FULTON COUNTY, GEORGIA
WATER & SEWERAGE SYSTEM FUND

(A Fund of Fulton County, Georgia)

Financial Statements
And
Independent Auditor's Report

December 31, 2017 and 2016




FULTON COUNTY, GEORGIA
WATER AND SEWERAGE SYSTEM FUND

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December 31, 2017 and 2016

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, 2017 and 2016, 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, 2017 and 2016, 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.

Suite 2302, 260 Peachtree St. N.W. • Atlanta, Georgia 30303 • Phone: 404.659.3384 • Fax: 404.659.6863

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 33 through 36 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 15, 2018

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, 2017 and 2016. 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 $1,422,521 for the fiscal year ended December 31, 2017. This compares to the previous year when total assets reported were $1,428,456 representing a decrease of $5,935, as depreciation and amortization outpaced gains in other asset capitalizations.

System bonded debt of $451,733 decreased from 2016 by $20,786 net of principal payments and amortization of bond premiums on outstanding Water and Sewerage revenue bonds. All other liabilities remained relatively consistent with 2016 values.

System net position continues to increase by $13,023 during 2017 as compared to 2016's increase of $5,306. Fiscal 2017's water and sewerage service charges were lower by 7% from 2016, as irrigation usage and rainfall impact usage year to year. Total net position at December 31, 2017 was $965,270, of which $37,405 is restricted for future debt service, and $675,059 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 totaled $252,806 as of December 31, 2017, a decrease of $14,211 from December 31, 2016.

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):

			2017-2016	%		2016-2015	%
Assets:	**2017**	**2016**	**Net change**	**change**	**2015**	**Net change**	**change**
Current assets	$ 186,690	196,989	(10,299)	(5)	186,166	10,823	6
Restricted assets	37,405	46,210	(8,805)	(19)	57,246	(11,036)	(19)
Capital assets, net of depreciation	1,126,850	1,111,567	15,283	1	1,121,435	(9,868)	(1)
Other non current assets	71,576	73,690	(2,114)	(3)	75,832	(2,142)	(3)
Total assets	1,422,521	1,428,456	(5,935)	-	1,440,679	(12,223)	(1)
Deferred Outflows of Resources:							
Deferred charge on refunding of bonc	3,710	4,428	(718)	(16)	5,199	(771)	(15)
Total deferred outflows of resour	3,710	4,428	(718)	(16)	5,199	(771)	(15)
Liabilities:							
Current liabilities	24,690	22,717	1,973	9	20,122	2,595	13
Long-term liabilities	436,271	457,920	(21,649)	(5)	478,815	(20,895)	(4)
Total liabilities	460,961	480,637	(19,676)	(4)	498,937	(18,300)	(4)
Net postion:							
Net investment in capital assets	675,059	647,808	27,251	4	648,725	(917)	-
Restricted for debt retirement	37,405	37,422	(17)	-	37,163	259	1
Unrestricted	252,806	267,017	(14,211)	(5)	261,053	5,964	2
Total net position	965,270	952,247	13,023	1	946,941	5,306	-

The System's assets above decreased slightly from depreciation on water and sewer infrastructure from development outpacing new capitalizations during 2017.

Long-term liabilities decreased due to reductions in scheduled principal during 2017, while short term payables increased slightly from the previous year. The Net investment in capital assets increase 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

	2017	2016	2017-2016 net change	% change	2015	2016-2015 net change	% change
Operating revenues:							
Water and sewerage charges	$ 120,830	130,119	(9,289)	(7)	121,756	8,363	7
Total Operating revenues	120,830	130,119	(9,289)	(7)	121,756	8,363	7
Operating expenses:							
Administrative and general	4,737	7,180	(2,443)	(34)	4,012	3,168	79
Depreciation and amortization	29,595	33,878	(4,283)	(13)	33,898	(20)	—
Personal services	23,343	21,398	1,945	9	21,482	(84)	—
Contractual services	27,666	28,948	(1,282)	(4)	29,445	(497)	(2)
Operating services	15,455	15,563	(108)	(1)	15,848	(285)	(2)
Total Operating expenses	100,796	106,967	(6,171)	(6)	104,685	2,282	2
Total Operating income	20,034	23,152	(3,118)	(13)	17,071	6,081	36
Nonoperating revenues (expenses):							
Gain (loss) on investment in joint venture	(2,114)	(2,142)	28	(1)	(2,661)	519	(20)
Interest income	1,426	858	568	66	366	492	134
Interest expense	(15,992)	(16,531)	539	(3)	(17,005)	474	(3)
Total nonoperating revenue(expense)	(16,680)	(17,815)	1,135	(6)	(19,300)	1,485	(8)
Change in net position before transfers	3,354	5,337	(1,983)	(37)	(2,229)	7,566	(339)
Transfers out	—	(31)	31	(100)	—	—	—
Capital contributions	9,669	—	9,669	—	—	—	—
Change in net position	13,023	5,306	7,717	145	(2,229)	7,566	(339)
Net position at beginning of year	952,247	946,941	5,306	1	949,170	(2,229)	—
Ending Net Position	$ 965,270	952,247	13,023	1	946,941	5,337	1

The System experienced a 7% decrease in water and sewer revenues in 2017 as compared to 2016, but returns to 2015 revenue levels. While customer growth contributes to the increase slightly, rainfall totals impact customer usage for irrigation, which can affect overall system revenues year after year. Operating service costs decreased slightly in 2017 for changes in the allocation methods used for administrative category for the County's support service agencies, as well as less costs associated with less flows and usage in 2017.

Operating as well as personnel costs to operate the system remain relatively flat from 2017 to 2016 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 2017 and 2016 are shown below:

Water and Sewerage System fund: Capital assets not being depreciated:		January 1, 2017	Increases	Decreases	December 31, 2017
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

Capital assets not being depreciated:		January 1, 2016	Increases	Decreases	December 31, 2016
Land improvements		10,201	—	—	10,201
Construction in progress	$	46,357	16,409	—	62,766
Total capital assets not being depreciated		56,558	16,409	—	72,967
Capital assets being depreciated:					
Equipment		17,228	1,450	(796)	17,882
Water system		283,313	1,581	—	284,894
Sewer system		1,131,450	1,486	—	1,132,936
Intangible assets		169,006	2,313	—	171,319
Total capital assets being depreciated		1,600,997	6,830	(796)	1,607,031
Less accumulated depreciation for:					
Equipment		(14,758)	(676)	796	(14,638)
Water system		(93,736)	(5,152)	—	(98,888)
Sewer system		(377,072)	(21,944)	—	(399,016)
Intangible assets		(50,554)	(5,335)	—	(55,889)
Total accumulated depreciation		(536,120)	(33,107)	796	(568,431)
Net capital assets being depreciated		1,064,877	(26,277)	—	1,038,600
Net capital assets-Water & Sewerage System fund	$	1,121,435	(9,868)	—	1,111,567

(in thousands of dollars)

Capital Assets (continued)

The primary change for 2017 and 2016 was investments made from bond proceeds for sewerage treatment facilities. No interest was allocated to capital projects during both years, while the System recorded almost $10 million of capitalizations from donations of developer provided infrastructure in 2017.

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 $6 million annually for water produced at this facility. The net value of this joint venture is $71,576 and $73,690 as of December 31, 2017 and 2016, 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 $5.3 million for 2017 and 2016, is classified as an operating cost on the Statement of Revenues, Expenses and Changes in Fund Net Position-Proprietary funds. $2,022 was additionally paid and capitalized during 2017, bringing the balance at December 31, 2017 to approximately $112.1 million.

Long term liabilities

This chart displays the System's long-term liabilities as of December 31, 2017. 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	190,185	16,875-21,505	Water/Sewer facilities
			$ 413,450		

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, 2017 and 2016

(In thousands of dollars)

Assets		**2017**	**2016**
Current assets:			
Cash and cash equivalents (note 2)	$	173,504	90,693
Investments (note 2)		—	89,868
Interest receivable		—	159
Customer receivables, net of allowance for doubtful accounts (note 3)		10,190	12,670
Due from other governments, net of allowance for doubtful accounts (note 3)		2,996	3,599
Total current assets		186,690	196,989
Restricted assets (note 1):			
Cash and cash equivalents (note 2)		144	24,544
Investments (note 2)		37,203	21,638
Interest receivable		58	28
Total restricted assets		37,405	46,210
Non-current assets:			
Investment in joint venture (note 4)		71,576	73,690
Capital Assets:			
Nondepreciable capital assets		103,366	72,967
Depreciable capital assets, net of accumulated depreciation (note 6)		1,023,484	1,038,600
Total non-current assets		1,198,426	1,185,257
Total assets		1,422,521	1,428,456
Deferred Outflows of Resources			
Deferred charge on refunding of bonds (note 5)		3,710	4,428
Total deferred outflows of resources		3,710	4,428

See accompanying notes to financial statements. (continued)

Liabilities and Net Position		2017	2016
Liabilities:			
Current liabilities:			
Accounts payable		1,373	1,813
Accrued liabilities and payroll payable		1,165	953
Total current liabilities payable from unrestricted assets		2,538	2,766
Liabilities payable from restricted assets:			
Contracts and other payables		4,810	3,394
Revenue bonds payable – current portion (note 7)		16,875	16,090
Unearned revenue		467	467
Total liabilities payable from restricted assets		22,152	19,951
Total current liabilities		24,690	22,717
Noncurrent liabilities:			
Revenue bonds payable (note 7)		434,858	456,429
Accrued liabilities		1,413	1,491
Total noncurrent liabilities		436,271	457,920
Total liabilities		460,961	480,637
Net Position:			
Net investment in capital assets		675,059	647,808
Restricted for debt retirement		37,405	37,422
Unrestricted		252,806	267,017
Total Net Position	$	965,270	952,247

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, 2017 and 2016

(In thousands of dollars)

		2017	2016
Operating revenues:			
Water and Sewerage charges	$	120,830	130,119
Total operating revenues		120,830	130,119
Operating expenses:			
Administrative and general		4,737	7,180
Depreciation and amortization		29,595	33,878
Personal services		23,343	21,398
Contractual services		27,666	28,948
Operating services		15,455	15,563
Total operating expenses		100,796	106,967
Operating income		20,034	23,152
Non-operating revenues (expenses):			
Loss on investment in joint venture		(2,114)	(2,142)
Interest income		1,426	858
Interest expense		(15,992)	(16,531)
Total non-operating expenses		(16,680)	(17,815)
Income before contributions and transfers		3,354	5,337
Capital contributions		9,669	
Transfer out		—	(31)
Change in net position		13,023	5,306
Net position at beginning of year		952,247	946,941
Net position at end of year	$	965,270	952,247

See accompanying notes to financial statements.

FULTON COUNTY, GEORGIA
WATER AND SEWERAGE SYSTEM FUND

Statements of Cash Flows

Years ended December 31, 2017 and 2016

(In thousands of dollars)

		2017	2016
Cash flows from operating activities:			
Receipts from customers and users	$	123,913	128,491
Payments to suppliers		(46,670)	(49,861)
Payments to employees		(23,421)	(21,282)
Net cash provided by operating activities		53,822	57,348
Cash flows from capital and related financing activities:			
Principal and interest payments on revenue bonds		(36,777)	(36,778)
Payments for transfer out		—	(31)
Additions to property, plant and equipment		(34,491)	(23,239)
Net cash provided by (used in) capital and related financing activities		(71,268)	(60,048)
Investing activities:			
Purchase of investments		(37,203)	(111,506)
Proceeds from sale of investments		111,506	35,281
Interest received on investments		1,554	700
Net cash (used in) provided by investing activities		75,857	(75,525)
Net change in cash and cash equivalents		58,411	(78,225)
Cash and cash equivalents at beginning of year		115,237	193,462
Cash and cash equivalents at end of year	$	173,648	115,237
Reconciliation of operating income to net cash provided by operating activities:			
Operating income	$	20,034	23,152
Adjustments to reconcile operating income to net cash provided by operating activities:			
Depreciation and amortization		29,595	33,878
Changes in assets and liabilities:			
Customer receivables - net		2,480	(3,048)
Change in due from other governments - net		603	1,420
Accounts payable		(228)	(24)
Accrued liabilities		(78)	116
Contractual and other liabilities		1,416	1,854
Net cash provided by operating activities	$	53,822	57,348
Non-cash transactions:			
Unrealized gain (loss) on investments	$	(128)	(159)
Gain (loss) on investment in joint venture		(2,114)	(2,142)

(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, 2017; 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) Investments

Investments are recorded at fair value based on quoted current market values. Interest income on investments is accrued as earned.

(d) Capital Assets

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.

Normal maintenance and repairs are charged to expense as incurred. Major improvements to existing facilities are capitalized. Interest is capitalized on assets acquired with tax-exempt debt. The amount of interest capitalized is calculated by offsetting interest expense incurred from the date of borrowing until completion of the project with interest earned on invested proceeds over the same period.

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 and component units 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.

(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, 2017	December 31, 2016
Unrestricted:		
Cash and cash equivalents	$ 173,504	90,693
Investments	-	89,868
Restricted:		
Cash and cash equivalents	144	24,544
Investments	37,203	21,638
	$ 210,851	226,743

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.

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.

(in thousands)

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

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, 2017 and 2016, the System had the following investments:

		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
Money Market funds	-			
Georgia Fund 1	96			
Total cash equivalents and investments	$ 37,299			

		December 31, 2016		
Fixed Income:	**Fair Value**	**to 3 months**	**4-12 months**	**1-5yrs**
US Agency Obligations	$ 111,506	-	89,868	21,638
Fixed Income subtotal	111,506	-	89,868	21,638
Money Market funds	11,683			
Georgia Fund 1	100,820			
Total cash equivalents and investments	$ 224,009			

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 $37,203 as of December 31, 2017 and $111,506 as of December 31, 2016 are rated AAA/AA+. The short term money market funds possess the highest short term ratings by each rating agency. 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, 2017 listed in the Interest Rate Risk chart on the previous page.

(3) Allowances for Doubtful Accounts

Allowances for doubtful accounts at December 31, 2017 and 2016 are as follows (in thousands of dollars):

	2017	2016
Customer receivables	$ 1,557	3,225
Due from other governments	$ 5,806	4,706

(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 $5.9 million in 2017 and 6.6 million in 2016 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, 2017 and 2016, 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 $5.3 million for 2017 is classified as an operating cost on the Statement of Revenues, Expenses and Changes in Net Position-Proprietary funds. Approximately $2 million was additionally paid and capitalized during 2017 as well as 2016, bringing the balances to $112.1 million and $115.4 million at December 31, 2017 and December 31, 2016, respectively.

Deferred charge on refunding of bonds, classified as a Deferred Outflow of Resources, and is $3,710 and $4,428 at December 31, 2017 and December 31, 2016, respectively.

(in thousands)

(6) Capital Assets

The following charts display capital asset balances and activity for 2017 and 2016.

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

(6) Capital Assets (continued)

Water and Sewerage System fund:		January 1, 2016	Increases	Decreases	December 31, 2016
Capital assets not being depreciated:					
Land improvements	$	10,201	—	—	10,201
Construction in progress		46,357	16,409	—	62,766
Total capital assets not being depreciated		56,558	16,409	—	72,967
Capital assets being depreciated:					
Equipment		17,228	1,450	(796)	17,882
Water system		283,313	1,581	—	284,894
Sewer system		1,131,450	1,486	—	1,132,936
Intangible assets		169,006	2,313	—	171,319
Total capital assets being depreciated		1,600,997	6,830	(796)	1,607,031
Less accumulated depreciation for:					
Equipment		(14,758)	(676)	796	(14,638)
Water system		(93,736)	(5,152)	—	(98,888)
Sewer system		(377,072)	(21,944)	—	(399,016)
Intangible assets		(50,554)	(5,335)	—	(55,889)
Total accumulated depreciation		(536,120)	(33,107)	796	(568,431)
Net capital assets being depreciated		1,064,877	(26,277)	—	1,038,600
Net capital assets-Water & Sewerage System fund	$	1,121,435	(9,868)	—	1,111,567

No interest was required to be capitalized from borrowings related to water and sewerage system construction projects in 2017 or 2016. Donated contributions of capital totaled $9,669 in 2017. All depreciation of $28,877 in 2017 and $33,107 in 2016 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 $38,283 and $42,979 at December 31, 2017 and 2016, respectively, are as follows (in thousands of dollars):

Issue	Interest rate range	Maturity date	Authorized and issued	Total at December 31 2017	2016
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	190,185	206,275
Less current portion				(16,875)	(16,090)
				396,575	413,450

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

This chart displays the System's long-term liabilities and related activity for 2017 and 2016.

		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

		Balance January 1, 2016	Increases	Decreases	Balance December 31, 2016	Due within One year
Water & Sewerage Revenue Bonds	$	444,865	—	(15,325)	429,540	16,090
Less deferred charges, net		47,900	—	(4,921)	42,979	
Total Water & Sewerage Revenue Bonds		492,765	—	(20,246)	472,519	
Other Long-Term Liabilities		1,375	866	(750)	1,491	
Total System long term liabilities	$	494,140	866	(20,996)	474,010	16,090

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

December 31		Principal	Interest	Total
2018	$	16,875	19,898	36,773
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
2023-2027		112,305	65,494	177,799
2038-2032		141,430	34,872	176,302
2033-2037		66,505	4,016	70,521
Total		413,450	195,056	608,506
Unamortized premiums		38,283	(38,283)	-
Total		451,733	156,773	608,506

(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, which provides benefits to employees of the 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 and $121 to the Supplemental Plan described in this note, made for 2017 and 2016 are as follows (in thousands of dollars):

		2017	2016
Total required employer contributions:			
Dollar amount	$	52,988	50,493
Percent of covered payroll		260.08%	215.87%
Actual employer contributions:			
Dollar amount	$	57,228	45,977
Percent of covered payroll		280.89%	196.56%

Employee contribution rates are established in accordance with pension law. During 2017 and 2016 actual countywide employee contributions were $1,358 and $1,633, respectively which represented 6.66% and 6.98% of covered payroll, respectively.

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. 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 is performed annually as of January 1.

(8) Retirement Plans (continued)

Membership

Current membership in the Plan and current year payrolls for 2017 and 2016 are as follows:

		2017	2016
Members:			
Retired and receiving benefits		3,230	3,232
Terminated with vested benefits		23	26
Active participants		339	394
Total members		3,592	3,652
Total current year payroll for employees covered by the Plan (in thousands of dollars)	$	20,374	23,391

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, 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%.
*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.

(8) Retirement Plans (continued)

*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.

Effective as of the January 1, 2017 valuation, the Fulton County Employees Retirement System Board approved a lower assumed rate of return from 7.60% to 7.50%, which affected the actuarial liability by $15.7 million, and also increased the administrative expense assumption from $600,000 to $800,000. There were no changes in plan provisions from the last valuation date.

(in thousands)

(8) Retirement Plans (continued)

The System's total and net pension liability for the years ended December 31, 2017 and 2016 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, 2017	$	1,833,170	1,382,953	$ 450,217	75.44%
December 31, 2016	$	1,706,578	1,211,837	$ 494,741	71.01%

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 7.35%, and the System's net pension liability would be if it were calculated using a discount rate this is one-percentage-point lower (6.35.%) or one-percentage-point higher (8.35%) than the current rate.

	1% Decrease (6.35%)	Current Discount (7.35%)	1% Increase (8.35%)
System's net pension liability	$644,663	$450,217	$286,433

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.

(in thousands)

(8) Retirement Plans (continued)

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, 2016	$	1,706,578	1,211,837	494,741
Changes for the year:				
Service cost		2,348		2,348
Interest		123,205		123,205
Benefit changes				-
Difference between expected				-
and actual experience		20,982		20,982
Change of assumptions		112,435		112,435
Contributions - employer			57,228	(57,228)
Contributions - employee			1,358	(1,358)
Net investment income			245,564	(245,564)
Benefit payments, including refunds				
of employee contributions		(132,378)	(132,378)	-
Administrative expense			(656)	656
Net changes	$	126,592	171,116	(44,524)
Balances at December 31, 2017	$	1,833,170	1,382,953	450,217

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, 2018
Actuarial cost method	Entry Age Normal Actuarial Cost Method
Amortization method	Closed level dollar for remaining unfunded liability.
Remaining amortization period	15 years remaining as of January 1, 2018.
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.

(in thousands)

(8) Retirement Plans (continued)

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.

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, 2017 as shown below.

Asset Class	Target Allocation	Long-term Expected Real Rate of Return*
U.S. Large Cap Equity	34.00%	4.75%
U.S. Small/Mid Cap Equity	14.00%	5.00%
International Equity	20.00%	5.00%
Emerging Market Equity	5.00%	6.50%
U.S. Aggregate Fixed Income	12.00%	1.00%
Bank loans	5.00%	2.75%
Global Fixed Income	5.00%	0.00%
Global Asset Allocation	5.00%	3.18%
	100.00%	

*****Expected real rate of return is net of inflation.

(in thousands)

(8) Retirement Plans (continued)

Pension Expense and Deferred Outflows of Resources Related to Pensions

The County recognized total pension expense of $163,256 for the year ended December 31, 2017, 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 and shown within the County's Comprehensive Annual Financial Report. None of the items below appear within the System's liabilities at December 31, 2017.

		Balance,	Recognized	Balance,	To Be Recognized during fiscal year			
Fiscal year outflows		**12/31/2016**	**during 2017**	**12/31/2017**	**2018**	**2019**	**2020**	**2021**
Investment loss	2015 $	65,275	21,758	43,517	21,758	21,759	-	-
Investment loss	2016	11,279	2,820	8,459	2,820	2,819	2,820	-
Liability loss	2017	-	20,982	-	-	-	-	-
Assumption change	2017	-	112,435	-	-	-	-	-
Total Outflows		76,554	157,995	51,976	24,578	24,578	2,820	-
Fiscal year inflows								
Investment gain	2017	-	31,494	125,974	31,494	31,494	31,493	31,493
Total Inflows		-	31,494	125,974	31,494	31,494	31,493	31,493
Total		76,554	126,501	(73,998)	(6,916)	(6,916)	(28,673)	(31,493)

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 2017, the period is one year, and therefore those changes are recognized immediately.

Fulton County Employees' Retirement System Supplemental Plan

On January 1, 2000, the Fulton County Employees' Retirement System Supplemental Plan was created to pay benefits in excess of the limitations required for compliance with federal tax laws. The accrued liability estimate for this plan is approximately $1.2 million as of January 1, 2017 biannual actuarial valuation date. Plan assets total $.5 million, and the unfunded balance is $.7 million which is being amortized on a 6 year level dollar method. Participant information, actuarial funding methods, and other assumptions are the same as the Fulton County Employees' Retirement System. This liability does not appear on the actuarial information presented for the Fulton County Water and Sewerage System financial statements.

(8) Retirement Plans (continued)

(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. Mass Mutual serves as an independent administrator of the plan. At December 31, 2017, the plan had 5,534 total participants who contributed 6% of their pensionable earnings, approximately $13,950 during 2017. The County also contributed $18,591 which was 8% of their pensionable earnings throughout the year. The County also contributed an additional $1,530 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, 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. The 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 financial statements of the County. TIAA-CREF independently managed assets throughout 2017.

(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. Fulton County contributes 75-90% of the premium cost for health care coverage, based upon the plan 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 $44,728 in 2017, as compared to $44,357 in 2016. 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 Attained Age funding method. As of the evaluation date, the number of retirees with current health care coverage was approximately 3,800, of which approximately 3.400 have life insurance coverage in effect. Approximately 4,800 active employees with coverage are subject to this plan.

(in thousands)

(9) Other Post-Employment Benefits (continued)

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. 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.

In 2009 the County contributed $2,185 to an irrevocable trust fund dedicated to pay for future OPEB claims against the current unfunded accrued actuarial liability of $1,309,147. This is presented in the Statement of Fiduciary Assets on page 25. No contribution has been made subsequently, but interest earnings of $2,977 have accumulated in this trust fund as of December 31, 2017, of which $773 was earned in 2017. As of the most recent valuation date of January 1, 2017, the OPEB Plan funded status was as follows:

(12/31/2017) Actuarial Value of Assets	Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL)	Funded Ratio	Covered Payroll	UAAL as a Percentage of Covered Payroll
$5,162	$1,314,309	$1,309,147	0.004%	$240,697	543.9%

Schedule of OPEB Employer Contributions
Three-Year Trend Information

Fiscal year ended	Actuarially Determined Employer Contribution	Percentage of ADEC contributed	Net OPEB obligation
December 31, 2015	$ 86,971	37.6%	$ 532,869
December 31, 2016	90,533	39.5	587,684
December 31, 2017	96,076	38.2	647,118

(in thousands)

(9) Other Post-Employment Benefits (continued)

The County's annual OPEB cost and net OPEB liability for the year ended December 31, 2017:

Actuarially Determined Employer Contribution (ADEC)		
postemployment benefits (OPEB)	$	95,026
Interest on ADEC		23,507
Adjustment to the ADEC		(22,457)
Annual OPEB cost/ADEC		96,076
Annual employer contributions made on claims		(36,642)
Change in net OPEB obligation		59,434
Net OPEB obligation - January 1		587,684
Net OPEB obligation - December 31	$	647,118

Actuarial Assumptions for the Other Postemployment Benefit plan as of January 1, 2017:

Cost Method	Entry Age Normal Actuarial Cost method
Actuarial Asset Valuation Method	Market Value
Assumed Investment Rate of Return	4.0%, compounded annually
Healthcare Cost Trend Rate	7.5% in 2017 to 5.0% in 2023 and thereafter
Aging Adjustment	1.0% at age 30 up to 4.2% ages 60-64, declining to 0.0% at age 90 and over
Inflation Rate	3.0%
Estimated Salary increases	4.0%, of which 3.0% is an inflationary component
Amortization Method	Level dollar, 30 years, open period

The required schedule of funding progress for the postemployment benefit plan immediately following the notes to the financial statements presents multiyear trend information about whether the actuarial value of plan net position is increasing or decreasing relative to the actuarial accrued liability for benefits over time. The County does not issue stand-alone statements for post-employment retirement benefits.

(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 $54,666 and $17,612 as of December 31, 2017 and 2016, respectively.

FULTON COUNTY, GEORGIA

Required Supplementary Information
Unaudited, and in thousands

December 31, 2017 and 2016

Schedule of Contributions from the Employer and Other Contributing Entities

Year Ended		Actuarially Determined Contribution	Contributions in Relation to The 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, 2008	$	33,836	32,339	411	32,750	1,086	78,184	41.89%
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

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, 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 Investment Returns

Year Ended	Annual money-weighted rate of return, net of investment expense
December 31, 2008	(23.79%)
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%

Unaudited, and in thousands

Other Post Employment Benefits Required Supplementary Information

Schedule of Funding Progress

Actuarial valuation date		Actuarial value of assets (a)	Entry age normal Actuarial Accrued Liability (AAL) (b)	Unfunded Actuarial Accrued Liability (Asset) (UAAL) (b – a)	Funded ratio (a/b)	Covered payroll (c)	UAAL as a percentage of covered payroll ([b – a]/c)
December 31, 2011	$	2,689	1,509,799	1,507,110	0.18%	224,189	673%
December 31, 2012		3,023	1,798,332	1,795,309	0.17	226,479	794
December 31, 2013		3,023	1,798,332	1,795,309	0.17	226,479	794
December 31, 2014		4,012	1,230,477	1,226,465	0.33	207,692	591
December 31, 2015		4,012	1,230,477	1,226,465	0.33	207,692	591
December 31, 2016		4,389	1,314,309	1,309,920	0.34	240,697	544
December 31, 2017		5,162	1,314,309	1,309,147	0.34	240,697	544

FULTON COUNTY, GEORGIA

Required Supplementary Information
Unaudited, and in thousands

December 31, 2017 and 2016

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

		2017	2016	2015	2014
Total Pension Liability					
Service cost	$	2,348	3,283	3,678	4,291
Interest		123,205	122,576	122,562	120,935
Change of benefit terms		-	-	-	-
Differences between expected and actual experience		20,982	16,293	6,262	21,902
Change of assumptions		112,435	15,734	15,489	15,352
Benefit payments, including refunds of employee contributions		(132,378)	(128,309)	(125,402)	(117,044)
Net change in total pension liability		126,592	29,577	22,589	45,436
Total pension liability - beginning	$	1,706,578	1,677,001	1,654,412	1,608,976
Total pension liability - ending (a)	$	1,833,170	1,706,578	1,677,001	1,654,412
Plan fiduciary net position					
Contributions-employer	$	57,228	45,977	47,230	57,529
Contributions-employee		1,358	1,633	1,868	2,129
Net investment income		245,564	75,369	(11,187)	64,143
Benefit payments, including refunds of employee contributions		(132,378)	(128,309)	(125,402)	(117,044)
Administrative expense		(656)	(788)	(581)	(705)
Other		-	-	-	-
Net change in plan fiduciary net position	$	171,116	(6,118)	(88,072)	6,052
Plan fiduciary net position - beginning	$	1,211,837	1,217,955	1,306,027	1,299,975
Plan fiduciary net position - ending (b)	$	1,382,953	1,211,837	1,217,955	1,306,027
System's net pension liability - ending (a) - (b)		450,217	494,741	459,046	348,385
Plan fiduciary net position as a percentage of the total pension liability		75.44%	71.01%	72.63%	78.94%
Covered employee payroll	$	20,374	23,391	27,820	32,828
System's net pension liability as a percentage of covered employee payroll		2209.81%	2115.08%	1650.06%	1061.24%

Note: Schedule is intended to show information for 10 years, once available
See accompanying notes to required supplementary information and accompanying independent auditor's report.
Notes to Schedule:
Benefit changes: There have been no benefit changes since GASB 67/68 implementation.
Assumption changes - see next page

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

Change of Assumptions: A comprehensive Actuarial Experience Review, covering the period January 1, 2012 through December 31, 2016, was completed in the spring of 2017. As a result, the following assumption changes were proposed by the actuary and subsequently approved by the Board. These changes are reflected for the first time in this 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.
- Previously the discount rate assumption was changed from 7.60% to 7.50% at 1/1/2017.

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: 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 81 of this footnotes to the financial statements. The total value of these changes is approximately $112 million.

Effective as of the January 1, 2017 valuation, the Fulton County Employees Retirement System Board approved a lower assumed rate of return from 7.60% to 7.50%, which affected the actuarial liability by $15.5 million, and also changed the administrative expense assumption from $600,000 to $800,000.

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, 2018
Actuarial cost method	Entry Age Normal Actuarial Cost Method
Amortization method	Closed level dollar for remaining unfunded liability
Remaining amortization period	15 years remaining as of January 1, 2018
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.

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.
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, projected generationally using Scale MP-2016.