Outstanding balance	Annual principal installments	Purpose
Business-type activities:					
2013 Water and Sewerage	3.375-5.00%	2034	223,265	3,560-33,905	Water/Sewer facilities
2011 Water and Sewerage	3.00-5.00%	2027	173,310	16,875-21,505	Water/Sewer facilities
			$ 396,575		

Contacting the System's Financial Management

This financial report is designed to provide a general overview of the System finances, comply with finance-related laws and regulations and demonstrate commitment to public accountability. If you have questions about this report or would like to request additional information, contact the County's Finance Department, 141 Pryor Street, Suite 7001, Atlanta, Georgia, 30303.

FULTON COUNTY, GEORGIA
WATER AND SEWERAGE SYSTEM FUND

Statements of Net Position

December 31, 2018 and 2017

(In thousands of dollars)

Assets		**2018**	**2017**
Current assets:			
Cash and cash equivalents (note 2)	$	166,262	173,504
Investments (note 2)		—	—
Interest receivable		—	—
Customer receivables, net of allowance for doubtful accounts (note 3)		8,832	10,190
Due from other governments, net of allowance for doubtful accounts (note 3)		1,513	2,996
Total current assets		176,607	186,690
Restricted assets (note 1):			
Cash and cash equivalents (note 2)		182	144
Investments (note 2)		37,962	37,203
Interest receivable		60	58
Total restricted assets		38,204	37,405
Non-current assets:			
Investment in joint venture (note 4)		69,496	71,576
Capital Assets:			
Nondepreciable capital assets		76,943	103,366
Depreciable capital assets, net of accumulated depreciation (note 6)		1,053,965	1,023,484
Total non-current assets		1,200,404	1,198,426
Total assets		1,415,215	1,422,521
Deferred Outflows of Resources			
Deferred charge on refunding of bonds (note 5)		3,048	3,710
Total deferred outflows of resources		3,048	3,710

See accompanying notes to financial statements.

(continued)

Liabilities and Net Position		2018	2017
Liabilities:			
Current liabilities:			
Accounts payable		3,032	1,373
Accrued liabilities and payroll payable		1,173	1,165
Total current liabilities payable from unrestricted assets		4,205	2,538
Liabilities payable from restricted assets:			
Contracts and other payables		9,427	4,810
Revenue bonds payable – current portion (note 7)		17,720	16,875
Unearned revenue		467	467
Total liabilities payable from restricted assets		27,614	22,152
Total current liabilities		31,819	24,690
Noncurrent liabilities:			
Revenue bonds payable (note 7)		412,677	434,858
Accrued liabilities		1,390	1,413
Total noncurrent liabilities		414,067	436,271
Total liabilities		445,886	460,961
Net Position:			
Net investment in capital assets		700,451	675,059
Restricted for debt retirement		38,204	37,405
Unrestricted		233,722	252,806
Total Net Position	$	972,377	965,270

See accompanying notes to financial statements.

FULTON COUNTY, GEORGIA
WATER AND SEWERAGE SYSTEM FUND

Statements of Revenues, Expenses, and Changes in Net Position

Years ended December 31, 2018 and 2017

(In thousands of dollars)

		2018	2017
Operating revenues:			
Water and Sewerage charges	$	132,274	120,830
Total operating revenues		132,274	120,830
Operating expenses:			
Administrative and general		5,038	4,737
Depreciation and amortization		34,462	29,595
Personal services		22,377	23,343
Contractual services		34,237	27,666
Operating services		15,876	15,455
Total operating expenses		111,990	100,796
Operating income		20,284	20,034
Non-operating revenues (expenses):			
Loss on investment in joint venture		(5,757)	(2,114)
Interest income		3,700	1,426
Interest expense		(15,436)	(15,992)
Total non-operating expenses		(17,493)	(16,680)
Income before contributions and transfers		2,791	3,354
Capital contributions		4,316	9,669
Change in net position		7,107	13,023
Net position at beginning of year		965,270	952,247
Net position at end of year	$	972,377	965,270

See accompanying notes to financial statements.

FULTON COUNTY, GEORGIA
WATER AND SEWERAGE SYSTEM FUND

Statements of Cash Flows

Years ended December 31, 2018 and 2017

(In thousands of dollars)

		2018	2017
Cash flows from operating activities:			
Receipts from customers and users	$	135,115	123,913
Payments to suppliers		(48,867)	(46,670)
Payments to employees		(22,400)	(23,421)
Net cash provided by operating activities		63,848	53,822
Cash flows from capital and related financing activities:			
Principal and interest payments on revenue bonds		(36,772)	(36,777)
Additions to property, plant and equipment		(37,219)	(34,491)
Net cash provided by (used in) capital and related financing activities		(73,991)	(71,268)
Investing activities:			
Purchase of investments		(37,962)	(37,203)
Proceeds from sale of investments		37,203	111,506
Interest received on investments		3,698	1,554
Net cash (used in) provided by investing activities		2,939	75,857
Net change in cash and cash equivalents		(7,204)	58,411
Cash and cash equivalents at beginning of year		173,648	115,237
Cash and cash equivalents at end of year	$	166,444	173,648
Reconciliation of operating income to net cash provided by operating activities:			
Operating income	$	20,284	20,034
Adjustments to reconcile operating income to net cash provided by operating activities:			
Depreciation and amortization		34,462	29,595
Changes in assets and liabilities:			
Customer receivables - net		1,358	2,480
Change in due from other governments - net		1,483	603
Accounts payable		1,667	(228)
Accrued liabilities		(23)	(78)
Contractual and other liabilities		4,617	1,416
Net cash provided by operating activities	$	63,848	53,822
Non-cash transactions:			
Unrealized gain (loss) on investments	$	208	(128)
Gain (loss) on investment in joint venture		4,316	(2,114)

(1) Summary of Significant Accounting Policies

(a) Description of the System

The Fulton County, Georgia Water and Sewerage System Fund (the "System") accounts for the provision of water and sewerage services to individuals, organizations, and other governmental units within Fulton County (the "County"), except for those areas of the County serviced by the City of Atlanta. Additionally, the System sells water and treatment plant capacity to neighboring jurisdictions at contractually established rates. All revenues from sources applicable to such services and all expenses incurred in the provision of such services are recorded in the accounts of the System.

The System is considered an enterprise fund of the County, and the accompanying financial statements present only the statements of net position, revenues, expenses and changes in net position, and cash flows of the System; they are not intended to present fairly the government-wide statement of net position and changes in net position of Fulton County, Georgia in conformity with accounting principles generally accepted in the United States of America ("GAAP"). Each year, the County publishes a Comprehensive Annual Financial Report ("CAFR"), which includes the System and all of the County's other funds. The latest available CAFR, at the date of this report, is as of and for the year ended December 31, 2018; the CAFR should be read in conjunction with these financial statements.

Proprietary funds distinguish operating revenues and expenses from nonoperating items. Operating revenues and expenses generally result from providing services and producing and delivering goods in connection with a proprietary fund's principal ongoing operations. Operating expenses for the enterprise funds and the internal service funds include the cost of sales and services, administrative expenses, and deprecation of capital assets. All revenues and expenses not meeting this definition are reported as nonoperating revenues and expenses. The generally accepted accounting principles applicable are those similar to business in the private sector.

(b) Basis of Presentation

As required by various County ordinances and bond indentures, the financial activities of the System are accounted for in separate accounts established by such ordinances or indentures; each such account is considered a separate accounting entity and presented in the accompanying financial statements as a single enterprise fund.

(1) Summary of Significant Accounting Policies (continued)

(c) Cash, Cash Equivalents, and Investments

The System's cash and cash equivalents are considered to be cash on hand, demand deposits, and short-term investments with original maturities of three months or less from the date of acquisition. Investments are reported at fair value based on quoted market values. Interest income on investments is accrued as earned. The net appreciation (depreciation) in the fair value of investments is based on the valuation of investments as of the balance sheet date.

(d) Capital Assets

System capital assets are recorded at cost or estimated historical cost. Depreciation is provided on the straight-line method over the estimated useful lives of the assets.

The cost of normal maintenance and repairs that do not add to the value of the asset or that materially extend assets lives are not capitalized. Net interest cost incurred during the construction of facilities is capitalized as part of the cost of such facilities for business-type activities. No such capitalized interest was incurred in 2018.

The estimated useful lives of the principal classes of assets are as follows:

Classification	Years
System improvements	25-50
Equipment and other	7-12

Donated assets are recorded at their estimated fair market value when received as an addition to capital assets.

Direct costs such as planning, engineering, and construction management are capitalized as incurred in construction projects. Indirect administrative costs are expensed in the period in which they occur.

(e) Bond Premiums or Discounts/Debt Issuance Costs

Bond premiums or discounts are deferred and amortized over the term of the debt. Bond debt issuance costs are expenses as incurred to comply with new Governmental Accounting Reporting Requirement Statement No. 65. Bond premiums or discounts are also now presented separate from the face value of the outstanding debt, and classified as Deferred Outflows of Financial Resources.

(1) Summary of Significant Accounting Policies (continued)

(f) Restricted Assets

Certain proceeds of revenue bonds, as well as resources set aside for their repayment, are classified as restricted assets on the Statement of Net Position because their use is limited by bond covenants.

(g) Other Liabilities

System employees are granted annual leave and sick leave in varying amounts. In the event of termination, an employee is reimbursed for an accumulated annual leave up to a maximum of 360 hours. Exempt employees are not eligible to receive compensatory time. Employees are not reimbursed for accumulated sick leave if terminated prior to retirement. Therefore, accrued sick leave is not reported in the accompanying financial statements. Upon retirement, accumulated sick leave may be counted as creditable service for pension benefit purposes. Liabilities for compensated absences other than sick leave are all considered long-term obligations of the System. Accumulated vacation leave is recorded as an expense and liability as the benefits accrue to employees.

(h) Interfund Transactions

Quasi-external transactions between the System and other funds of the County are accounted for as revenues or expenses. Transactions that constitute reimbursements to a fund for expenses initially made from it that are properly applicable to the System are recorded as expenses by the System. Services provided by the System to other funds are accounted for in a like fashion.

(i) Restricted Net Position

Restrictions of Net Position are presented consistent with requirements of GASB Statement No. 34 and 63 and various bond covenants of the System.

(j) Statement of Cash Flows

For purposes of the statements of cash flows, the System considers all highly liquid debt instruments purchased with an original maturity of three months or less to be cash equivalents.

(k) Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates.

(1) Summary of Significant Accounting Policies (continued)

(l) Risk Management

The System is exposed to various risks of losses related to torts; theft of, damage to, and destruction of assets; errors and omissions; injuries to employees; and natural disasters. The System participates in a County-wide risk management program for all funds of Fulton County, Georgia. Pursuant to this risk management program, the County is self-insured for workers' compensation, unemployment, long-term disability, auto liability, and general liability and fully self-insured for employee medical claims. The County pays such claims as they become due and makes appropriate provision for the accrual of claims liabilities, including incurred but unreported losses. The System funds its estimated portion of the County's risk management activities via quasi-external transactions.

(m) Deferred Outflows/Inflows of Resources

Deferred outflows of resources represent a consumption of net position that applies to a future period(s) and so will not be recognized as an outflow of resources (expense/expenditure) until then. The System has one item that qualifies for reporting in this category – the deferred charge on refunding. A deferred charge on refunding results from the difference in the carrying value of refunded debt and its reacquisition price. This amount is no longer reported net of debt and is deferred and amortized over the shorter of the life of the refunded bonds.

(2) Cash, Cash Equivalents, and Investments

The following is a summary of the carrying amounts of cash, cash equivalents, and investments of the System (in thousands of dollars):

	December 31, 2018	December 31, 2017
Unrestricted:		
Cash and cash equivalents	$ 166,262	173,504
Investments	-	-
Restricted:		
Cash and cash equivalents	182	144
Investments	37,962	37,203
	$ 204,406	210,851

Fulton County uses a centralized cash disbursement account for all of its funds including those of the Water and Sewerage System Fund. Although cash applicable to a particular fund is segregated for financial reporting purposes, the corresponding portion of the centralized bank account balance cannot be identified. The bank balances (county-wide) were covered by federal depository insurance or by collateral held by the County's agent in its name.

(in thousands)

(2) Cash, Cash Equivalents, and Investments (continued)

Interest Rate Risk

State of Georgia statutes authorize the County to invest in direct obligations of the U.S. government, obligations insured or guaranteed by the U.S. government or a U.S. government agency, obligations of any corporation of the U.S. government, prime bankers' acceptances, obligations of the State of Georgia or other states, certain collateralized repurchase agreements, certain obligations of other political subdivisions of the State of Georgia, certain certificates of deposit, and the Georgia Fund-1 state investment pool. Interest rate risk is the risk that changes in interest rates of debt investments will adversely affect the fair value of an investment. As of December 31, 2018 and 2017, the System had the following investments.

		December 31, 2018			
Fixed Income:		**Fair Value**	**to 3 months**	**4-12 months**	**1-5yrs**
US Agency Obligations	$	37,962	11,764	26,198	-
Fixed Income subtotal		37,962	11,764	26,198	-
Georgia Fund 1		166,444			
Total cash equivalents and investments	$	204,406			

		December 31, 2017			
Fixed Income:		**Fair Value**	**to 3 months**	**4-12 months**	**1-5yrs**
US Agency Obligations	$	37,203	-	11,642	25,561
Fixed Income subtotal		37,203	-	11,642	25,561
Georgia Fund 1		96			
Total cash equivalents and investments	$	37,299			

In accordance with its investment policy and bond covenants, the Water and Sewerage System fund manages its exposure to the risk of declines in fair values of investment by limiting the maturities of its investments to a maximum of five years for all debt service and debt service reserve accounts, and three years for investments held in the construction funds.

Custodial Credit Risk

The custodial credit risk for deposits is the risk that, in the event of a bank failure, the System's deposits may not be recovered. The System limits its exposure to custodial credit risk by requiring all deposits to be collateralized in accordance with state law.

Credit Quality Risk

Credit Quality Risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. The US Agency obligations totaling $37,962 as of December 31, 2018 and $37,203 as of December 31, 2017 are rated AAA/AA+. The Georgia Fund 1 is managed by the State of Georgia Office of the State Treasurer to maximize current income while preserving principal and providing daily liquidity. It is managed to maintain a constant net asset value of $1.00 and a weighted maturity of 90 days or less.

(2) Cash, Cash Equivalents, and Investments (continued)

Fair Value Measurement

GASB Statement No. 72, *Fair Value Measurement and Application*, enhances comparability of governmental financial statements by requiring fair value measurement for certain assets and liabilities using a consistent definition and accepted valuation techniques. The standard establishes a hierarchy of inputs used to measure fair value that prioritizes the inputs into three categories – Level 1, Level 2 and Level 3 inputs – considering the relative reliability of the inputs. The hierarchy gives the highest priority of unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to measurements involving significant unobservable inputs (Level 2 measurements). The three levels of the air value hierarchy are as follows:

> Level 1 inputs are quoted (unadjusted) prices in active markets for identical financial assets or liabilities that are accessible at the measurement date;
>
> Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for the financial asset or liability, either directly or indirectly;
>
> Level 3 inputs are unobservable inputs for the financial asset or liability.

The level in the fair value hierarchy within which a fair value measurement falls is based on the lowest level input that is significant to the fair value measurement in its entirety. Local Government Investment Pools, such as Georgia Fund 1 are categorized as a Level 1, as are the mutual funds and US Agency Obligations held as of December 31, 2018 listed in the Interest Rate Risk chart on the previous page.

(3) Allowances for Doubtful Accounts

Allowances for doubtful accounts at December 31, 2018 and 2017 are as follows (in thousands of dollars):

	2018	2017
Customer receivables	$ 1,345	1,557
Due from other governments	$ 9,304	5,806

(4) Investment in Joint Venture

Atlanta-Fulton County Water Resources Commission - The Atlanta-Fulton County Water Resource Commission is a joint venture between the County and the City of Atlanta for the construction and operation of a water treatment facility in north Fulton County. The County and the City share equally the costs of construction of the plant, and each is entitled to receive 50% of the total water supply treated by the plant or 50% of the plant's capacity, whichever is greater. The costs of operation of the plant were borne pro rata by the City and the County on the basis of water delivered to each party. The County incurred charges of approximately $7 million in 2018 and 5.9 million in 2017 for water produced at this facility, which is classified as an operating cost to the Fulton County Water & Sewerage System. The Atlanta Fulton County Water Resources Commission is governed by a seven-member management commission, three members of the Commission are appointed by the City, three are appointed by the County, and one independent member is elected by the vote of the other members. Both the City and County approve the annual budget of the Commission.

At December 31, 2018 and 2017, the County's share of the depreciated cost of the facility is shown as "Investment in joint venture" in the accompanying statement of net position.

Complete financial statements for the Atlanta-Fulton County Water Resource Commission can be obtained from the following respective administrative office:

Atlanta-Fulton County Water Resource Commission
9750 Spruill Road
Alpharetta, Georgia 30022

(5) Other Assets

Cost-Sharing Arrangements

The County paid $58 million with neighboring Cobb County, Georgia in 2003 for the purchase of long-term wastewater treatment capacity at the R.L Sutton wastewater treatment plant and the adjoining underground conveyance system. In November 2007 the County incurred $99.9 million in similar capital costs through facilities owned by the City of Atlanta. The County will share in the cost of annual capital improvements at these facilities on a pro rata basis. These costs were previously shown as other assets on the financial statements of the Water and Sewerage System fund, but now appear as "Intangible Assets" and are included within the capital asset disclosure section of the Water and Sewerage System fund. These assets are being depreciated over 28 years for the Atlanta facilities and 40 years for the Cobb County facilities, both using the straight-line method. Depreciation of these intangible assets, approximately $5.6 million in 2018 and $5.3 million for 2017 is classified as an operating cost on the Statement of Revenues, Expenses and Changes in Net Position-Proprietary funds. Approximately $474 thousand in 2018 and $2 million was additionally paid and capitalized during 2018 and 2017, respectively. The balances for intangible assets are $107.9 million and $112.1 million at December 31, 2018 and December 31, 2017, respectively.

Deferred charge on refunding of bonds, classified as a Deferred Outflow of Resources, and is $3,048 and $3,710 at December 31, 2018 and December 31, 2017, respectively.

(in thousands)

(6) Capital Assets

The following charts display capital asset balances and activity for 2018 and 2017.

Water and Sewerage System fund:		January 1, 2018	Increases	Decreases	December 31, 2018
Capital assets not being depreciated:					
Land improvements	$	10,201	—	—	10,201
Construction in progress		93,165	32,493	(58,916)	66,742
Total capital assets not being depreciated		103,366	32,493	(58,916)	76,943
Capital assets being depreciated:					
Equipment		17,328	663	(396)	17,595
Water system		287,958	32,245	—	320,203
Sewer system		1,139,831	30,987	—	1,170,818
Intangible assets		174,220	475	—	174,695
Total capital assets being depreciated		1,619,337	64,370	(396)	1,683,311
Less accumulated depreciation for:					
Equipment		(14,039)	(807)	307	(14,539)
Water system		(103,578)	(5,305)	—	(108,883)
Sewer system		(417,012)	(22,125)	—	(439,137)
Intangible assets		(61,224)	(5,563)	—	(66,787)
Total accumulated depreciation		(595,853)	(33,800)	307	(629,346)
Net capital assets being depreciated		1,023,484	30,570	(89)	1,053,965
Net capital assets-Water & Sewerage System fund	$	1,126,850	63,063	(59,005)	1,130,908

(6) Capital Assets (continued)

Water and Sewerage System fund:	January 1, 2017	Increases	Decreases	December 31, 2017
Capital assets not being depreciated:				
Land improvements	$ 10,201	—	—	10,201
Construction in progress	62,766	30,399	—	93,165
Total capital assets not being depreciated	72,967	30,399	—	103,366
Capital assets being depreciated:				
Equipment	17,882	1,243	(1,797)	17,328
Water system	284,894	3,962	(898)	287,958
Sewer system	1,132,936	6,895	—	1,139,831
Intangible assets	171,319	2,901	—	174,220
Total capital assets being depreciated	1,607,031	15,001	(2,695)	1,619,337
Less accumulated depreciation for:				
Equipment	(14,638)	(856)	1,455	(14,039)
Water system	(98,888)	(4,690)	—	(103,578)
Sewer system	(399,016)	(17,996)	—	(417,012)
Intangible assets	(55,889)	(5,335)	—	(61,224)
Total accumulated depreciation	(568,431)	(28,877)	1,455	(595,853)
Net capital assets being depreciated	1,038,600	(13,876)	(1,240)	1,023,484
Net capital assets-Water & Sewerage System fund	$ 1,111,567	16,523	(1,240)	1,126,850

No interest was required to be capitalized from borrowings related to water and sewerage system construction projects in 2018 or 2017. Donated contributions of capital totaled $4,316 and $9,669 in 2018 and 2017, respectively. All depreciation of $33,800 in 2018 and $28,887 in 2017 is for water and sewer operations.

(7) Revenue Bonds Payable – Long-term liabilities

The System previously issued revenue refunding bonds whereby it pledges income derived from the System to pay debt service. Revenue bonds outstanding, net of unamortized premiums of $33,822 and $38,283 at December 31, 2018 and 2017, respectively, are as follows (in thousands of dollars):

Issue	Interest rate range	Maturity date	Authorized and issued	Total at December 31 2018	2017
Series 2013	3.375-5.00%	2034	223,265	223,265	223,265
Less current portion				-	-
Series 2011	2.0-5.00	2027	251,770	173,310	190,185
Less current portion				(17,720)	(16,875)
				378,855	396,575

(7) Revenue Bonds Payable – Long-term liabilities (continued)

This chart displays the System's long-term liabilities and related activity for 2018 and 2017.

		Balance January 1, 2018	Increases	Decreases	Balance December 31, 2018	Due within One year
Water & Sewerage Revenue Bonds	$	413,450	—	(16,875)	396,575	17,720
Less deferred charges, net		38,283	—	(4,461)	33,822	
Total Water & Sewerage Revenue Bonds		451,733	—	(21,336)	430,397	
Other Long-Term Liabilities		1,413	644	(667)	1,390	
Total System long term liabilities	$	453,146	644	(22,003)	431,787	17,720

		Balance January 1, 2017	Increases	Decreases	Balance December 31, 2017	Due within One year
Water & Sewerage Revenue Bonds	$	429,540	—	(16,090)	413,450	16,875
Less deferred charges, net		42,979	—	(4,696)	38,283	
Total Water & Sewerage Revenue Bonds		472,519	—	(20,786)	451,733	
Other Long-Term Liabilities		1,491	582	(660)	1,413	
Total System long term liabilities	$	474,010	582	(21,446)	453,146	16,875

Aggregate System annual debt service requirements are as follows (in thousands of dollars):

December 31		Principal	Interest	Total
2019	$	17,720	19,057	36,777
2020		18,605	18,174	36,779
2021		19,520	17,255	36,775
2022		20,490	16,290	36,780
2023		21,505	15,266	36,771
2024-2028		116,410	59,878	176,288
2029-2033		148,420	27,882	176,302
2034-2038		33,905	1,356	35,261
Total		396,575	175,158	571,733
Unamortized premiums		33,822	(33,822)	-
Total		430,397	141,336	571,733

(7) Revenue Bonds Payable – Long-term liabilities (continued)

The revenue bond indenture contains significant limitations and restrictions on annual debt service requirements, maintenance of and flow of money through various restricted accounts, minimum amounts to be maintained in various sinking funds, and minimum revenue bond coverage ratios.

The County previously self-reported to the SEC pursuant to the Division of Enforcement's (the "Division") Municipalities Continuing Disclosure Cooperation Initiative (the "MCDC Initiative"). In anticipation of the institution of proceedings by the SEC in connection with the MCDC Initiative, the County submitted an Offer of Settlement in April 2016 which the SEC accepted and which resulted in an order being entered by the SEC on the matter on August 24, 2016 (the "MCDC Order"). Solely for the purpose of the proceedings brought by or on behalf of the SEC under the MCDC Initiative, and without admitting or denying the findings in the MCDC Order, except as to the SEC's jurisdiction over it and the subject matter of the proceedings, which were admitted, the County consented to the entry of the MCDC Order. Compliance actions included establishing appropriate written policy and procedures to effect compliance with existing securities laws, comply with existing disclosure undertakings, disclose terms of the settlement in any final official statements for five years subsequent to the order. The county has complied with these provisions within the required 180 days, and provided supporting material as required by August 24, 2017.

(8) Retirement Plans

(a) County Pension Plan

The County maintains for eligible employees the Fulton County Employees Retirement System Pension Plan (the "Plan"), a single-employer defined benefit retirement plan. This plan includes eligible employees of the Fulton County Water and sewerage System. The Plan was created effective September 1, 1991, as successor to four separate County-maintained pension plans, for all eligible employees of Fulton County. Prior to the establishment of the Plan, the employees of the County were participants in one of two predecessor plans, the General Employees' Pension Plan or the Employees' Pension Plan. Employees who did not elect to participate in the Plan will continue to be eligible for the same benefits of the prior plan in which they participated; however, participation was made a condition of employment for new employees as of September 1, 1991.

The Plan is administered by an eleven member board of trustees which includes two members of the Board of Commissioners, the County Manager, the Director of Finance, a representative citizen of the County, a designee of the Commission's Chairman, a Peace Officer, two retirees of the County, and two active employees.

On June 16, 1998, the County adopted a 401(A) defined contribution plan. All active participants in the Fulton County Employees' Retirement System have the annual option to remain in their current defined benefit plan or elect to participate in the new defined contribution plan. Employees hired on or after July 1, 1999 participate in the Fulton County Defined Contribution Plan.

(8) Retirement Plans (continued)

The funding method and determination of benefits payable are provided in or authorized by various acts of the Georgia Legislature and statutes enacted by the County under home rule powers granted by the State. The Plan generally provides that funds to provide retirement benefits are to be accumulated from employee and County contributions and income from the investment of accumulated funds. Should the accumulated funds be insufficient to meet and pay the benefits when due, Fulton County shall be required to make up any deficiency.

The Plan provides monthly retirement benefits that represent 2.25% of the participants' monthly earnings (the average of the highest three 12-month period of employment) for the first five years of credible service and then 2.5% thereafter. The Plan awards cost-of-living increases annually, up to a 3% maximum. Benefits also may be payable at termination, death, or disability.

The County's contribution is the actuarially determined amount necessary to fund benefits, less employee contributions. The actuarially determined contribution amount is the sum of the annual normal cost and the amortization of the unfunded actuarial accrued liability over the years remaining in the allowable funding period. The actuarial cost method used for funding purposes is the entry age normal cost method. This is one of the approved methods for such plans in Georgia and provides for contributions based on a level percentage of future payroll. The unfunded actuarial accrued liability is amortized on a closed basis over a period established by State of Georgia guidelines.

The required contribution percentages developed in the most recent actuarial valuations for the Plan, and the actual contributions, but not including contributions of $144 to the Supplemental Plan described in this note, made for 2018 are as follows (in thousands of dollars):

	2018
Total required employer contributions:	
Dollar amount	$ 59,746
Percent of covered payroll	402.46%
Actual employer contributions:	
Dollar amount	$ 59,203
Percent of covered payroll	398.80%

Employee contribution rates are established in accordance with pension law. During 2018 actual countywide employee contributions were $1,110 which represented 7.48% of covered payroll. Employee contributions exceeded those set forth in pension law due to back-due contributions required of employees covered by certain of the County's prior separate plans, who under older pension laws, have the ability to increase their retirement benefits by making such back-due contributions.

(8) Retirement Plans (continued)

Membership

Current membership in the Plan and current year payrolls for 2018 are as follows:

Members:		
Retired and receiving benefits	$	3,252
Terminated with vested benefits		18
Active employees:		
Vested		240
Total members		3,510
Total current year payroll for employees covered by the Plan (in thousands)	$	14,845

Accumulated plan benefits are those future periodic payments, including lump-sum distributions that are attributable under the Plan's provisions to the service employees have rendered. Accumulated plan benefits include benefits expected to be paid to (a) retired or terminated employees or their beneficiaries, (b) beneficiaries of employees who have died, and (c) present employees or their beneficiaries. Benefits under the Plan are based on employee compensation.

The accumulated plan benefits for active employees are based on their average compensation and credited service ending on the date as of which the benefit information is presented (the valuation date). Benefits payable under all circumstances — retirement, death, disability, and termination of employment — are included, to the extent they are deemed attributable to employee service rendered to the valuation date.

The actuarial present value of accumulated plan benefits is that amount that results from applying actuarial assumptions to adjust the accumulated plan benefits to reflect the time value of money (through discounts for interest) and the probability of payment (by means of decrements such as for death, disability, withdrawal, or retirement) between the valuation date and the expected date of payment. An actuarial valuation of the Plan is performed annually each January 1, and an update is performed to determine the Actuarial Value of Assets and Actuarial Accrued Liability.

Effective as of the January 1, 2019 valuation, the Fulton County Employees Retirement System Board approved a lower assumed rate of return from 7.35% to 7.25%, which affected the actuarial liability by $17.6 million, and also increased the administrative expense assumption from $650,000 to $800,000. There were no changes in plan provisions from the last valuation date.

Effective as of the January 1, 2018 valuation, the Fulton County Employees Retirement System Board approved a comprehensive Actuarial Experience Review, which covered the period January 1, 2012 through December 31, 2016, which was completed in 2017. As a result, the following assumption changes effective with this 1/1/2018 actuarial valuation, and are listed below.

*Group specific age-based salary scale rates were introduced to reflect actual plus experience. The previous salary assumption was 3% per year, regardless of age or group.
*The underlying inflation rate was lowered from 3% to 2%.

(in thousands)

(8) Retirement Plans (continued)

*The administrative expense assumption was changed from the prior actual amount rounded to the nearest $100,000 to the prior actual amount rounded to the nearest $50,000.
*The pre-retirement mortality assumption was changed from the RP-2000 Combined Healthy Mortality Table with Blue Collar adjustment, projected to 2019 using Scale AA, further loaded by 30% for males and 10% for females, to the RP-2014 Blue Collar Employee Mortality Table, adjusted backward to 2006 with Scale MP-2014 and projected generationally from 2006 with Scale MP-2016.
*The post-retirement mortality assumption for healthy annuitants was changed from the RP-2000 Combined Healthy Mortality Table with Blue Collar adjustment, projected using Scale AA, to the RP-2014 Blue Collar Healthy Annuitant Mortality Table, adjusted backward to 2006 with Scale MP-2014, set forward two years for males and one year for females, and projected generationally from 2006 with Scale MP-2016.
*The mortality assumption for disabled retirees was changed from the RP-2000 Disabled Retiree Mortality Table projected to 2019 using Scale AA, to the RP-2014 Disabled Retiree Mortality Table, adjusted backward to 2006 with Scale MP-2014, set forward four years for males, and projected generationally from 2006 with Scale MP-2016.
*The group-specific disability rates were modified to better reflect actual experience and expected future patterns.
*The group-specific turnover (withdrawal) assumption was changed to a flat 2% per year for all active employees. The rates end at eligibility for retirement.
*The group-specific retirement rates were modified to better reflect observed experience, including extending the rates below age 50.
*The percent married assumption was lowered from 75% to 70% for males and from 50% to 40% for females.
*The spousal age difference assumption was lowered from four years to three years.
*The assumption for participants that transfer to the County's defined contribution plan was changed to assume that all participants remain in the defined benefit plan.
*The load on average final salary to account for vacation and comp time was increased from 5.5% to 7.5%, and the load to account for a 27th pay period in some years was lowered from 3.6% to 1.3%.
*The load on service to account for unused sick leave was adjusted from 1% to 2%.
*Additional changes were to lower the net investment return from 7.50% to 7.35% and lower the administrative expense assumption from $800,000 to $650,000 as a result of lower 2017 actual expenses.

The System's total and net pension liability for the years ended December 31, 2018 and 2017 are as follows:

Fiscal year ended		Total Pension Liability	Fiduciary Net Position	Net Pension Liability	Fiduciary net position as a percentage of Total Pension Liability
December 31, 2018	$	1,852,863	1,223,532	$ 629,331	66.03%
December 31, 2017	$	1,833,170	1,382,953	$ 450,217	75.44%

(in thousands)

(8) Retirement Plans (continued)

Sensitivity of the Net Pension Liability to Changes in the discount rate

The following presents the net pension liability of the County, calculated using the discount rate of 7.25%, and the System's net pension liability would be if it were calculated using a discount rate this is one-percentage-point lower (6.25.%) or one-percentage-point higher (8.25%) than the current rate.

	1% Decrease (6.25%)	Current Discount (7.25%)	1% Increase (8.25%)
System's net pension liability	$824,005	$629,331	$465,204

The projection of cash flows used to determine the discount rate assumed plan member contributions will be made at the current contribution rates(as a percentage of pay) and the county contributions will be made equal to the actuarial determined contribution. Based on these assumptions, the pension plan's fiduciary net position was projected to be available to make all projected benefit payments of current plan members. Therefore, the long-term expected rate of return on the pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Changes in Total and Net Pension Liability, and Plan Fiduciary Net Position are shown below:

		Total Pension Liability	Plan Fiduciary Net Position	Net Pension Liability
Balances at December 31, 2017	$	1,833,170	1,382,953	450,217
Changes for the year:				
Service cost		3,768		3,768
Interest		129,929		129,929
Benefit changes				-
Difference between expected				-
and actual experience		6,717		6,717
Change of assumptions		17,675		17,675
Contributions - employer			59,203	(59,203)
Contributions - employee			1,110	(1,110)
Net investment income			(80,562)	80,562
Benefit payments, including refunds				
of employee contributions		(138,396)	(138,396)	-
Administrative expense			(776)	776
Net changes	$	19,693	(159,421)	179,114
Balances at December 31, 2018	$	1,852,863	1,223,532	629,331

(in thousands)

(8) Retirement Plans (continued)

Methods and assumptions used in the calculations of actuarially determined contributions

The following actuarial methods and assumptions were used to determine the most recent contribution rate reported:

Valuation Date	January 1, 2019
Actuarial cost method	Entry Age Normal
Amortization method	Level Dollar, closed period.
Remaining amortization period	15 year average remaining, depending on which bases.
Asset valuation method	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.
Investment rate of return	7.35%. The net investment return 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 well as the System's target asset allocation.

Methods and assumptions used in the calculations of actuarially determined contributions

Inflation rate	2.0%
Projected salary increases	2.0%-6.0% depending on age, and if Public Safety employee
Mortality Rates-Pre-Retirement	RP-2014 Blue Collar Mortality Table, adjusted backward to the base year (2006) using Scale MP-2014, and projected generationally from 2006 using Scale MP-2016.
Mortality Rates-Healthy Annuitants	RP-2014 Blue Collar Healthy Annuitant Mortality Table, adjusted backward to the base year (2006) using Scale MP-2014, set forward two years for males and one year for females, and projected generationally from 2006 using Scale MP-2016.
Mortality Rates-Disabled Annuitants	RP-2014 Disabled Retiree Mortality Table, adjusted backward to the base year (2006) using Scale MP-2014, set forward four years for males and unadjusted for females, and projected generationally from 2006 using Scale MP-2016.

(in thousands)

(8) Retirement Plans (continued)

The following presents target allocations and long term expected rates of return for the Plan. The long-term expected rate of return on pension plan investments was determined using a building – block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These rates are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of geometric real rates of return for each major asset class included in the pension plan's target asset allocation as of December 31, 2018 as shown below.

Asset Class	Target Allocation	Long-term Expected Real Rate of Return*
U.S. Large Cap Equity	34.00%	5.50%
U.S. Small/Mid Cap Equity	14.00%	5.75%
International Equity	15.00%	5.75%
Emerging Market Equity	5.00%	7.25%
International Small Cap Equity	5.00%	6.00%
Bank Loans	5.00%	3.50%
Core Bonds	12.00%	2.34%
Global Bonds (unhedged)	5.00%	1.01%
Global Asset Allocation	5.00%	4.22%
	100.00%	

*Expected real rate of return is net of inflation

Pension Expense and Deferred Outflows of Resources Related to Pensions

The County recognized total pension expense of $87,952 for the year ended December 31, 2018, all within the governmental activities. Included in pension expense are recognized amounts related to the deferred inflows and outflows of resources for pensions, which is detailed below.

		Balance,	Recognized	Balance,	To Be Recognized during fiscal year			
Fiscal year outflows		12/31/2017	during 2018	12/31/2018	2019	2020	2021	2022
Investment loss	2015	$ 43,517	21,758	21,759	21,759	-	-	-
Investment loss	2016	8,459	2,820	5,639	2,820	2,819	-	-
Investment loss	2018	-	35,862	143,449	35,862	35,862	35,862	35,863
Liability loss	2018	-	6,717	-	-	-	-	-
Assumption change	2018	-	17,675	-	-	-	-	-
Total Outflows		51,976	84,832	170,847	60,441	38,681	35,862	35,863
Fiscal year inflows								
Investment gain	2017	125,974	31,493	94,481	31,494	31,494	31,493	-
Total Inflows		125,974	31,493	94,481	31,494	31,494	31,493	-
Total		(73,998)	53,339	76,366	28,947	7,187	4,369	35,863

(8) Retirement Plans (continued)

Note: In accordance with Paragraph 71 of GASB Statement 68, the difference between projected and actual earnings on investments is recognized over a closed five-year period. Assumption changes and the difference between expected and actual total pension liability experience are each recognized over a closed period equal to the average of the expected remaining service lives of all employees that are provided with pensions through the pension plan (active employees and inactive employees), determined as of the beginning of the measurement period. For 2018, the period is one year, and therefore those changes are recognized immediately.

Complete financial statements for the Plan can be obtained at the following address:

Fulton County
Suite 7001, 141 Pryor Street, N.W.
Atlanta, Georgia 30303

(b) Defined Contribution Plan

The Fulton County Defined Contribution Pension Plan was established in June 1999 to provide retirement benefits for new employees, appointees and other County officials, as the defined benefit plan was closed. This includes employees assigned to the Fulton County Water and Sewerage System. Mass Mutual serves as an independent administrator of the plan. At December 31, 2018, the plan had 5,430 total participants who contributed 6% of their pensionable earnings, approximately $13,929 during 2018. The County also contributed $18,813 which was 8% of their pensionable earnings throughout the year. The County also contributed an additional $1,416 in matched funds into the Plan for those Participants electing to participate in the County's Deferred Compensation Plan. Participants fully vest the matched contributions over a five-year period. Plan provisions and contribution requirements are established by and may be amended by the County Board of Commissioners.

(c) Deferred Compensation Plan

The County has adopted a deferred compensation plan (the "Plan") in accordance with the 2001 revisions of Section 457 of the Internal Revenue Code. The Plan, available to all Fulton County employees, including employees assigned to the Fulton County Water and Sewerage System, allows an employee to voluntarily defer a certain percentage of gross compensation, not to exceed $18.5 for those less than 50 years of age, and an additional $6 for all others above 50 years of age. Plan assets are held in custodial accounts for the exclusive benefit of the Plan participants and their beneficiaries and, therefore, the plan assets and liabilities are not recorded on the County's financial statements. TIAA-CREF independently managed assets in 2018.

(9) Other Post-Employment Benefits

The County, through Board action, provides single employer health care and life insurance benefits for retired employees through an independent third party administrator, in which all of the County's employees may become eligible for these benefits if they reach normal retirement age while working for the County. This includes employees assigned to the Fulton County Water and Sewerage System. Fulton County contributes 75-90% of the premium cost for health care coverage, based upon the plan

(in thousands)

(9) Other Post-Employment Benefits

chosen by the participant and what required employee match existed at separation date. The County also contributes 100% of the premium cost for $10,000 of life insurance coverage for those employees retiring after December 1, 1988. The County pays 75% of the life insurance premiums for those persons who retired prior to December 1, 1988. The total cost to provide retiree health care and life insurance benefits, in the Health Insurance Stabilization fund, an internal service fund, is recognized as paid; such costs approximated $48,348 in 2018, as compared to $44,728 in 2017.

In accordance with GASB Statement No. 74 and 75, *Accounting and Financial Reporting by Employers for Postemployment Benefit Plans Other Than Pension Plans*, as well as GASB the County's annual other postemployment benefit (OPEB) cost is calculated based on the actuarially determined employer contribution of the employer (ADEC) which is required to be actuarially determined biannually.

The Actuarially Determined Employer Contribution and Total OPEB Obligation amounts were determined under the Entry age normal, lever percentage of pay method. As of the evaluation date, the number of retirees with current health care coverage was 3,798. Approximately 3,313 active employees are covered in this plan.

Actuarial valuations of an ongoing plan involve estimates of the value of reported amounts and assumptions about the probability of occurrence of future events. Examples include assumptions of future employment, mortality, and health care cost trends. Amounts determined regarding annual required contributions are subject to revision as results are compared with past expectations and new estimates are made about future trends. Projections of benefits for financial reporting purposes are based on the substantive plan (the plan as understood by the County and plan members) and include the types of benefits provided at the time of each valuation and the historical pattern of sharing of benefit costs between the County and plan member to that point. There are no legal or contractual funding limitations that would potentially affect the projection of benefits for financial accounting purposes. The actuarial methods and assumptions used include techniques designed to reduce short-term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long term perspective of the calculations.

The County did not contribute to the irrevocable trust fund in 2018, but has $4,936 dedicated to pay for future OPEB claims against the current unfunded accrued actuarial liability of $966,367.

Summary of Key Valuation Result: Total OPEB Liability (TOL) represents the value of all future benefit payments for current retirees and active employees taking into account assumptions about demographics, turnover, mortality, disability, retirement, health care trends, and other actuarial assumptions.

	12/31/2018	12/31/2017
Net OPEB Liability	$966,367	$928,373
Annual OPEB expense	67,203	
Service cost of beginning of year	30,661	
Total Covered Payroll	260,742	

(9) Other Post-Employment Benefits

Plan Provisions and Eligibility

Eligibility for medical, vision, dental and life insurance benefits depends, in part, upon the retirement plan in which an employee participates. The conditions below are separated based on the retirement plan participation.

Defined Benefit Pension plan participants: Retirees from active service are eligible to receive above benefits provided they satisfy one of the following:

(1) Qualify for unreduced retirement when leave employment:
  *After age 65 with 10 years of service
  *After age 60 with at least 15 years of service
  *After 10 years of service upon which the sum of age and years of service Equal or exceed 79.
(2) Leave employment due to disability in line of duty for peace officers.
(3) Leave employment due to disability after 10 years of service.
(4) Leave employment after 15 years of service
(5) Leave employment due to reduction in workforce after age 55 with 10 years of service.

Defined Contribution Pension plan participants who transferred from the above defined benefit plan prior to 2002 are eligible to receive above benefits provided they satisfy one of the following:

(1) Leave employment after 15 years of service
(2) Leave employment due to reduction in workforce after age 55 with 10 years of service.
(3) Leave employment as a peace officer after age 55 with 25 years of service.

Defined Contribution Pension plan participants who transferred from the above defined benefit plan prior to 2002 are eligible to receive above benefits provided they satisfy one of the following:

(1) Qualify for unreduced retirement when leave employment:
  *After age 65 with 10 years of service
  *After age 60 with at least 15 years of service
  *After 10 years of service upon which the sum of age and years of service Equal or exceed 80.
(2) Leave employment due to disability in line of duty for peace officers.
(3) Leave employment due to disability after 10 years of service.

Excluded from eligibility for above benefits are:

(1) Contract employees.
(2) Seasonal employees.
(3) Temporary employees.
(4) Employees working for Family & Children Services.
(5) Employees working for Adult Probation.
(6) Employees working for Fulton County Housing Authority.

(in thousands)

(9) Other Post-Employment Benefits

Sensitivity of the Net OPEB Liability to Changes in the discount rate and healthcare cost trend rates

The following presents the net OPEB liability of the County, calculated using the discount rate of 4.00%, and the System's net OPEB liability would be if it were calculated using a discount rate 1% lower (3.00.%) or 1% higher (5.00%) than the current rate. Also shown are the net OPEB liabilities if the rates if healthcare trends rates were 1% lower and 1% higher than the 5.00% current healthcare trend rate.

	Discount Rates		
	1% Decrease (3.00%)	**Current (4.00%)**	**1% Increase (5.00%)**
Net OPEB liability	$1,136,414	$966,367	$831,307

	Healthcare Trend Rates		
	1% Decrease (4.00%)	**Current (5.00%)**	**1% Increase (6.00%)**
Net OPEB liability	$816,860	$966,367	$1,157,882

The projection of cash flows used to determine the discount rate assumed plan member contributions will be made at the current contribution rates (as a percentage of pay) and the county contributions will be made equal to the actuarial determined contribution. Based on these assumptions, the OPEB plan's fiduciary net position was projected to be available to make all projected benefit payments of current plan members. Therefore, the long-term expected rate of return on the OPEB plan investments was applied to all periods of projected benefit payments to determine the total OPEB liability.

OPEB Expense and Deferred Outflows of Resources Related to OPEB

The County recognized total OPEB expense of $67,203 for the year ended December 31, 2018, all within the governmental activities. Included in pension expense are recognized amounts related to the deferred outflows of resources for pensions. These deferred outflows consist of $5,236 comprised of the difference between expected and actual experience, along with $432 as the net difference between projected and actual earnings on OPEB plan investments. The combined deferred outflows of $5,668 are being recognized each year by $532 until fully recognized, approximately 11 years.

Schedule of Contributions

		2018
Actuarially Determined Contribution	$	67,203
Contributions in Relation to Actuarially Determined Contribution		34,883
Contribution Deficiency (Excess)		32,320
Covered Employee Payroll		260,741
Actuarially Determined Contribution as % of Covered Employee Payroll		12.40%

(in thousands)

(9) Other Post-Employment Benefits

Changes in Total and Net OPEB Liability, and Plan Fiduciary Net Position are shown below:

		Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability
Balances at December 31, 2017	$	933,535	5,162	928,373
Changes for the year:				
Service cost		30,661		30,661
Interest		36,754		36,754
Difference between expected				-
and actual experience		5,236		5,236
Contributions - employer			-	-
Contributions - employee			-	-
Net investment income			(226)	226
Benefit payments		(34,883)	-	(34,883)
Administrative expense		-	-	-
Net changes	$	37,768	(226)	37,994
Balances at December 31, 2018	$	971,303	4,936	966,367

The County's annual OPEB cost and net OPEB liability and changes in the net OPEB liability for the year ended December 31, 2018 are presented below:

Change in Net OPEB Liability		
Service Cost	$	30,661
Interest expense		36,754
Difference between expected and actual experiences		5,236
Change in assumption		-
Benefit payments		(34,883)
Investment Income- OPEB trust fund		226
Change in net OPEB liability		37,994
Net OPEB liability - January 1		928,373
Net OPEB liability - December 31	$	966,367

(in thousands)

(9) Other Post-Employment Benefits

Methods and assumptions used in the calculations of actuarially determined contributions for the total OPEB liability

The following actuarial methods and assumptions were used to determine the most recent contribution rate reported:

Valuation Date	January 1, 2019
Normal Cost and Actuarial Accrued Liability	Entry age normal, level percentage of pay.
Actuarial Value of Assets	Equal to Market Value
Amortization of Unfunded Accrued	In accordance with requirements of GASB 75.
Actuarially Determined Contribution	Set equal to Annual OPEB expense
Termination	Rates used Age 30-7.10%: Age 40-4.30%; Age 50-3.00%.
Disability	50% of 1975 SSA Study
Investment rate of return	4.00%.
Discount Rate	4.00%
Healthcare cost trend rate	5.00%
Projected salary increases	4.00%
Mortality Rates-Pre-Retirement	RP-2014 Blue Collar Mortality Table, adjusted backward to the base year (2006) using Scale MP-2014, and projected generationally from 2006 using Scale MP-2016.
Mortality Rates-Healthy Annuitants	RP-2014 Blue Collar Healthy Annuitant Mortality Table, adjusted backward to the base year (2006) using Scale MP-2014, set forward two years for males and one year for females, and projected generationally from 2006 using Scale MP-2016.
Mortality Rates-Disabled Annuitants	RP-2014 Disabled Retiree Mortality Table, adjusted backward to the base year (2006) using Scale MP-2014, set forward four years for males and unadjusted for females, and projected generationally from 2006 using Scale MP-2016.
Retirement	Sample Rates after attaining medical benefit eligibility:

Age	Rate
50	5.00%
55	25.00%
60	15.00%
62	35.00%
65	20.00%
70	100.00%

Participation	90% for retiree medical and vision; 100% for life insurance
Benefits not valued	All retiree medical, vision, and life insurance benefits not paid 100% by retiree were valued.

(10) Contingencies

The System is a defendant in a number of legal actions in the nature of claims for alleged damages to persons and property, civil rights violations, and other similar types of actions arising in the course of normal System operations. In the opinion of System management, there are no suits pending or unasserted claims that would have a material adverse effect on the accompanying financial statements. System improvement commitments total approximately $60,740 and $54,666 as of December 31, 2018 and 2017, respectively.

FULTON COUNTY, GEORGIA

Required Supplementary Information
Unaudited, and in thousands

December 31, 2018 and 2017

Schedule of Contributions from the Employer and Other Contributing Entities

Contributions in Relation to
The Actuarially Determined Employer Contribution

Year Ended		Actuarially Determined Employer Contribution	County Employer Contribution	DFACS Employer Contribution	Total Employer Contributions	Contribution Deficiency (Excess)	Covered Employee Payroll	Contributions as a Percentage of Covered Employee Payroll
December 31, 2009	$	43,008	38,242	260	38,502	4,506	67,184	57.31%
December 31, 2010		36,639	37,044	182	37,226	(587)	57,888	64.31
December 31, 2011		45,049	42,049	121	42,170	2,879	49,277	85.58
December 31, 2012		51,199	45,878	58	45,936	5,263	42,622	107.78
December 31, 2013		52,882	56,126	118	56,244	(3,362)	36,258	155.12
December 31, 2014		55,255	57,441	88	57,529	(2,274)	32,828	175.24
December 31, 2015		48,586	47,203	27	47,230	1,356	27,820	169.77
December 31, 2016		50,493	45,953	24	45,977	4,516	23,391	196.56
December 31, 2017		52,988	57,213	15	57,228	(4,240)	20,374	280.89
December 31, 2018		59,746	59,199	4	59,203	543	14,845	398.80

Schedule of Employer's Net Pension Liability

Year Ended		Total Pension Liability	Plan Fiduciary Net Position	Net Pension Liability	Plan Fiduciary Net Position as a percentage of the Total Pension liability	Covered payroll	Net pension liability as a percentage of covered payroll
December 31, 2018	$	1,852,863	1,223,532	629,331	66.03%	14,845	4,239.355%
December 31, 2017		1,833,170	1,382,953	450,217	75.44	20,374	2,209.81
December 31, 2016		1,706,579	1,211,837	494,742	71.01	23,391	2,115.08
December 31, 2015		1,677,001	1,217,955	459,046	72.63	27,820	1,650.06
December 31, 2014		1,654,412	1,306,027	348,385	78.94	32,828	1,061.24

Schedule of Pension Investment Returns

Year Ended	Annual money-weighted rate of return, net of investment expense
December 31, 2009	23.35%
December 31, 2010	12.48%
December 31, 2011	0.93%
December 31, 2012	12.13%
December 31, 2013	21.76%
December 31, 2014	5.05%
December 31, 2015	(0.88%)
December 31, 2016	6.40%
December 31, 2017	20.91%
December 31, 2018	(6.00%)

FULTON COUNTY, GEORGIA

Required Supplementary Information
Unaudited, and in thousands

December 31, 2018

Schedule of Changes in Net Pension Liability
Last Ten Fiscal Years
(in thousands)

		2018	2017	2016	2015	2014
Total Pension Liability						
Service cost	$	3,768	2,348	3,283	3,678	4,291
Interest		129,929	123,205	122,576	122,562	120,935
Change of benefit terms		-	-	-	-	-
Differences between expected and actual experience		6,717	20,982	16,293	6,262	21,902
Change of assumptions		17,675	112,435	15,734	15,489	15,352
Benefit payments, including refunds		(138,396)	(132,378)	(128,309)	(125,402)	(117,044)
Net change in total pension liability		19,693	126,592	29,577	22,589	45,436
Total pension liability - beginning	$	1,833,170	1,706,578	1,677,001	1,654,412	1,608,976
Total pension liability - ending (a)	$	1,852,863	1,833,170	1,706,578	1,677,001	1,654,412
Plan fiduciary net position						
Contributions-employer	$	59,203	57,228	45,977	47,230	57,529
Contributions-employee		1,110	1,358	1,633	1,868	2,129
Net investment income		(80,562)	245,564	75,369	(11,187)	64,143
Benefit payments, including refunds		(138,396)	(132,378)	(128,309)	(125,402)	(117,044)
Administrative expense		(776)	(656)	(788)	(581)	(705)
Net change in plan fiduciary net position	$	(159,421)	171,116	(6,118)	(88,072)	6,052
Plan fiduciary net position - beginning	$	1,382,953	1,211,837	1,217,955	1,306,027	1,299,975
Plan fiduciary net position - ending (b)	$	1,223,532	1,382,953	1,211,837	1,217,955	1,306,027
Net pension liability - ending (a) - (b)		629,331	450,217	494,741	459,046	348,385
Plan fiduciary net position as a percentage of the Total pension liability		66.03%	75.44%	71.01%	72.63%	78.94%
Covered payroll	$	14,845	20,374	23,391	27,820	32,828
Net pension liability as a percentage of covered payroll		4239.35%	2209.76%	2115.09%	1650.06%	1061.24%

Note: Schedule is intended to show information for 10 years. Additional years will be displayed as information becomes available.
See accompanying notes to required supplementary information and accompanying independent auditors report
No benefit changes have been made since GASB 67/68 implementation
Assumption changes - see next page

FULTON COUNTY, GEORGIA

Required Supplementary Information
Unaudited, and in thousands

December 31, 2018

Schedule of Changes in System's Net Pension Liability

Last Ten Fiscal Years

(in thousands)

Change of Assumptions as of 1/1/19 valuation: Board approved changes include a reduction of the net investment return from 7.35% to 7.25% as of December 31, 2018, and increase the administrative expense assumption from $650,000 to $800,000 as a result of higher 2018 actual expenses.

Change of Assumptions as of 1/1/18 valuation: A comprehensive Actuarial Experience Review, covering the period 1/1/2012 through 12/31/2016, was completed in 2017, resulting in the following assumption changes that were approved by the Board. These changes were reflected in the 1/1/18 valuation.

- Group specific age-based salary scale rates were introduced to reflect actual plan experience. The previous salary assumption was 3% per year, regardless of age or group.
- The underlying inflation rate was lowered from 3% to 2%.
- The administrative expense assumption was changed from the prior actual amount rounded to the nearest $100,000 to the prior actual amount rounded to the nearest $50,000.
- The pre-retirement mortality assumption was changed from the RP-2000 Combined Healthy Mortality Table with Blue Collar adjustment, projected to 2019 using Scale AA, further loaded by 30% for males and 10% for females, to the RP-2014 Blue Collar Employee Mortality Table, adjusted backward to 2006 with Scale MP-2014 and projected generationally from 2006 with Scale MP-2016.
- The post-retirement mortality assumption for healthy annuitants was changed from the RP-2000 Combined Healthy Mortality Table with Blue Collar adjustment, projected using Scale AA, to the RP-2014 Blue Collar Healthy Annuitant Mortality Table, adjusted backward to 2006 with Scale MP-2014, set forward two years for males and one year for females, and projected generationally from 2006 with Scale MP-2016.
- The mortality assumption for disabled retirees was changed from the RP-2000 Disabled Retiree Mortality Table projected to 2019 using Scale AA, to the RP-2014 Disabled Retiree Mortality Table, adjusted backward to 2006 with Scale MP-2014, set forward four years for males, and projected generationally from 2006 with Scale MP-2016.
- The group-specific disability rates were modified to better reflect actual experience and expected future patterns.
- The group-specific turnover (withdrawal) assumption was changed to a flat 2% per year for all active employees. The rates end at eligibility for retirement.
- The group-specific retirement rates were modified to better reflect observed expereince, including extending the rates below age 50.
- The percent married assumption was lowered from 75% to 70% for males and from 50% to 40% for females.
- The spousal age difference assumption was lowered from four years to three years.
- The assumption for participants that transfer to the County's defined contribution plan was changed to assume that all participants remain in the defined benefit plan.
- The load on average final salary to account for vacation and comp time was increased from 5.5% to 7.5%, and the load to account for a 27th pay period in some years was lowered from 3.6% to 1.3%.
- The load on service to account for unused sick leave was adjusted from 1% to 2%.
- Additional changes were to lower the net investment return from 7.5% to 7.35% and lower the administrative expense assumption from $800,000 to $650,000 as a result of lower 2017 actual expenses.

See accompanying notes to required supplementary information and accompanying independent auditor's report.

FULTON COUNTY, GEORGIA

Required Supplementary Information
Unaudited, and in thousands

December 31, 2018

Schedule of Changes in Net OPEB Liability and Related Ratios
Last Ten Fiscal Years
(in thousands)

		2018
Total OPEB Liability		
Service cost	$	30,661
Interest		36,754
Change of benefit terms		-
Differences between expected and		
actual experience		5,236
Change of assumptions		-
Benefit Ppayments		(34,883)
Net change in total pension liability		37,768
Total OPEB liability - beginning	$	933,535
Total OPEB liability - ending (a)	$	971,303
Plan fiduciary net position		
Contributions-employer	$	-
Contributions-employee		-
Net investment income		(226)
Benefit payments		-
Administrative expense		-
Net change in plan fiduciary net position	$	(226)
Plan fiduciary net position - beginning	$	5,162
Plan fiduciary net position - ending	$	4,936
Net OPEB Liability - ending		966,367
Plan fiduciary net position as a percentage of		
the Total OPEB liability		0.51%
Covered payroll	$	260,742
Net OPEB liability as a percentage		
of covered payroll		370.62%

Note: Schedule is intended to show information for 10 years. Additional years will be displayed as information becomes available.

See accompanying notes to required supplementary information and accompanying independent auditors report

Unaudited, and in thousands

(1) Schedule of Changes in the Net Pension Liability

The total pension liability contained in this schedule was provided by the Plan's actuary, Segal Consulting. The net pension liability is measured as the total pension liability less the amount of the fiduciary net position of the Plan.

(2) Schedule of Contributions from the Employer and Other Contributing Entities

The required contributions and percentage of those contributions actually made are presented in the schedule.

(3) Actuarial Methods and Assumptions

Changes of assumptions-Pension: Effective as of the January 1, 2019 valuation, the Fulton County Employees Retirement System Board approved a lower assumed rate of return from 7.35% to 7.25%, which affected the actuarial liability by $17.6 million, and also changed the administrative expense assumption from $650,000 to $800,000.

Effective as of the January 1, 2018 valuation, the Fulton County Employees Retirement System Board adopted assumption changes from a comprehensive Actuarial Experience Review which covered periods January 1, 2012 to December 31, 2016. These numerous changes are listed in detail on page 82 of the footnotes to the financial statements. The total value of these changes is approximately $112 million.

Methods and assumptions used in the calculations of actuarially determined contributions: The following actuarial methods and assumptions were used to determine the most recent contribution rate reported:

Valuation Date	January 1, 2019
Actuarial cost method	Entry Age Normal
Amortization method	Level Dollar, closed period.
Remaining amortization period	15 year average remaining, depending on which bases
Asset valuation method	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.
Inflation rate	2.0%
Projected salary increases	2.0-6.0%, depending on age, and if Public Safety employee

Unaudited, and in thousands

(3) Actuarial Methods and Assumptions (continued)

Investment rate of return	7.35%. The net investment return 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 well as the System's target asset allocation.
Mortality Rates-Pre-retirement	RP-2014 Blue Collar Mortality Table, adjusted backward to the base year (2006) using Scale MP-2014, and projected generationally from 2006 using Scale MP-2016.
Mortality Rates-Healthy Annuitants	RP-2014 Blue Collar Healthy Annuitant Mortality Table, adjusted backward to the base year (2006) using Scale MP-2014, set forward two years for males and one year for females, and projected generationally from 2006 using Scale MP-2016.
Mortality Rates-Disabled Annuitants	RP-2014 Disabled Retiree Mortality Table, adjusted backward to the base year (2006) using Scale MP-2014, set forward four years for males and unadjusted for females, projected generationally using Scale MP-2016.

Changes of assumptions-OPEB: Assumptions utilized in the January 1, 2019 OPEB valuation match the previously used OPEB assumptions in the January 1, 2017 actuarial analysis.

(4) Schedule of Changes in Net OPEB Liability

The County implemented GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other than Pensions*, during fiscal year 2018. The implementation of GASB 75 resulted in a restatement of beginning net position of $281,255. For purposes of measuring net other postemployment liability (OPEB), deferred outflows or resources and deferred inflows of resources related to OPEB and OEPB expense have been determined on the same basis as they are reported by the OPEB Plan. For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with benefit terms.