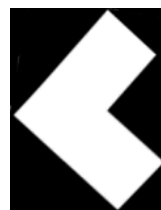


Roanoke River Service Authority
Comprehensive Annual Financial Report
Years Ended June 30, 2019 and 2018



Creedle, Jones
& Associates, P.C.
Certified Public Accountants

Roanoke River Service Authority

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Years Ended June 30, 2019 and 2018

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**Creedle
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A Professional Corporation

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INDEPENDENT AUDITOR'S REPORT

To the Board of Directors
Roanoke River Service Authority

Report on the Financial Statements

We have audited the accompanying financial statements of the business-type activities of the Roanoke River Service Authority, as of and for the years ended June 30, 2019 and 2018, and the related notes to the financial statements, which collectively comprise the Roanoke River Service Authority's basic financial statements as listed in the table of contents.

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 opinions on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States; and *Specifications for Audits of Authorities, Boards, and Commissions*, issued by the Auditor of Public Accounts of the Commonwealth of Virginia. Those standards and specifications require that we plan and perform the audit 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 opinions.

Opinions

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the business-type activities of the Roanoke River Service Authority, as of June 30, 2019 and 2018, and the respective changes in financial position and cash flows thereof for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Required Supplementary Information

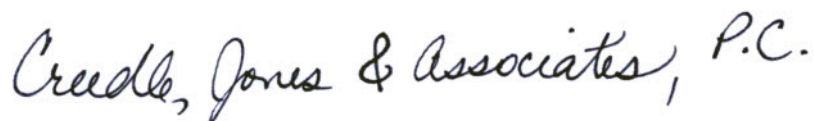
Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and schedules related to pension and OPEB on pages 1-3 and 38-48 be presented to supplement the basic financial statements. Such information, although not a part of the basic 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.

Other Information

The statistical section has not been subjected to the auditing procedures applied in the audit of the basic financial statements and, accordingly, we do not express an opinion or provide any assurance on them.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated September 25, 2019, on our consideration of the Roanoke River Service Authority's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of Roanoke River Service Authority's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Roanoke River Service Authority's internal control over financial reporting and compliance.



Creedle, Jones & Associates, P.C.
Certified Public Accountants

South Hill, Virginia
September 25, 2019

Roanoke River Service Authority

Management's Discussion and Analysis

As of June 30, 2019 and 2018

Our discussion and analysis of the Roanoke River Service Authority's financial performance provides an overview of the Authority's financial activities for the fiscal years ended June 30, 2019 and 2018. Please read this information in conjunction with Roanoke River Service Authority's basic financial statements.

OVERVIEW OF THE FINANCIAL STATEMENTS

The Roanoke River Service Authority (the "Authority") presents three basic financial statements. These are: (1) Statements of Net Position; (2) Statements of Revenues, Expenses, and Changes in Net Position; and (3) Statements of Cash Flows.

Our financial position is measured in terms of resources (assets) we own and obligations (liabilities) we owe on a given date. This information is reported on the Statements of Net Position, which reflects the Authority's assets in relation to its debt to creditors. The excess of our assets over liabilities is our equity, or net position.

Information regarding the results of our operation during the years is reported in the Statements of Revenues, Expenses, and Changes in Net Position. These statements show how much our overall net position increased or decreased during the years as a result of our operations and for other reasons.

Our Statements of Cash Flows disclose the flow of cash resources into and out of the Authority during the years and how we applied those funds.

FINANCIAL SUMMARY

Financial Position

A summary of the Authority's Statements of Net Position for 2019 and 2018 is presented below:

	<u>2019</u>	<u>2018</u>
Assets	\$ 10,386,456	\$ 10,380,328
Deferred Outflows of Resources	<u>11,789</u>	<u>20,131</u>
Total Assets and Deferred Outflows of Resources	<u>\$ 10,398,245</u>	<u>\$ 10,400,459</u>
Liabilities	\$ 6,202,918	\$ 6,533,768
Deferred Inflows of Resources	70,663	52,678
Net Position		
Net investment in capital assets	2,218,534	2,192,409
Restricted	19,584	-
Unrestricted	<u>1,886,546</u>	<u>1,621,604</u>
Total Net Position	<u>4,124,664</u>	<u>3,814,013</u>
Total Liabilities, Deferred Inflows of Resources, and Net Position	<u>\$ 10,398,245</u>	<u>\$ 10,400,459</u>

Total net position increased by \$310,651 for the Authority in 2019 which is an increase of 8.1% from last year.

Change in Net Position

A summary of the Authority's Statements of Revenues, Expenses, and Changes in Net Position for 2019 and 2018 is presented below:

Condensed Statements of Revenues, Expenses, and Changes in Net Position

	<u>2019</u>	<u>2018</u>
Operating Revenues	<u>\$ 1,993,782</u>	\$ 1,967,710
Operating Expenses	<u>(1,410,858)</u>	<u>(1,354,617)</u>
Net Operating Income	582,924	613,093
Non-Operating Revenue	2,332	1,064
Non-Operating Expense	<u>(274,605)</u>	<u>(285,910)</u>
Changes in Net Position	<u>\$ 310,651</u>	<u>\$ 328,247</u>

During the year, the Authority's net operating income was \$582,924. The Authority had non-operating revenue in the form of interest income, which amounted to \$2,332. Non-operating expense in the form of interest expense totaled \$274,605. Operating expenses of \$1,410,858 included all expenses necessary to operate the water plant, predominantly salaries, utilities, chemicals, and depreciation.

Net position increased \$310,651 in 2019 as compared to an increase of \$328,247 in 2018.

Cash Flows

A summary of the Authority's Statements of Cash Flows for 2019 and 2018 is presented below:

Condensed Statements of Cash Flows

	<u>2019</u>	<u>2018</u>
Cash Provided by (Used in)		
Operating activities	\$ 754,756	\$ 847,049
Noncapital financing activities	16,014	-
Capital and related financing activities	(560,965)	(722,338)
Investing activities	<u>2,332</u>	<u>1,064</u>
Net Increase in Cash	<u>\$ 212,137</u>	<u>\$ 125,775</u>

Cash flows from operating activities consist of receipts from customers and grants which are more than operating expenses, creating a positive cash flow of \$754,756.

Cash flows from non-operating activities net to a negative \$(542,619) due to purchases of capital assets, payments on long-term debt, interest income, and transfers between funds.

During fiscal year 2019, there was an increase of \$212,137 in cash as compared to an increase of \$125,775 in 2018.

Capital Assets

As of June 30, 2019, the Authority's net capital assets total \$8,370,745, a decrease of \$260,235 or 3.1% over the previous fiscal year.

Change in Capital Assets

	<u>Balance July 1, 2018</u>	<u>Net Additions and Deletions</u>	<u>Balance June 30, 2019</u>
Land and improvements	\$ 268,902	\$ -	\$ 268,902
Vehicles and equipment	192,264	-	192,264
Infrastructure - water system	<u>11,731,965</u>	<u>-</u>	<u>11,731,965</u>
Total Capital Assets	12,193,131	-	12,193,131
Less: Accumulated depreciation	<u>(3,562,151)</u>	<u>(260,235)</u>	<u>(3,822,386)</u>
Total Net Capital Assets	<u>\$ 8,630,980</u>	<u>\$ (260,235)</u>	<u>\$ 8,370,745</u>

Long-Term Debt

As of June 30, 2019, the Authority's long-term obligations total \$6,152,211 .

Change in Long-Term Debt

	<u>Balance July 1, 2018</u>	<u>Net Additions and Deletions</u>	<u>Balance June 30, 2019</u>
Virginia Resources Authority - Series 2000A and 2000B	\$ 352,784	\$ (110,907)	\$ 241,877
Touchstone Bank	432,623	(33,965)	398,658
Rural Development	<u>5,653,164</u>	<u>(141,488)</u>	<u>5,511,676</u>
Total Outstanding Debt	<u>\$ 6,438,571</u>	<u>\$ (286,360)</u>	<u>\$ 6,152,211</u>

REQUESTS FOR INFORMATION

This financial report is designed to provide our citizens, taxpayers, customers, investors, and creditors with a general overview of the Authority's finances and to demonstrate the Authority's accountability for the money it receives. Questions concerning this report or requests for additional information should be directed to Jeff Hinkle, Executive Director, Roanoke River Service Authority, 5419 Highway One, Bracey, Virginia 23919, telephone 434-689-7772.

FINANCIAL STATEMENTS

Roanoke River Service Authority
 Statements of Net Position
 June 30, 2019 and 2018

	<u>2019</u>	<u>2018</u>
Assets and Deferred Outflows of Resources		
Assets		
Current Assets		
Cash - operations	\$ 289,796	\$ 261,871
Cash - money market	1,322,291	1,157,762
Cash - CCB	100,744	100,645
Cash - Microsoft	19,584	-
Accounts receivable	<u>184,293</u>	<u>178,073</u>
Total Current Assets	1,916,708	1,698,351
Capital Assets		
Land and improvements	268,902	268,902
Vehicles and equipment	192,264	192,264
Infrastructure - water system	11,731,965	11,731,965
Less: Accumulated depreciation	<u>(3,822,386)</u>	<u>(3,562,151)</u>
Net Capital Assets	<u>8,370,745</u>	<u>8,630,980</u>
Other Assets		
Net pension asset	<u>99,003</u>	50,997
Total Assets	10,386,456	10,380,328
Deferred Outflows of Resources		
Deferred outflows - VRS OPEB group life	2,577	1,497
Deferred outflows - VRS VLDP	306	-
Deferred outflows - pension liability	<u>8,906</u>	<u>18,634</u>
Total Deferred Outflows of Resources	<u>11,789</u>	<u>20,131</u>
Total Assets and Deferred Outflows of Resources	<u>\$ 10,398,245</u>	<u>\$ 10,400,459</u>
Liabilities, Deferred Inflows of Resources, and Net Position		
Liabilities		
Current Liabilities		
Accounts payable	\$ 27,160	\$ 69,091
Accrued payroll liabilities	547	3,106
Notes payable - current portion	<u>298,040</u>	<u>286,060</u>
Total Current Liabilities	325,747	358,257
Long-Term Liabilities		
Net VRS OPEB group life liability	23,000	23,000
Notes payable - less current portion	<u>5,854,171</u>	<u>6,152,511</u>
Total Long-Term Liabilities	<u>5,877,171</u>	<u>6,175,511</u>
Total Liabilities	6,202,918	6,533,768
Deferred Inflows of Resources		
Deferred inflows - VRS OPEB group life	2,000	3,000
Deferred inflows - pension liability	<u>68,663</u>	<u>49,678</u>
Total Deferred Inflows of Resources	70,663	52,678
Net Position		
Net investment in capital assets	2,218,534	2,192,409
Restricted - Microsoft Tank Farm	19,584	-
Unrestricted	<u>1,886,546</u>	<u>1,621,604</u>
Total Net Position	<u>4,124,664</u>	<u>3,814,013</u>
Total Liabilities, Deferred Inflows of Resources, and Net Position	<u>\$ 10,398,245</u>	<u>\$ 10,400,459</u>

The accompanying notes to the financial statements are an integral part of this statement.

Roanoke River Service Authority

Statements of Revenues, Expenses, and Changes in Net Position

Years Ended June 30, 2019 and 2018

	2019		Restated 2018	
	Operating Fund	Tank Farm	Total Operations	Memorandum (Totals Only)
Operating Revenues				
Charges for services	\$ 1,826,792	\$ -	\$ 1,826,792	\$ 1,856,749
Contribution from counties	27,500	-	27,500	27,500
Wireless communication fees	39,547	-	39,547	35,731
Tank farm payments - prior year adjustments	-	10,304	10,304	-
Tank farm annual payment	-	39,985	39,985	38,434
Tank farm monthly payments	-	36,214	36,214	-
Miscellaneous	11,136	-	11,136	4,326
Connection fees	2,304	-	2,304	4,970
Total Operating Revenues	1,907,279	86,503	1,993,782	1,967,710
Operating Expenses				
Depreciation	243,327	17,199	260,526	259,528
Salaries	304,226	10,950	315,176	315,863
Electrical services	192,592	-	192,592	171,264
Chemicals	208,640	-	208,640	230,530
Professional fees	17,882	2,500	20,382	18,678
Payroll taxes	23,570	-	23,570	23,645
Employee fringe benefits	35,865	-	35,865	55,015
Repairs and maintenance	158,208	39,556	197,764	104,597
Insurance	22,370	3,605	25,975	31,459
Engineering	-	-	-	895
Lab supplies and testing	40,556	-	40,556	34,620
Miscellaneous other expenses	20,932	5,085	26,017	25,671
Safety	9,216	-	9,216	14,140
Distribution expansion	-	-	-	1,991
Office supplies	7,645	-	7,645	8,241
Plant heating	4,458	-	4,458	9,492
Fuel	17,176	3,900	21,076	22,530
Uniforms	1,570	-	1,570	2,114
Cellular and mobile communications	9,235	-	9,235	8,484
Telephone	2,256	-	2,256	3,493
Postage and delivery	6,350	-	6,350	7,325
Raw water withdrawal	1,989	-	1,989	5,042
Total Operating Expenses	1,328,063	82,795	1,410,858	1,354,617
Operating Income	579,216	3,708	582,924	613,093
Non-Operating Revenues (Expenses)				
Interest income	2,327	5	2,332	1,064
Interest expense	(274,605)	-	(274,605)	(285,910)
Net Non-Operating Revenues (Expenses)	(272,278)	5	(272,273)	(284,846)
Income Before Transfers	306,938	3,713	310,651	328,247
Transfers Between Funds				
Monthly transfer based on operating agreement	(16,014)	16,014	-	-
Total Transfers Between Funds	(16,014)	16,014	-	-
Change in Net Position	290,924	19,727	310,651	328,247
Total Net Position - Beginning of Year (Deficit)	3,814,156	(143)	3,814,013	3,485,766
Total Net Position - End of Year	\$ 4,105,080	\$ 19,584	\$ 4,124,664	\$ 3,814,013

The accompanying notes to the financial statements are an integral part of this statement.

Roanoke River Service Authority

Statements of Cash Flows

Years Ended June 30, 2019 and 2018

	<u>2019</u>	<u>2018</u>
Cash Flows from Operating Activities		
Receipts from customers	\$ 1,822,877	\$ 1,844,060
Microsoft reimbursements	69,413	24,476
Other receipts	11,136	40,057
Receipts from counties	27,500	27,500
Payments for salaries and related personnel costs	(398,849)	(406,137)
Payments to suppliers	<u>(777,321)</u>	<u>(682,907)</u>
Net Cash Provided by Operating Activities	754,756	847,049
Cash Flows from Noncapital Financing Activities		
Transfers between funds	16,014	-
Cash Flows from Capital and Related Financing Activities		
Purchases of capital assets	-	(161,120)
Payments on long-term debt	(286,360)	(275,308)
Interest expense paid on capital debt	<u>(274,605)</u>	<u>(285,910)</u>
Net Cash Used in Capital and Related Financing Activities	(560,965)	(722,338)
Cash Flows from Investing Activities		
Interest income	<u>2,332</u>	<u>1,064</u>
Net Cash Provided by Investing Activities	<u>2,332</u>	<u>1,064</u>
Net Increase in Cash and Cash Equivalents	212,137	125,775
Cash and Cash Equivalents - Beginning of Year	<u>1,520,278</u>	<u>1,394,503</u>
Cash and Cash Equivalents - End of Year	<u>\$ 1,732,415</u>	<u>\$ 1,520,278</u>
Reconciliation of Operating Income to Net Cash Provided by Operating Activities		
Operating income	\$ 582,924	\$ 613,093
<i>Adjustments to reconcile operating income to net cash provided by operating activities</i>		
Depreciation expense	243,327	259,528
<i>Changes in current assets and liabilities</i>		
Receivables, net	(6,220)	(17,659)
Accounts payable	(41,037)	3,701
Accrued payroll liabilities	(2,559)	3,106
Deferred outflows - VRS OPEB group life	(1,080)	(1,497)
Net VRS OPEB group life	-	(4,000)
Deferred inflows - VRS OPEB group life	(1,000)	3,000
Deferred outflows - VRS VLDP	(306)	-
Net VRS pension liability (asset)	(48,006)	(69,331)
Deferred outflows - VRS pension liability	9,728	46,065
Deferred inflows - VRS pension liability	<u>18,985</u>	<u>11,043</u>
Net Cash Provided by Operating Activities	<u>\$ 754,756</u>	<u>\$ 847,049</u>

The accompanying notes to the financial statements are an integral part of this statement.

Roanoke River Service Authority

Notes to the Financial Statements

Years Ended June 30, 2019 and 2018

1 Organization, Description of the Entity, and Its Activities

The Roanoke River Service Authority (the "Authority") was created under the authority of the Virginia Water and Waste Authorities Act, Section 15.2-5100 et seq. of the Code of Virginia, as amended, by the Towns of Boynton, LaCrosse, Brodnax, and South Hill and the Counties of Mecklenburg and Brunswick. The purpose for which the Authority was created was for the design, construction, and operation of a water distribution system including a water treatment plant to serve the citizens and communities of Mecklenburg and Brunswick Counties and to exercise such other activities as may be permitted by law.

The Authority has a Board of Directors made up of persons appointed by each member locality for a term of three years. The Board operates independently of the localities.

2 Significant Accounting Policies

Financial Statement Presentation

The financial statements of the Authority have been prepared in conformity with the specifications promulgated by the Auditor of Public Accounts (APA) of the Commonwealth of Virginia, and the accounting principles generally accepted in the United States as specified by the Governmental Accounting Standards Board.

Basis of Accounting

The financial statements have been prepared on the accrual basis of accounting under which revenues are recorded when earned, and expenses are recorded at the time liabilities are incurred through the receipt of goods and services. All supplies and materials are expensed when purchased and fixed assets are capitalized and depreciated over their estimated useful lives.

Property and Equipment

Depreciation is provided principally on the straight-line method over the estimated useful lives of the assets.

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 certain reported amounts and disclosures. Accordingly, actual results could differ from those estimates.

Pensions

The Virginia Retirement System (VRS) Political Subdivision Retirement Plan is a multi-employer, agent plan. For purposes of measuring the net pension liability, deferred outflows of resources and deferred inflows of resources related to pensions, and pension expense, information about the fiduciary net position of the Political Subdivision's Retirement Plan and the additions to/deductions from the Political Subdivision's Retirement Plan's net fiduciary position have been determined on the same basis as they were reported by the Virginia Retirement System (VRS). For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value.

Other Post-Employment Benefits - Group Life Insurance

The Virginia Retirement System (VRS) Group Life Insurance Program is a multiple employer, cost-sharing plan. It provides coverage to state employees, teachers, and employees of participating political subdivisions. The Group Life Insurance Program was established pursuant to §51.1-500 et seq. of the Code of Virginia, as amended, and which provides the authority under which benefit terms are established or may be amended. The Group Life Insurance Program is a defined benefit plan that provides a basic group life insurance benefit for employees of participating employers. For purposes of measuring the net Group Life Insurance Program OPEB liability, deferred outflows of resources and deferred inflows of resources related to the Group Life Insurance Program OPEB, and Group Life Insurance Program OPEB expense, information about the fiduciary net position of the VRS Group Life Insurance program OPEB and the additions to/deductions from the VRS Group Life Insurance Program OPEB's net fiduciary position have been determined on the same basis as they were reported by VRS. In addition, benefit payments are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value.

Other Post-Employment Benefits - Political Subdivision Employee Virginia Local Disability Program

The Virginia Retirement System (VRS) Political Subdivision Employee Virginia Local Disability Program is a multiple-employer, cost-sharing plan. For purposes of measuring the net Political Subdivision Employee Virginia Local Disability Program OPEB liability, deferred outflows of resources and deferred inflows of resources related to the Political Subdivision Employee Virginia Local Disability Program OPEB, and the Political Subdivision Employee Virginia Local Disability Program OPEB expense, information about the fiduciary net position of the Virginia Retirement System (VRS) Political Subdivision Employee Virginia Local Disability Program; and the additions to/deductions from the VRS Political Subdivision Employee Virginia Local Disability Program's net fiduciary position have been determined on the same basis as they were reported by VRS. For this purpose, benefit payments are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value.

Adoption of New GASB Statement

The Authority did not adopt any new GASB statements during the fiscal year ended June 30, 2019.

3 Cash Equivalents

Deposits

All cash of the Authority is maintained in accounts collateralized in accordance with the Virginia Security for Public Deposits Act, Section 2.2-4400 et seq. of the Code of Virginia or covered by Federal Depository Insurance.

4 Amount of Allowance for Uncollectible Accounts

The Authority calculates its allowance for uncollectible accounts using historical collection data and, in certain cases, specific account analysis. Management estimates no allowance was required for the year ended June 30, 2019.

5 Capital Assets

The schedule below shows the breakdown of capital assets by category at June 30, 2019:

	<u>Balance July 1, 2018</u>	<u>Acquired (Increased)</u>	<u>Disposed (Decreased)</u>	<u>Balance June 30, 2019</u>
Land and improvements	\$ 268,902	\$ -	\$ -	\$ 268,902
Vehicles and equipment	192,264	-	-	192,264
Infrastructure - water system	<u>11,731,965</u>	<u>-</u>	<u>-</u>	<u>11,731,965</u>
Total Capital Assets	12,193,131	-	-	12,193,131
Less: Accumulated depreciation	<u>(3,562,151)</u>	<u>(260,235)</u>	<u>-</u>	<u>(3,822,386)</u>
Net Capital Assets	<u>\$ 8,630,980</u>	<u>\$ (260,235)</u>	<u>\$ -</u>	<u>\$ 8,370,745</u>

Capital assets of the Authority are stated at cost. Depreciation of the cost of capital assets is provided on a straight-line basis over their estimated useful lives as follows:

Vehicles and equipment	5 to 10 years
Infrastructure - water system	10 to 50 years

6 Pension Plan

Plan Description

All full-time, salaried permanent employees of the Political Subdivision are automatically covered by a VRS Retirement Plan upon employment. This plan is administered by the Virginia Retirement System (the System) along with plans for other employer groups in the Commonwealth of Virginia. Members earn one month of service credit for each month they are employed and for which they and their employer pay contributions to VRS. Members are eligible to purchase prior service, based on specific criteria as defined in the *Code of Virginia*, as amended. Eligible prior service that may be purchased includes prior public service, active military service, certain periods of leave, and previously refunded service.

The System administers three different benefit structures for covered employees – Plan 1, Plan 2, and Hybrid. Each of these benefit structures has different eligibility criteria. The specific information for each plan and the eligibility for covered groups within each plan are set out in the table below:

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RETIREMENT PLAN PROVISIONS

PLAN 1

About Plan 1

Plan 1 is a defined benefit plan. The retirement benefit is based on a member's age, creditable service, and average final compensation at retirement using a formula.

Eligible Members

Employees are in Plan 1 if their membership date is before July 1, 2010, and they were vested as of January 1, 2013, and they have not taken a refund.

Hybrid Opt-In Election

VRS non-hazardous duty covered Plan 1 members were allowed to make an irrevocable decision to opt into the Hybrid Retirement Plan during a special election window held January 1 through April 30, 2014.

The Hybrid Retirement Plan's effective date for eligible Plan 1 members who opted in was July 1, 2014.

If eligible deferred members returned to work during the election window, they were also eligible to opt into the Hybrid Retirement Plan.

Members who were eligible for an optional retirement plan (ORP) and had prior service under Plan 1 were not eligible to elect the Hybrid Retirement Plan and remain as Plan 1 or ORP.

PLAN 2

About Plan 2

Plan 2 is a defined benefit plan. The retirement benefit is based on a member's age, creditable service, and average final compensation at retirement using a formula.

Eligible Members

Employees are in Plan 2 if their membership date is on or after July 1, 2010, or their membership date is before July 1, 2010, and they were not vested as of January 1, 2013.

Hybrid Opt-In Election

Eligible Plan 2 members were allowed to make an irrevocable decision to opt into the Hybrid Retirement Plan during a special election window held January 1 through April 30, 2014.

The Hybrid Retirement Plan's effective date for eligible Plan 2 members who opted in was July 1, 2014.

If eligible deferred members returned to work during the election window, they were also eligible to opt into the Hybrid Retirement Plan.

Members who were eligible for an optional retirement plan (ORP) and have prior service under Plan 2 were not eligible to elect the Hybrid Retirement Plan and remain as Plan 2 or ORP.

HYBRID RETIREMENT PLAN

About the Hybrid Retirement Plan

The Hybrid Retirement Plan combines the features of a defined benefit plan and a defined contribution plan.

- The defined benefit is based on a member's age, creditable service, and average final compensation at retirement using a formula.
- The benefit from the defined contribution component of the plan depends on the member and employer contributions made to the plan and the investment performance of those contributions.
- In addition to the monthly benefit payment payable from the defined benefit plan at retirement, a member may start receiving distributions from the balance in the defined contribution account, reflecting the contributions, investment gains or losses, and any required fees.

Eligible Members

Employees are in the Hybrid Retirement Plan if their membership date is on or after January 1, 2014. This includes:

- Political subdivision employees*
- Members in Plan 1 or Plan 2 who elected to opt into the plan during the election window held January 1 - April 30, 2014; the plan's effective date for opt-in members was July 1, 2014

**Non-Eligible Members*

Some employees are not eligible to participate in the Hybrid Retirement Plan. They include:

- Political subdivision employees who are covered by enhanced benefits for hazardous duty employees

Those employees eligible for an optional retirement plan (ORP) must elect the ORP plan or the Hybrid Retirement Plan. If these members have prior service under Plan 1 or Plan 2, they are not eligible to elect the Hybrid Retirement Plan and must select Plan 1 or Plan 2 (as applicable) or ORP.

PLAN 1

Retirement Contributions

Employees contribute 5% of their compensation each month to their member contribution account through a pre-tax salary reduction. Member contributions are tax-deferred until they are withdrawn as part of a retirement benefit or as a refund. The employer makes a separate actuarially determined contribution to VRS for all covered employees. VRS invests both member and employer contributions to provide funding for the future benefit payment.

Creditable Service

Creditable service includes active service. Members earn creditable service for each month they are employed in a covered position. It also may include credit for prior service the member has purchased or additional creditable service the member was granted. A member's total creditable service is one of the factors used to determine their eligibility for retirement and to calculate their retirement benefit. It also may count toward eligibility for the health insurance credit in retirement, if the employer offers the health insurance credit.

Vesting

Vesting is the minimum length of service a member needs to qualify for a future retirement benefit. Members become vested when they have at least five years (60 months) of creditable service. Vesting means members are eligible to qualify for retirement if they meet the age and service requirements for their plan. Members also must be vested to receive a full refund of their member contribution account balance if they leave employment and request a refund.

Members are always 100% vested in the contributions that they make.

PLAN 2

Retirement Contributions

Same as Plan 1.

Creditable Service

Same as Plan 1.

Vesting

Same as Plan 1.

HYBRID

RETIREMENT PLAN

Retirement Contributions

A member's retirement benefit is funded through mandatory and voluntary contributions made by the member and the employer to both the defined benefit and the defined contribution components of the plan. Mandatory contributions are based on a percentage of the employee's creditable compensation and are required from both the member and the employer. Additionally, members may choose to make voluntary contributions to the defined contribution component of the plan, and the employer is required to match those voluntary contributions according to specified percentages.

Creditable Service

Defined Benefit Component:

Under the defined benefit component of the plan, creditable service includes active service. Members earn creditable service for each month they are employed in a covered position. It also may include credit for prior service the member has purchased or additional creditable service the member was granted. A member's total creditable service is one of the factors used to determine their eligibility for retirement and to calculate their retirement benefit. It also may count toward eligibility for the health insurance credit in retirement, if the employer offers the health insurance credit.

Defined Contributions Component:

Under the defined contribution component, creditable service is used to determine vesting for the employer contribution portion of the plan.

Vesting

Defined Benefit Component:

Defined benefit vesting is the minimum length of service a member needs to qualify for a future retirement benefit. Members are vested under the defined benefit component of the Hybrid Retirement Plan when they reach five years (60 months) of creditable service. Plan 1 or Plan 2 members with at least five years (60 months) of creditable service who opted into the Hybrid Retirement Plan remain vested in the defined benefit component.

Defined Contributions Component:

Defined contribution vesting refers to the minimum length of service a member needs to be eligible to withdraw the employer contributions from the defined contribution component of the plan.

Members are always 100% vested in the contributions that they make.

PLAN 1

Calculating the Benefit

The Basic Benefit is calculated based on a formula using the member's average final compensation, a retirement multiplier, and total service credit at retirement. It is one of the benefit payout options available to a member at retirement.

An early retirement reduction factor is applied to the Basic Benefit if the member retires with a reduced retirement benefit or selects a benefit payout option other than the Basic Benefit.

Average Final Compensation

A member's average final compensation is the average of the 36 consecutive months of highest compensation as a covered employee.

Service Retirement Multiplier

VRS: The retirement multiplier is a factor used in the formula to determine a final retirement benefit. The retirement multiplier for non-hazardous duty members is 1.70%.

Sheriffs and regional jail superintendents: The retirement multiplier for sheriffs and regional jail superintendents is 1.85%.

Political subdivision hazardous duty employees: The retirement multiplier of eligible political subdivision hazardous duty employees other than sheriffs and regional jail superintendents is 1.70% or 1.85% as elected by the employer.

PLAN 2

Calculating the Benefit

See definition under Plan 1.

Average Final Compensation

A member's average final compensation is the average of their 60 consecutive months of highest compensation as a covered employee.

Service Retirement Multiplier

VRS: Same as Plan 1 for service earned, purchased, or granted prior to January 1, 2013. For non-hazardous duty members, the retirement multiplier is 1.65% for creditable service earned, purchased, or granted on or after January 1, 2013.

Sheriffs and regional jail superintendents: Same as Plan 1.

Political subdivision hazardous duty employees: Same as Plan 1.

HYBRID RETIREMENT PLAN

Upon retirement or leaving covered employment, a member is eligible to withdraw a percentage of employer contributions to the defined contribution component of the plan, based on service.

- After two years, a member is 50% vested and may withdraw 50% of employer contributions.
- After three years, a member is 75% vested and may withdraw 75% of employer contributions.
- After four or more years, a member is 100% vested and may withdraw 100% of employer contributions.

Distribution is not required by law until age 70 1/2.

Calculating the Benefit

Defined Benefit Component:

See definition under Plan 1.

Defined Contribution Component:

The benefit is based on contributions made by the member and any matching contributions made by the employer, plus net investment earnings on those contributions.

Average Final Compensation

Same as Plan 2. It is used in the retirement formula for the defined benefit component of the plan.

Service Retirement Multiplier

Defined Benefit Component:

VRS: The retirement multiplier for the defined benefit component is 1.00%.

For members who opted into the Hybrid Retirement Plan from Plan 1 or Plan 2, the applicable multipliers for those plans will be used to calculate the retirement benefit for service credited in those plans.

Sheriffs and regional jail superintendents: Not applicable.

Political subdivision hazardous duty employees: Not applicable.

Defined Contribution Component
Not applicable.

<p><u>PLAN 1</u> <i>Normal Retirement Age</i></p>	<p><u>PLAN 2</u> <i>Normal Retirement Age</i></p>	<p><u>HYBRID RETIREMENT PLAN</u> <i>Normal Retirement Age</i></p>
<p>VRS: Age 65.</p>	<p>VRS: Normal Social Security retirement age.</p>	<p>Defined Benefit Component: VRS: Same as Plan 2.</p>
<p>Political subdivisions hazardous duty employees: Age 60.</p>	<p>Political subdivisions hazardous duty employees: Same as Plan 1.</p>	<p>Political subdivisions hazardous duty employees: Not applicable.</p> <p>Defined Contribution Component: Members are eligible to receive distributions upon leaving employment, subject to restrictions.</p>
<p><i>Earliest Unreduced Retirement Eligibility</i> VRS: Age 65 with at least five years (60 months) of creditable service or at age 50 with at least 30 years of creditable service.</p>	<p><i>Earliest Unreduced Retirement Eligibility</i> VRS: Normal Social Security retirement age with at least five years (60 months) of creditable service or when their age and service equal 90.</p>	<p><i>Earliest Unreduced Retirement Eligibility</i> Defined Benefit Component: VRS: Normal Social Security retirement age and have at least five years (60 months) of creditable service or when their age and service equal 90.</p>
<p>Political subdivisions hazardous duty employees: Age 60 with at least five years of creditable service or age 50 with at least 25 years of creditable service.</p>	<p>Political subdivisions hazardous duty employees: Same as Plan 1.</p>	<p>Political subdivisions hazardous duty employees: Not applicable.</p> <p>Defined Contribution Component: Members are eligible to receive distributions upon leaving employment, subject to restrictions.</p>
<p><i>Earliest Reduced Retirement Eligibility</i> VRS: Age 55 with at least five years (60 months) of creditable service or age 50 with at least 10 years of creditable service.</p>	<p><i>Earliest Reduced Retirement Eligibility</i> VRS: Age 60 with at least five years (60 months) of creditable service.</p>	<p><i>Earliest Reduced Retirement Eligibility</i> Defined Benefit Component: VRS: Age 60 with at least five years (60 months) of creditable service.</p>
<p>Political subdivisions hazardous duty employees: Age 50 with at least five years of creditable service.</p>	<p>Political subdivisions hazardous duty employees: Same as Plan 1.</p>	<p>Political subdivisions hazardous duty employees: Not applicable</p> <p>Defined Contribution Component: Members are eligible to receive distributions upon leaving employment, subject to restrictions.</p>
<p><i>Cost-of-Living Adjustment (COLA) in Retirement</i> The Cost-of-Living Adjustment (COLA) matches the first 3% increase in the Consumer Price Index for all Urban Consumers (CPI-U) and half of any additional increase (up to 4%) up to a maximum COLA of 5%.</p>	<p><i>Cost-of-Living Adjustment (COLA) in Retirement</i> The Cost-of-Living Adjustment (COLA) matches the first 2% increase in the CPI-U and half of any additional increase (up to 2%), for a maximum COLA of 3%.</p>	<p><i>Cost-of-Living Adjustment (COLA) in Retirement</i> Defined Benefit Component: Same as Plan 2</p>
<p><i>Eligibility:</i> For members who retire with an unreduced benefit or with a reduced benefit with at least 20 years of creditable service, the COLA will go into effect on July 1 after one full calendar year from the retirement date.</p> <p>For members who retire with a reduced benefit and who have less than 20 years of creditable service, the COLA will go into effect on July 1 after one calendar year following the unreduced retirement eligibility date.</p>	<p><i>Eligibility:</i> Same as Plan 1</p>	<p><i>Eligibility:</i> Same as Plan 1 and Plan 2</p>

PLAN 1

Exceptions to COLA Effective Dates:

The COLA is effective July 1 following one full calendar year (January 1 to December 31) under any of the following circumstances:

- The member is within five years of qualifying for an unreduced retirement benefit as of January 1, 2013.
- The member retires on disability.
- The member retires directly from short-term or long-term disability under the Virginia Sickness and Disability Program (VSDP).
- The member is involuntarily separated from employment for causes other than job performance or misconduct and is eligible to retire under the Workforce Transition Act or the Transitional Benefits Program.
- The member dies in service and the member's survivor or beneficiary is eligible for a monthly death-in-service benefit. The COLA will go into effect on July 1 following one full calendar year (January 1 to December 31) from the date the monthly benefit begins.

Disability Coverage

Members who are eligible to be considered for disability retirement and retire on disability, the retirement multiplier is 1.70% on all service, regardless of when it was earned, purchased, or granted.

Purchase of Prior Service

Members may be eligible to purchase service from previous public employment, active duty military service, an eligible period of leave or VRS refunded service as creditable service in their plan. Prior creditable service counts towards vesting, eligibility for retirement and the health insurance credit. Only active members are eligible to purchase prior service. Members also may be eligible to purchase periods of leave without pay.

PLAN 2

Exceptions to COLA Effective Dates:

Same as Plan 1

Disability Coverage

Members who are eligible to be considered for disability retirement and retire on disability, the retirement multiplier is 1.65% on all service, regardless of when it was earned, purchased, or granted.

Purchase of Prior Service

Same as Plan 1

HYBRID RETIREMENT PLAN

Exceptions to COLA Effective Dates:

Same as Plan 1 and Plan 2

Disability Coverage

Employees of political subdivisions (including Plan 1 and Plan 2 opt-ins) participate in the Virginia Local Disability Program (VLDP) unless their local governing body provides an employer-paid comparable program for its members.

Hybrid members (including Plan 1 and Plan 2 opt-ins) covered under VLDP are subject to a one-year waiting period before becoming eligible for non-work related disability benefits.

Purchase of Prior Service

Defined Benefit Component:

Same as Plan 1, with the following exceptions:

- Hybrid Retirement Plan members are ineligible for ported service.

Defined Contribution Component:

Not applicable

Employees Covered by Benefit Terms

As of the June 30, 2017 actuarial valuation, the following employees were covered by the benefit terms of the pension plan:

	<u>Number</u>
Inactive members or their beneficiaries currently receiving benefits	1
Inactive members:	
Vested inactive members	1
Non-vested inactive members	1
LTD	-
Inactive members active elsewhere in VRS	<u>1</u>
Total inactive members	3
Active members	<u>5</u>
Total covered employees	<u><u>9</u></u>

Contributions

The contribution requirement for active employees is governed by §51.1-145 of the *Code of Virginia*, as amended, but may be impacted as a result of funding options provided to political subdivisions by the Virginia General Assembly. Employees are required to contribute 5.00% of their compensation toward their retirement.

If the employer used the certified rate: The political subdivision's contractually required contribution rate for the year ended June 30, 2019 was 2.9% of covered employee compensation. This rate was based on an actuarially determined rate from an actuarial valuation as of June 30, 2017.

This rate, when combined with employee contributions, was expected to finance the costs of benefits earned by employees during the year, with an additional amount to finance any unfunded accrued liability. Contributions to the pension plan from the political subdivision were \$8,906 and \$18,634 for the years ended June 30, 2019 and June 30, 2018, respectively.

Net Pension Liability

The net pension liability (NPL) is calculated separately for each employer and represents that particular employer's total pension liability determined in accordance with GASB Statement No. 68, less that employer's fiduciary net position. For political subdivisions, the net pension liability was measured as of June 30, 2018. The total pension liability used to calculate the net pension liability was determined by an actuarial valuation performed as of June 30, 2017 rolled forward to the measurement date of June 30, 2018.

Actuarial Assumptions – General Employees

The total pension liability for General Employees in the Political Subdivision's Retirement Plan was based on an actuarial valuation as of June 30, 2017, using the Entry Age Normal actuarial cost method and the following assumptions, applied to all periods included in the measurement and rolled forward to the measurement date of June 30, 2018.

Inflation	2.5 percent
Salary increases, including Inflation	3.5 percent - 5.35 percent
Investment rate of return	7.0 percent, net of pension plan investment expenses, including inflation*

*Administrative expenses as a percent of the market value of assets for the last experience study were found to be approximately 0.06% of the market assets for all of the VRS plans. This would provide an assumed investment return rate for GASB purposes of slightly more than the assumed 7.0%. However, since the difference was minimal, and a more conservative 7.0% investment return assumption provided a projected plan net position that exceeded the projected benefit payments, the long-term expected rate of return on investments was assumed to be 7.0% to simplify preparation of pension liabilities.

Mortality rates:

Largest 10 – Non-Hazardous Duty: 20% of deaths are assumed to be service related.

Pre-Retirement:

RP-2014 Employee Rates to age 80, Healthy Annuitant Rates at ages 81 and older projected with scale BB to 2020; males 95% of rates; females 105% of rates.

Post-Retirement:

RP-2014 Employee Rates to age 49, Healthy Annuitant Rates at ages 50 and older projected with scale BB to 2020: males set forward 3 years; females 1.0% increase compounded from ages 70-90.

Post-Disablement:

RP-2014 Disability Mortality Rates projected with scale BB to 2020; males set forward 2 years, 110% of rates; females 125% of rates.

All Others (Non 10 Largest) – Non-Hazardous Duty: 15% of deaths are assumed to be service related.

Pre-Retirement:

RP-2014 Employee Rates to age 80, Healthy Annuitant Rates at ages 81 and older projected with scale BB to 2020; males 95% of rates; females 105% of rates.

Post-Retirement:

RP-2014 Employee Rates to age 49, Healthy Annuitant Rates at ages 50 and older projected with scale BB to 2020; males set forward 3 years; females 1.0% increase compounded from ages 70 to 90.

Post-Disablement:

RP-2014 Disability Mortality Rates projected with scale BB to 2020; males set forward 2 years, 110% of rates; females 125% of rates.

The actuarial assumptions used in the June 30, 2017 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

Largest 10 – Non-Hazardous Duty:

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update to a more current mortality table – RP-2014 projected to 2020
Retirement Rates	Lowered rates at older ages and changed final retirement from 70-75
Withdrawal Rates	Adjusted rates to better fit experience at each year age and service through 9 years of service
Disability Rates	Lowered rates
Salary Scale	No change
Line of Duty Disability	Increase rate from 14% to 20%

All Others (Non 10 Largest) – Non-Hazardous Duty:

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update to a more current mortality table – RP-2014 projected to 2020
Retirement Rates	Lowered rates at older ages and changed final retirement from 70 to 75
Withdrawal Rates	Adjusted rates to better fit experience at each year age and service through 9 years of service
Disability Rates	Lowered rates
Salary Scale	No change
Line of Duty Disability	Increase rate from 14% to 15%

Long-Term Expected Rate of Return

The long-term expected rate of return on pension System investments was determined using a log-normal distribution analysis in which best-estimate ranges of expected future real rates of return (expected returns, net of pension System investment expense and inflation) are developed for each major asset class. These ranges 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. The target asset allocation and best estimate of arithmetic real rates of return for each major asset class are summarized in the following table:

<u>Asset Class (Strategy)</u>	<u>Target Allocation</u>	<u>Arithmetic Long-Term Expected Rate of Return</u>	<u>Weighted Average Long-Term Expected Rate of Return</u>
Public Equity	40.00%	4.54%	1.82%
Fixed Income	15.00%	0.69%	0.10%
Credit Strategies	15.00%	3.96%	0.59%
Real Assets	15.00%	5.76%	0.86%
Private Equity	<u>15.00%</u>	9.53%	<u>1.43%</u>
Total	<u>100.00%</u>		<u>4.80%</u>
	Inflation		<u>2.50%</u>
	*Expected arithmetic nominal return		<u>7.30%</u>

*The above allocation provides a one-year return of 7.30%. However, one-year returns do not take into account the volatility present in each of the asset classes. In setting the long-term expected return for the system, stochastic projections are employed to model future returns under various economic conditions. The results provide a range of returns over various time periods that ultimately provide a median return of 6.83%, including expected inflation of 2.50%.

Discount Rate

The discount rate used to measure the total pension liability was 7.00%. The projection of cash flows used to determine the discount rate assumed that System member contributions will be made per the VRS Statutes and the employer contributions will be made in accordance with the VRS funding policy at rates equal to the difference between actuarially determined contribution rates adopted by the VRS Board of Trustees and the member rate. Consistent with the phased-in funding provided by the General Assembly for state and teacher employer contributions; political subdivisions were also provided with an opportunity to use an alternate employer contribution rate. For the year ended June 30, 2018, the alternate rate was the employer contribution rate used in FY 2012 or 90% of the actuarially determined employer contribution rate from the June 30, 2015, actuarial valuations, whichever was greater. From July 1, 2018 on, participating employers are assumed to contribute 100% of the actuarially determined contribution rates. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current active and inactive employees. Therefore, the Long-term expected rate of return was applied to all periods of projected benefit payments to determine the total pension liability.

Changes in Net Pension Liability

	<u>Increase (Decrease)</u>		
	<u>Total Pension Liability (a)</u>	<u>Plan Fiduciary Net Position (b)</u>	<u>Net Pension Liability (a) - (b)</u>
Balances at June 30, 2017	\$ 523,765	\$ 574,762	\$ (50,997)
Changes for the Year			
Service cost	28,831	-	28,831
Interest	36,617	-	36,617
Benefit changes	-	-	-
Differences between expected and actual experience	(36,994)	-	(36,994)
Assumption changes	-	-	-
Contributions - employer	-	19,267	(19,267)
Contributions - employee	-	14,084	(14,084)
Net investment income	-	43,490	(43,490)
Benefit payments, including refunds	(1,336)	(1,336)	-
Administrative expenses	-	(341)	341
Other changes	-	(40)	40
Net Changes	<u>27,118</u>	<u>75,124</u>	<u>(48,006)</u>
Balances at June 30, 2018	<u>\$ 550,883</u>	<u>\$ 649,886</u>	<u>\$ (99,003)</u>

Sensitivity of the Net Pension Liability to Changes in the Discount Rate

The following presents the net pension liability of the political subdivision using the discount rate of 7.00%, as well as what the political subdivision's net pension liability would be if it were calculated using a discount rate that is one percentage point lower (6.00%) or one percentage point higher (8.00%) than the current rate:

	1.00% Decrease (6.00%)	Current Discount Rate (7.00%)	1.00% Increase (8.00%)
Political subdivision's Net Pension Liability	\$ (12,978)	\$ (99,003)	\$ (169,392)

Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

For the year ended June 30, 2019, the political subdivision recognized pension expense of \$(9,754). At June 30, 2019, the political subdivision reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	\$ -	\$ 42,012
Change in assumptions	-	20,277
Net difference between projected and actual earnings on pension plan investments	-	6,374
Employer contributions subsequent to the measurement date	8,906	-
Total	<u>\$ 8,906</u>	<u>\$ 68,663</u>

\$8,906 reported as deferred outflows of resources related to pensions resulting from the political subdivision's contributions subsequent to the measurement date will be recognized as a reduction of the Net Pension Liability in the fiscal year ending June 30, 2020. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense in future reporting periods as follows:

Year Ended June 30,	
2020	\$ (14,478)
2021	(16,397)
2022	(20,861)
2023	(15,253)
2024	(1,674)
Thereafter	-

Pension Plan Data

Information about the VRS Political Subdivision Retirement Plan is also available in the separately issued VRS 2018 Comprehensive Annual Financial Report (CAFR). A copy of the 2018 VRS CAFR may be downloaded from the VRS website at <http://www.varetire.org/Pdf/Publications/2018-annual-report.pdf>, or by writing to the System's Chief Financial Officer at P.O. Box 2500, Richmond, VA 23218-2500.

7 Long-Term Debt

Annual requirements to amortize long-term debt and related interest are as follows:

<u>Year(s) Ending June 30.</u>	<u>Principal</u>	<u>Interest</u>
2020	\$ 298,040	\$ 262,925
2021	253,274	250,424
2022	205,374	241,056
2023	213,909	232,522
2024	222,818	223,613
2025-2029	1,261,899	970,114
2030-2034	1,279,939	695,121
2035-2039	1,589,628	375,371
2040-2044	<u>827,330</u>	<u>43,800</u>
	<u>\$ 6,152,211</u>	<u>\$ 3,294,946</u>

Changes in Long-Term Debt

The following is a summary of changes in long-term obligations of the Authority:

<u>Details of Long-Term Indebtedness</u>	<u>Balance July 1, 2018</u>	<u>Increase</u>	<u>Decrease</u>	<u>Balance June 30, 2019</u>	<u>Due Within One Year</u>
Virginia Resources Authority Series 2000A issued November 27, 2000 for \$200,344; payable in semi-annual installments of \$3,454 at 0% interest for 30 years.	\$ 83,834	\$ -	\$ 6,707	\$ 77,127	\$ 6,707
Virginia Resources Authority Series 2000B issued November 27, 2000 for \$1,523,853; payable in semi-annual installments of \$59,891 at 4.25% interest for 20 years.	268,950	-	104,200	164,750	108,675
Touchstone Bank unsecured loan dated October 21, 2015 for \$497,142; payable in annual installments of \$46,724 at 2.99% interest for 13 years.	432,623	-	33,965	398,658	34,803
United States Department of Agriculture Series 2001A - Rural Development issued November 2, 2001 for \$7,135,000; payable interest only for first 25 months then monthly installments of \$32,750 for 456 months at 4.50% interest.	<u>5,653,164</u>	<u>-</u>	<u>141,488</u>	<u>5,511,676</u>	<u>147,855</u>
	<u>\$ 6,438,571</u>	<u>\$ -</u>	<u>\$ 286,360</u>	<u>\$ 6,152,211</u>	<u>\$ 298,040</u>

8 Net Investment in Capital Assets

The "net investment in capital assets" amount reported on the Statements of Net Position as of June 30, 2019 and 2018 is determined as follows:

	<u>2019</u>	<u>2018</u>
Cost of capital assets	\$ 12,193,131	\$ 12,193,131
Less: Accumulated depreciation	<u>(3,822,386)</u>	<u>(3,562,151)</u>
Book value	8,370,745	8,630,980
Less: Capital related debt	<u>(6,152,211)</u>	<u>(6,438,571)</u>
Net Investment in Capital Assets	<u>\$ 2,218,534</u>	<u>\$ 2,192,409</u>

9 Commitments and Contingencies

If applicable, federal programs in which the Authority participates were audited as required by Title 2 U.S. *Code of Federal Regulations* (CFR) Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards*. Pursuant to the requirements of the Uniform Guidance, all major programs and certain other programs were tested for compliance with applicable grant requirements. While no matters of noncompliance were disclosed by the audit, the Federal Government may subject grant programs to additional compliance tests which may result in disallowed expenditures. In the opinion of management, any future disallowance of current grant program expenditures, if any, would be immaterial.

10 Risk Management

The Authority is exposed to various risks of loss related to torts; theft of, damage to, and destruction of assets; errors and omissions; injuries to employees; and natural disasters. The Authority joined together with other local governments in Virginia to form the Virginia Municipal Liability Pool, a public entity risk pool currently operating as a common risk management and insurance program for participating local governments. The Authority pays an annual premium to the pool for substantially all of its insurance coverage. In the event of a loss deficit and depletion of all available excess insurance, the pool may assess all members in the proportion which the premium of each bears to the total premiums of all members in the year in which such deficit occurs.

The Authority continues to carry commercial insurance for all other risks of loss and employee health and accident insurance. Settled claims resulting from these risks have not exceeded commercial insurance coverage in any of the past three fiscal years.

11 Litigation

At June 30, 2019, there were no matters of litigation involving the Authority which would materially affect the Authority's financial position should any court decision or pending matter not be favorable to the Authority.

12 Other-Post Employment Benefits - Group Life Insurance Program

Plan Description

All full-time, salaried permanent employees of the state agencies, teachers and employees of participating political subdivisions are automatically covered by the VRS Group Life Insurance Program upon employment. This plan is administered by the Virginia Retirement System (the System), along with pensions and other OPEB plans, for public employer groups in the Commonwealth of Virginia.

In addition to the Basic Group Life Insurance benefit, members are also eligible to elect additional coverage for themselves as well as a spouse or dependent children through the Optional Group Life Insurance Program. For members who elect the optional group life insurance coverage, the insurer bills employers directly for the premiums. Employers deduct these premiums from members' paychecks and pay the premiums to the insurer. Since this is a separate and fully insured program, it is not included as part of the Group Life Insurance Program OPEB.

The specific information for Group Life Insurance Program OPEB, including eligibility, coverage and benefits is set out in the table below:

GROUP LIFE INSURANCE PROGRAM PLAN PROVISIONS
<p>Eligible Employees</p> <p>The Group Life Insurance Program was established July 1, 1960, for state employees, teachers and employees of political subdivisions that elect the program, including the following employers that do not participate in VRS for retirement:</p> <ul style="list-style-type: none"> • City of Richmond • City of Portsmouth • City of Roanoke • City of Norfolk • Roanoke City Schools Board <p>Basic group life insurance coverage is automatic upon employment. Coverage ends for employees who leave their position before retirement eligibility or who take a refund of their accumulated retirement member contributions and accrued interest.</p>
<p>Benefit Amounts</p> <p>The benefits payable under the Group Life Insurance Program have several components.</p> <ul style="list-style-type: none"> • Natural Death Benefit – The natural death benefit is equal to the employee's covered compensation rounded to the next highest thousand and then doubled. • Accidental Death Benefit – The accidental death benefit is double the natural death benefit. • Other Benefit Provisions – In addition to the basic natural and accidental death benefits, the program provides additional benefits provided under specific circumstances. These include: <ul style="list-style-type: none"> Accidental dismemberment benefit Safety belt benefit Repatriation benefit Felonious assault benefit Accelerated death benefit option
<p>Reduction in Benefit Amounts</p> <p>The benefit amounts provided to members covered under the Group Life Insurance Program are subject to a reduction factor. The benefit amount reduces by 25% on January 1 following one calendar year of separation. The benefit amount reduces by an additional 25% on each subsequent January 1 until it reaches 25% of its original value.</p>
<p>Minimum Benefit Amount and Cost-of-Living Adjustment (COLA)</p> <p>For covered members with at least 30 years of creditable service, there is a minimum benefit payable under the Group Life Insurance Program. The minimum benefit was set at \$8,000 by statute. This amount is increased annually based on the VRS Plan 2 cost-of-living statute. This amount is increased annually based on the VRS Plan 2 cost-of-living adjustment and was increased to \$8,279 effective July 1, 2018.</p>

Contributions

The contribution requirements for the Group Life Insurance Program are governed by §51.1-506 and §51.1-508 of the Code of Virginia, as amended, but may be impacted as a result of funding provided to state agencies and school divisions by the Virginia General Assembly. The total rate for the Group Life Insurance Program was 1.31% of covered employee compensation. This was allocated into an employee and an employer component using a 60/40 split. The employee component was 0.79% (1.31% X 60%) and the employer component was 0.52% (1.31% X 40%). Employers may elect to pay all or part of the employee contribution, however the employer must pay all of the employer contribution. Each employer's contractually required employer contribution rate for the year ended June 30, 2019 was 0.52% of covered employee compensation. This rate was based on an actuarially determined rate from an actuarial valuation as of June 30, 2017. The actuarially determined rate, when combined with employee contributions, was expected to finance the costs of benefits payable during the year, with an additional amount to finance any unfunded accrued liability. Contribution to the Group Life Insurance Program from the entity were \$1,577 and \$1,497 for the years ended June 30, 2019 and June 30, 2018, respectively.

GLI OPEB Liabilities, GLI OPEB Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to the Group Life Insurance Program OPEB

At June 30, 2019, the entities reported a liability of \$23,000 for its proportionate share of the Net GLI OPEB Liability. The Net GLI OPEB Liability was measured as of June 30, 2018 and the total GLI OPEB liability used to calculate the Net GLI OPEB Liability was determined by an actuarial valuation as of that date. The covered employer's proportion of the Net GLI OPEB Liability was based on the covered employer's actuarially determined employer contributions to the Group Life Insurance Program for the year ended June 30, 2018 relative to the total of the actuarially determined employer contributions for all participating employers. At June 30, 2018, the participating employer's proportion was .00151% as compared to .00153% at June 30, 2017.

For the year ended June 30, 2019, the participating employer recognized GLI OPEB expense of \$-0-. Since there was a change in proportionate share between measurement dates, a portion of the GLI OPEB expense was related to deferred amounts from changes in proportion.

At June 30, 2019, the employer reported deferred outflows of resources and deferred inflows of resources related to the GLI OPEB from the following sources:

	<u>Deferred Outflows of Resources</u>	<u>Deferred Inflows of Resources</u>
Differences between expected and actual experience	\$ 1,000	
Net difference between projected and actual earnings on GLI OPEB program investments	-	1,000
Change in assumptions	-	1,000
Changes in proportion	-	
Employer contributions subsequent to the measurement date	<u>1,577</u>	<u>-</u>
Total	<u>\$ 2,577</u>	<u>\$ 2,000</u>

\$1,577 reported as deferred outflows of resources related to the GLI OPEB resulting from the employer's contributions subsequent to the measurement date will be recognized as a reduction of the Net GLI OPEB Liability in the Fiscal Year ending June 30, 2020. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to the GLI OPEB will be recognized in the GLI OPEB expense in future reporting periods as follows:

<u>Year Ended June 30,</u>	
2020	\$ (1,000)
2021	-
2022	-
2023	-
2024	-
Thereafter	-

Actuarial Assumptions

The total GLI OPEB liability was based on an actuarial valuation as of June 30, 2017, using the Entry Age Normal actuarial cost method and the following assumptions, applied to all periods included in the measurement and rolled forward to the measurement date of June 30, 2018.

Inflation	2.5 percent
Salary increases, including inflation -	
General state employees	3.5 percent - 5.35 percent
Teachers	3.5 percent - 5.95 percent
SPORS employees	3.5 percent - 4.75 percent
VaLORS employees	3.5 percent - 4.75 percent
JRS employees	4.5 percent
Locality - General employees	3.5 percent - 5.35 percent
Locality - Hazardous Duty employees	3.5 percent - 4.75 percent
Investment rate of return	7.0 percent, net of investment expenses, including inflation*

* Administrative expenses as a percent of the market value of assets for the last experience study were found to be approximately 0.06% of the market assets for all of the VRS plans. This would provide an assumed investment return rate for GASB purposes of slightly more than the assumed 7.0%. However, since the difference was minimal, and a more conservative 7.0% investment return assumption provided a projected plan net position that exceeded the projected benefit payments, the long-term expected rate of return on investments was assumed to be 7.0% to simplify preparation of the OPEB liabilities.

Mortality rates – General State Employees

Pre-Retirement:

RP-2014 Employee Rates to age 80, Healthy Annuitant Rates to 81 and older projected with Scale BB to 2020; males set back 1 year, 85% of rates; females set back 1 year.

Post-Retirement:

RP-2014 Employee Rates to age 49, Healthy Annuitant Rates at ages 50 and older projected with Scale BB to 2020; males set forward 1 year; females set back 1 year with 1.5% increase compounded from ages 70 to 85.

Post-Disablement:

RP-2014 Disability Life Mortality Table projected with scale BB to 2020; males 115% of rates; females 130% of rates.

The actuarial assumptions used in the June 30, 2017 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update to a more current mortality table – RP-2014 projected to 2020
Retirement Rates	Lowered rates at older ages and changed final retirement from 70-75
Withdrawal Rates	Adjusted rates to better fit experience at each year age and service through 9 years of service
Disability Rates	Adjusted rates to better match experience
Salary Scale	No change
Line of Duty Disability	Increase rate from 14% to 25%

Mortality rates – Teachers

Pre-Retirement:

RP-2014 White Collar Employee Rates to age 80, White Collar Healthy Annuitant Rates at ages 81 and older projected with scale BB to 2020.

Post-Retirement:

RP-2014 White Collar Employee Rates to age 49, White Collar Health Annuitant Rates at ages 50 and older projected with scale BB to 2020; males 1% increase compounded from ages 70 to 90; females set back 3 years with 1.5% increase compounded from ages 65 to 70 and 2.0% increase compounded from ages 75 to 90.

Post-Disablement:

RP-2014 Disability Mortality Rates projected with Scale BB to 2020; 115% of rates for males and females.

The actuarial assumptions used in the June 30, 2017 valuation were based on the results of an actuarial experience study for the four-year period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update to a more current mortality table – RP-2014 projected to 2020
Retirement Rates	Lowered rates at older ages and changed final retirement from 70-75
Withdrawal Rates	Adjusted rates to better fit experience at each year age and service through 9 years of service
Disability Rates	Adjusted rates to better match experience
Salary Scale	No change

Mortality rates – SPORS Employees

Pre-Retirement:

RP-2014 Employee Rates to age 80, Healthy Annuitant Rates to 81 and older projected with Scale BB to 2020; males 90% of rates; females set forward 1 year.

Post-Retirement:

RP-2014 Employee Rates to age 49, Healthy Annuitant Rates at ages 50 and older projected with Scale BB to 2020; males set forward 1 year with 1.0% increase compounded from ages 70 to 90; females set forward 3 years.

Post-Disablement:

RP-2014 Disability Life Mortality Table projected with scale BB to 2020; males set forward 2 years; unisex using 100% male.

The actuarial assumptions used in the June 30, 2017 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update to a more current mortality table – RP-2014 projected to 2020 and reduced margin for future improvement in accordance with experience
Retirement Rates	Increased age 50 rates and lowered rates at older ages
Withdrawal Rates	Adjusted rates to better fit experience
Disability Rates	Adjusted rates to better match experience
Salary Scale	No change
Line of Duty Disability	Increased rate from 60% to 85%

Mortality rates – VaLORS Employees

Pre-Retirement:

RP-2014 Employee Rates to age 80, Healthy Annuitant Rates to 81 and older projected with Scale BB to 2020; males 90% of rates; females set forward 1 year.

Post-Retirement:

RP-2014 Employee Rates to age 49, Healthy Annuitant Rates at ages 50 and older projected with Scale BB to 2020; males set forward 1 year with 1.0% increase compounded from ages 70 to 90; females set forward 3 years.

Post-Disablement:

RP-2014 Disability Life Mortality Table projected with scale BB to 2020; males set forward 2 years; unisex using 100% male.

The actuarial assumptions used in the June 30, 2017 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update to a more current mortality table – RP-2014 projected to 2020 and reduced margin for future improvement in accordance with experience
Retirement Rates	Increased age 50 rates and lowered rates at older ages
Withdrawal Rates	Adjusted rates to better fit experience at each year age and service through 9 years of service
Disability Rates	Adjusted rates to better match experience
Salary Scale	No change
Line of Duty Disability	Decreased rate from 50% to 35%

Mortality rates – JRS Employees

Pre-Retirement:

RP-2014 Employee Rates to age 80, Healthy Annuitant Rates at ages 81 and older projected with scale BB to 2020; males set back 1 year, 85% of rates; females set back 1 year.

Post-Retirement:

RP-2014 Employee Rates to age 49, Healthy Annuitant Rates at ages 50 and older projected with scale BB to 2020; males set forward 1 year; females set back 1 year with 1.5% compounding increase from ages 70 to 85.

Post-Disablement:

RP-2014 Disability Mortality Rates projected with Scale BB to 2020; males 115% of rates; females 130% of rates.

The actuarial assumptions used in the June 30, 2017 valuation were based on the results of an actuarial experience study for the four-year period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update to a more current mortality table – RP-2014 projected to 2020
Retirement Rates	Decreased rates at first retirement eligibility
Withdrawal Rates	No change
Disability Rates	Removed disability rates
Salary Scale	No change

Mortality rates – Largest Ten Locality Employers - General Employees

Pre-Retirement:

RP-2014 Employee Rates to age 80, Healthy Annuitant Rates to 81 and older projected with Scale BB to 2020; males 95% of rates; females 105% of rates.

Post-Retirement:

RP-2014 Employee Rates to age 49, Healthy Annuitant Rates at ages 50 and older projected with Scale BB to 2020; males set forward 3 years; females 1.0% increase compounded from ages 70 to 90.

Post-Disability:

RP-2014 Disability Life Mortality Table projected with scale BB to 2020; males set forward 2 years, 110% of rates; females 125% of rates.

The actuarial assumptions used in the June 30, 2017 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update to a more current mortality table – RP-2014 projected to 2020
Retirement Rates	Lowered retirement rates at older ages and extended final retirement age from 70 to 75
Withdrawal Rates	Adjusted termination rates to better fit experience at each age and service year
Disability Rates	Lowered disability rates
Salary Scale	No change
Line of Duty Disability	Increased rate from 14% to 20%

Mortality rates – Non-Largest Ten Locality Employers - General Employees

Pre-Retirement:

RP-2014 Employee Rates to age 80, Healthy Annuitant Rates to 81 and older projected with Scale BB to 2020; males 95% of rates; females 105% of rates.

Post-Retirement:

RP-2014 Employee Rates to age 49, Healthy Annuitant Rates at ages 50 and older projected with Scale BB to 2020; males set forward 3 years; females 1.0% increase compounded from ages 70 to 90.

Post-Disability:

RP-2014 Disability Life Mortality Table projected with scale BB to 2020; males set forward 2 years, 110% of rates; females 125% of rates.

The actuarial assumptions used in the June 30, 2017 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update to a more current mortality table – RP-2014 projected to 2020
Retirement Rates	Lowered retirement rates at older ages and extended final retirement age from 70 to 75
Withdrawal Rates	Adjusted termination rates to better fit experience at each age and service year
Disability Rates	Lowered disability rates
Salary Scale	No change
Line of Duty Disability	Increased rate from 14% to 15%

Mortality rates – Largest Ten Locality Employers – Hazardous Duty Employees

Pre-Retirement:

RP-2014 Employee Rates to age 80, Healthy Annuitant Rates to 81 and older projected with Scale BB to 2020; males 90% of rates; females set forward 1 year.

Post-Retirement:

RP-2014 Employee Rates to age 49, Healthy Annuitant Rates at ages 50 and older projected with Scale BB to 2020; males set forward 1 year with 1.0% increase compounded from ages 70 to 90; females set forward 3 years.

Post-Disablement:

RP-2014 Disability Life Mortality Table projected with scale BB to 2020; males set forward 2 years; unisex using 100% male.

The actuarial assumptions used in the June 30, 2017 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update to a more current mortality table – RP-2014 projected to 2020
Retirement Rates	Lowered retirement rates at older ages
Withdrawal Rates	Adjusted termination rates to better fit experience at each age and service year
Disability Rates	Increased disability rates
Salary Scale	No change
Line of Duty Disability	Increased rate from 60% to 70%

Mortality rates – Non-Largest Ten Locality Employers – Hazardous Duty Employees

Pre-Retirement:

RP-2014 Employee Rates to age 80, Healthy Annuitant Rates to 81 and older projected with Scale BB to 2020; males 90% of rates; females set forward 1 year.

Post-Retirement:

RP-2014 Employee Rates to age 49, Healthy Annuitant Rates at ages 50 and older projected with Scale BB to 2020; males set forward 1 year with 1.0% increase compounded from ages 70 to 90; females set forward 3 years.

Post-Disablement:

RP-2014 Disability Life Mortality Table projected with scale BB to 2020; males set forward 2 years; unisex using 100% male.

The actuarial assumptions used in the June 30, 2017 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update to a more current mortality table – RP-2014 projected to 2020
Retirement Rates	Increased age 50 rates and lowered rates at older ages
Withdrawal Rates	Adjusted termination rates to better fit experience at each age and service year
Disability Rates	Adjusted rates to better match experience
Salary Scale	No change
Line of Duty Disability	Decreased rate from 60% to 45%

Net GLI OPEB Liability

The net OPEB liability (NOL) for the Group Life Insurance Program represents the program's total OPEB liability determined in accordance with GASB Statement No. 74, less the associated fiduciary net position. As of June 30, 2018, NOL amounts for the Group Life Insurance Program are as follows (amounts expressed in thousands):

		Group Life Insurance OPEB Program
Total GLI OPEB Liability	\$	3,113,508
Plan Fiduciary Net Position		<u>1,594,773</u>
Employers' Net GLI OPEB Liability (Asset)	\$	<u><u>1,518,735</u></u>
Plan Fiduciary Net Position as a Percentage of the Total GLI OPEB Liability		51.22%

The total GLI OPEB liability is calculated by the System's actuary, and each plan's fiduciary net position is reported in the System's financial statements. The net GLI OPEB liability is disclosed in accordance with the requirements of GASB Statement No. 74 in the System's notes to the financial statements and required supplementary information.

Long-Term Expected Rate of Return

The long-term expected rate of return on the System's investments was determined using a lognormal distribution analysis in which best-estimate ranges of expected future real rates of return (expected returns, net of System's investment expense and inflation) are developed for each major asset class. These ranges 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. The target asset allocation and best estimate of arithmetic real rates of return for each major asset class are summarized in the following table:

<u>Asset Class (Strategy)</u>	<u>Target Allocation</u>	<u>Arithmetic Long-Term Expected Rate of Return</u>	<u>Weighted Average Long-Term Expected Rate of Return</u>
Public Equity	40.00%	4.54%	1.82%
Fixed Income	15.00%	0.69%	0.10%
Credit Strategies	15.00%	3.96%	0.59%
Real Assets	15.00%	5.76%	0.86%
Private Equity	<u>15.00%</u>	9.53%	<u>1.43%</u>
Total	<u>100.00%</u>		<u>4.80%</u>
	Inflation		<u>2.50%</u>
	*Expected arithmetic nominal return		<u>7.30%</u>

*The above allocation provides a one-year return of 7.30%. However, one-year returns do not take into account the volatility present in each of the asset classes. In setting the long-term expected return for the system, stochastic projections are employed to model future returns under various economic conditions. The results provide a range of returns over various time periods that ultimately provide a median return of 6.83%, including expected inflation of 2.50%.

Discount Rate

The discount rate used to measure the total GLI OPEB liability was 7.00%. The projection of cash flows used to determine the discount rate assumed that member contributions will be made per the VRS guidance and the employer contributions will be made in accordance with the VRS funding policy at rates equal to the difference between actuarially determined contribution rates adopted by the VRS Board of Trustees and the member rate. Through the fiscal year ending June 30, 2018, the rate contributed by the entity for the GLI OPEB will be subject to the portion of the VRS Board-certified rates that are funded by the Virginia General Assembly. From July 1, 2018 on, employers are assumed to contribute 100% of the actuarially determined contribution rates. Based on those assumptions, the GLI OPEB's fiduciary net position was projected to be available to make all projected future benefit payments of eligible employees. Therefore, the long-term expected rate of return was applied to all periods of projected benefit payments to determine the total GLI OPEB liability.

Sensitivity of the Employer's Proportionate Share of the Net GLI OPEB Liability to Changes in the Discount Rate

The following presents the employer's proportionate share of the net GLI OPEB liability using the discount rate of 7.00%, as well as what the employer's proportionate share of the net GLI OPEB liability would be if it were calculated using a discount rate that is one percentage point lower (6.00%) or one percentage point higher (8.00%) than the current rate:

	1.00% Decrease (6.00%)	Current Discount Rate (7.00%)	1.00% Increase (8.00%)
Employer's Proportionate Share of the Group Life Insurance Program Net OPEB Liability	\$ 30,000	\$ 23,000	\$ 17,000

Group Life Insurance Program Fiduciary Net Position

Detailed information about the Group Life Insurance Program's Fiduciary Net Position is available in the separately issued VRS 2018 Comprehensive Annual Financial Report (CAFR). A copy of the 2018 VRS CAFR may be downloaded from the VRS website at <http://www.varetire.org/Pdf/Publications/2018-annual-report.pdf>, or by writing to the System's Chief Financial Officer at P.O. Box 2500, Richmond, VA, 23218-2500.

13 Other Post-Employment Benefits - Virginia Local Disability Program

Plan Description

All full-time, salaried general employees; including local law enforcement officers, firefighters, or emergency medical technicians of political subdivisions who do not provide enhanced hazardous duty benefits; who are in the VRS Hybrid Retirement Plan benefit structure and whose employer has not elected to opt out of the VRS-sponsored program are automatically covered by the VRS Political Subdivision Employee Virginia Local Disability Program. This plan is administered by the Virginia Retirement System (the System), along with pension and other OPEB plans, for eligible public employer groups in the Commonwealth of Virginia. Political subdivisions are required by Title 51.1 of the Code of Virginia, as amended to provide short-term and long-term disability benefits for their Hybrid employees either through a local plan or through the Virginia Local Disability Program (VLDP).

The specific information for each plan and the eligibility for covered groups within each plan are set out in the table below:

POLITICAL SUBDIVISION EMPLOYEE VIRGINIA LOCAL DISABILITY PROGRAM (VLDP) PLAN PROVISIONS
<p>Eligible Employees</p> <p>The Political Subdivision Employee Virginia Local Disability Program was implemented January 1, 2014 to provide short-term and long-term disability benefits for non-work-related and work-related disabilities for employees with Hybrid retirement benefits</p> <p>Eligible employees are enrolled automatically upon employment, unless their employer has elected to provide comparable coverage. They include:</p> <ul style="list-style-type: none"> • Full-time general employees; including local law enforcement officers, firefighters, or emergency medical technicians who do not have enhanced hazardous duty benefits; of public political subdivisions covered under VRS.
<p>Benefit Amounts</p> <p>The Political Subdivision Employee Virginia Disability Local Program (VLDP) provides the following benefits for eligible employees:</p> <p><u>Short-Term Disability –</u></p> <ul style="list-style-type: none"> • The program provides a short-term disability benefit beginning after a seven-calendar-day waiting period from the first day of disability. Employees become eligible for non-work-related short-term disability coverage after one year of continuous participation in VLDP with their current employer. • During the first five years of continuous participation in VLDP with their current employer, employees are eligible for 60% of their pre-disability income if they go out on non-work-related or work-related disability. • Once the eligibility period is satisfied, employees are eligible for higher income replacement levels <p><u>Long-Term Disability –</u></p> <ul style="list-style-type: none"> • The VLDP program provides a long-term disability benefit beginning after 125 workdays of short-term disability. Members are eligible if they are unable to work at all or are working fewer than 20 hours per week. • Members approved for long-term disability will receive 60% of their pre-disability income. If approved for work-related long-term disability, the VLDP benefit will be offset by the workers' compensation benefit. Members will not receive a VLDP benefit if their workers' compensation benefit is greater than the VLDP benefit.
<p>Virginia Local Disability Program Notes:</p> <ul style="list-style-type: none"> • Members approved for short-term or long-term disability at age 60 or older will be eligible for a benefit, provided they remain medically eligible. • VLDP Long-Term Care Plan is a self-funded program that assists with the cost of covered long-term care services.

Contributions

The contribution requirement for active Hybrid employees is governed by §51.1-1178(C) of the *Code of Virginia*, as amended, but may be impacted as a result of funding provided to political subdivisions by the Virginia General Assembly. Each political subdivision's contractually required employer contribution rate for the year ended June 30, 2019 was 0.72% of covered employee compensation for employees in the VRS Political Subdivision Employee Virginia Local Disability Program. This rate was based on an actuarially determined rate from an actuarial valuation as of June 30, 2017. The actuarially determined rate was expected to finance the costs of benefits earned by employees during the year, with an additional amount to finance any unfunded accrued liability. Contributions from the political subdivision to the VRS Political Subdivision Employee Virginia Local Disability Program were \$306 and \$187 for the years ended June 30, 2019 and June 30, 2018, respectively.

Political Subdivision Employee Virginia Local Disability Program OPEB Liabilities, Political Subdivision Employee Virginia Local Disability Program OPEB Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Political Subdivision Employee Virginia Local Disability Program OPEB

At June 30, 2019, the political subdivision reported a liability of \$-0- for its proportionate share of the VRS Political Subdivision Employee Virginia Local Disability Program Net OPEB Liability. The Net VRS Political Subdivision Employee Virginia Local Disability Program OPEB Liability was measured as of June 30, 2018 and the total VRS Political Subdivision Employee Virginia Local Disability Program OPEB liability used to calculate the Net VRS Political Subdivision Employee Virginia Local Disability Program OPEB Liability was determined by an actuarial valuation as of that date. The political subdivision's proportion of the Net VRS Political Subdivision Employee Virginia Local Disability Program OPEB Liability was based on the political subdivision's actuarially determined employer contributions to the VRS Political Subdivision Employee Virginia Local Disability Program OPEB plan for the year ended June 30, 2018 relative to the total of the actuarially determined employer contributions for all participating employers. At June 30, 2018, the political subdivision's proportion of the VRS Political Subdivision Employee Virginia Local Disability Program was .01285% as compared to .0% at June 30, 2017.

For the year ended June 30, 2019, the political subdivision recognized VRS Political Subdivision Employee Virginia Local Disability Program OPEB expense of \$-0-. Since there was a change in proportionate share between measurement dates a portion of the VRS Political Subdivision Employee Virginia Local Disability Program Net OPEB expense was related to deferred amounts from changes in proportion.

At June 30, 2019, the political subdivision reported deferred outflows of resources and deferred inflows of resources related to the VRS Political Subdivision Employee Virginia Local Disability Program OPEB from the following sources:

	<u>Deferred Outflows</u> <u>of Resources</u>	<u>Deferred Inflows</u> <u>of Resources</u>
Differences between expected and actual experience	\$ -	\$ -
Net difference between projected and actual earnings on VLDP OPEB program investments	-	-
Change in assumptions	-	-
Changes in proportion and difference between Employer contributions and proportionate share of contributions	-	-
Employer contributions subsequent to the measurement date	<u>306</u>	<u>-</u>
Total	<u>\$ 306</u>	<u>\$ -</u>

\$306 reported as deferred outflows of resources related to the Political Subdivision Employee VLDP OPEB resulting from the political subdivision's contributions subsequent to the measurement date will be recognized as a reduction of the Net Political Subdivision Employee VLDP OPEB Liability in the Fiscal Year ending June 30, 2020. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to the Political Subdivision Employee VLDP OPEB will be recognized in the Political Subdivision Employee VLDP OPEB expense in future reporting periods as follows:

Year Ended
June 30,

2020	\$ -
2021	-
2022	-
2023	-
2024	-
Thereafter	-

Actuarial Assumptions

The total Political Subdivision Employee VLDP OPEB liability for the VRS Political Subdivision Employee Virginia Local Disability Program was based on an actuarial valuation as of June 30, 2017, using the Entry Age Normal actuarial cost method and the following assumptions, applied to all periods included in the measurement and rolled forward to the measurement date of June 30, 2018.

Inflation	2.5 percent
Salary increases, including inflation - Political subdivision employees	3.5 percent - 5.35 percent
Investment rate of return	7.0 percent, net of plan investment expenses, including inflation*

* Administrative expenses as a percent of the market value of assets for the last experience study were found to be approximately 0.06% of the assets for all of the VRS plans. This would provide an assumed investment return rate for GASB purposes of slightly more than the assumed 7.0%. However, since the difference was minimal, and a more conservative 7.0% investment return assumption provided a projected plan net position that exceeded the projected benefit payments, the long-term expected rate of return on investments was assumed to be 7.0% to simplify preparation of OPEB liabilities.

Mortality rates – Largest Ten Locality Employers - General and Non-Hazardous Duty Employees

Pre-Retirement:

RP-2014 Employee Rates to age 80, Healthy Annuitant Rates to 81 and older projected with Scale BB to 2020; males 95% of rates; females 105% of rates.

Post-Retirement:

RP-2014 Employee Rates to age 49, Healthy Annuitant Rates at ages 50 and older projected with Scale BB to 2020; males set forward 3 years; females 1.0% increase compounded from ages 70 to 90.

Post-Disablement:

RP-2014 Disability Life Mortality Table projected with scale BB to 2020; males set forward 2 years, 110% of rates; females 125% of rates

The actuarial assumptions used in the June 30, 2017 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table – RP-2014 projected to 2020
Retirement Rates	Lowered retirement rates at older ages and extended final retirement age from 70 to 75
Withdrawal Rates	Adjusted termination rates to better fit experience at each year age and service year
Disability Rates	Lowered disability rates
Salary Scale	No change
Line of Duty Disability	Increased rate from 14% to 20%

Mortality rates – Non-Largest Ten Locality Employers - General and Non-Hazardous Duty Employees

Pre-Retirement:

RP-2014 Employee Rates to age 80, Healthy Annuitant Rates to 81 and older projected with Scale BB to 2020; males 90% of rates; females set forward 1 year.

Post-Retirement:

RP-2014 Employee Rates to age 49, Healthy Annuitant Rates at ages 50 and older projected with Scale BB to 2020; males set forward 1 year with 1.0% increase compounded from ages 70 to 90; females set forward 3 years.

Post-Disablement:

RP-2014 Disability Life Mortality Table projected with scale BB to 2020; males set forward 2 years; unisex using 100% male.

The actuarial assumptions used in the June 30, 2017 valuation were based on the results of an actuarial experience study for the period from July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table – RP-2014 projected to 2020
Retirement Rates	Lowered retirement rates at older ages and extended final retirement age from 70 to 75.
Withdrawal Rates	Adjusted termination rates to better fit experience at each year age and service
Disability Rates	Lowered disability rates
Salary Scale	No change
Line of Duty Disability	Increased rate from 14 to 15%

Net Political Subdivision Employee VLDP OPEB Liability

The net OPEB liability (NOL) for the Political Subdivision Employee Virginia Local Disability Program represents the program's total OPEB liability determined in accordance with GASB Statement No. 74, less the associated fiduciary net position. As of June 30, 2018, NOL amounts for the VRS Political Subdivision Employee Virginia Local Disability Program is as follows (amounts expressed in thousands):

Political Subdivision Employee VLDP OPEB Plan

Total Political Subdivision VLDP OPEB Liability	\$	1,588
Plan Fiduciary Net Position		<u>816</u>
Political Subdivision net VLDP OPEB Liability (Asset)	\$	<u><u>772</u></u>
Plan Fiduciary Net Position as a Percentage of the Total Political Subdivision VLDP OPEB Liability		51.22%

The total Political Subdivision Employee VLDP OPEB liability is calculated by the System's actuary, and the plan's fiduciary net position is reported in the System's financial statements. The net Political Subdivision Employee VLDP OPEB liability is disclosed in accordance with the requirements of GASB Statement No. 74 in the System's notes to the financial statements and required supplementary information.

Long-Term Expected Rate of Return

The long-term expected rate of return on VRS System investments was determined using a log-normal distribution analysis in which best-estimate ranges of expected future real rates of return (expected returns, net of VRS System investment expense and inflation) are developed for each major asset class. These ranges 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. The target asset allocation and best estimate of arithmetic real rates of return for each major asset class are summarized in the following table:

<u>Asset Class (Strategy)</u>	<u>Target Allocation</u>	<u>Arithmetic Long-Term Expected Rate of Return</u>	<u>Weighted Average Long-Term Expected Rate of Return</u>
Public Equity	40.00%	4.54%	1.82%
Fixed Income	15.00%	0.69%	0.10%
Credit Strategies	15.00%	3.96%	0.59%
Real Assets	15.00%	5.76%	0.86%
Private Equity	<u>15.00%</u>	9.53%	<u>1.43%</u>
Total	<u>100.00%</u>		<u>4.80%</u>
	Inflation		<u>2.50%</u>
	*Expected arithmetic nominal return		<u>7.30%</u>

* The above allocation provides a one-year return of 7.30%. However, one-year returns do not take into account the volatility present in each of the asset classes. In setting the long-term expected return for the system, stochastic projections are employed to model future returns under various economic conditions. The results provide a range of returns over various time periods that ultimately provide a median return of 6.83%, including expected inflation of 2.50%.

Discount Rate

The discount rate used to measure the total Political Subdivision Employee VLDP OPEB was 7.00%. The projection of cash flows used to determine the discount rate assumed that employer contributions will be made in accordance with the VRS funding policy at rates equal to the actuarially determined contribution rates adopted by the VRS Board of Trustees. Through the fiscal year ending June 30, 2018, the rate contributed by the political subdivision for the VRS Political Subdivision Employee Virginia Local Disability Program will be subject to the portion of the VRS Board-certified rates that are funded by the Virginia General Assembly, which was 100% of the actuarially determined contribution rate. From July 1, 2018 on, all agencies are assumed to contribute 100% of the actuarially determined contribution rates. Based on those assumptions, the Political Subdivision Employee VLDP OPEB plan's fiduciary net position was projected to be available to make all projected future benefit payments of current active and inactive employees. Therefore, the long-term expected rate of return was applied to all periods of projected benefit payments to determine the total Political Subdivision Employee VLDP OPEB liability.

Sensitivity of the Political Subdivision's Proportionate Share of the Political Subdivision Employee VLDP Net OPEB Liability to Changes in the Discount Rate

The following presents the political subdivision's proportionate share of the VRS Political Subdivision Employee Virginia Local Disability Program net VLDP OPEB liability using the discount rate of 7.00%, as well as what the political subdivision's proportionate share of the net VLDP OPEB liability would be if it were calculated using a discount rate that is one percentage point lower (6.00%) or one percentage point higher (8.00%) than the current rate:

	<u>1.00% Decrease (6.00%)</u>	<u>Current Discount Rate (7.00%)</u>	<u>1.00% Increase (8.00%)</u>
Political Subdivision's Proportionate Share of the VRS Political Subdivision VLDP OPEB Plan Net VLDP OPEB Liability	\$ _____ -	\$ _____ -	\$ _____ -

Political Subdivision Employee VLDP OPEB Fiduciary Net Position

Detailed information about the VRS Political Subdivision Employee Virginia Local Disability Program's Fiduciary Net Position is available in the separately issued VRS 2018 Comprehensive Annual Financial Report (CAFR). A copy of the 2018 VRS CAFR may be downloaded from the VRS website at http://www.varetire.org/Pdf/Publications/2018_-annual-report.pdf, or by writing to the System's Chief Financial Officer at P.O. Box 2500, Richmond, VA, 23218-2500.

14 Restatement

The beginning July 1, 2017 net position has been restated due to a software conversion in December 2016 related to accounts payable. A reconciliation is as follows:

Original Beginning Net Position, July 1, 2017	\$	3,535,185
Restatement due to software conversion in December 2016 related to accounts payable		<u>(49,419)</u>
Restated Beginning Net Position, July 1, 2017	\$	<u>3,485,766</u>

15 Subsequent Events

Management has evaluated subsequent events through September 25, 2019, the date the financial statements were available to be issued. The Authority, in conjunction with the County of Mecklenburg, Virginia, is in the final stages of an agreement with a customer for a tank farm. The County of Mecklenburg, Virginia has funded the costs of this tank farm and transfer of the assets will be forthcoming. Management has determined there are no other subsequent events to be reported in the accompanying financial statements.

REQUIRED SUPPLEMENTARY INFORMATION

Roanoke River Service Authority

Schedule of Changes in the Political Subdivision's Net Pension Liability and Related Ratios

For the Plan Years Ended June 30, 2014-2018

	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
Total pension liability					
Service cost	\$ 28,831	\$ 34,993	\$ 33,432	\$ 31,958	\$ 31,639
Interest	36,617	34,971	30,755	26,868	23,125
Changes of benefit terms	-	-	-	-	-
Differences between expected and actual experience	(36,994)	(14,932)	(2,646)	(1,988)	-
Changes in assumptions	-	(30,193)	-	-	-
Benefit Payments, including refunds of employee contributions	<u>(1,336)</u>	<u>(1,319)</u>	<u>(1,318)</u>	<u>(1,296)</u>	<u>(1,278)</u>
Net change in total pension liability	27,118	23,520	60,223	55,542	53,486
Total pension liability - beginning	<u>523,765</u>	<u>500,245</u>	<u>440,022</u>	<u>384,480</u>	<u>330,994</u>
Total pension liability - ending (a)	<u>\$ 550,883</u>	<u>\$ 523,765</u>	<u>\$ 500,245</u>	<u>\$ 440,022</u>	<u>\$ 384,480</u>
 Plan fiduciary net position					
Contributions - employer	\$ 19,267	\$ 19,197	\$ 20,748	\$ 20,110	\$ 21,481
Contributions - employee	14,084	14,116	13,982	13,554	13,194
Net investment income	43,490	61,228	8,799	18,773	50,917
Benefit payments, including refunds of employee contributions	(1,336)	(1,319)	(1,318)	(1,296)	(1,278)
Administrative expense	(341)	(315)	(252)	(221)	(243)
Other	<u>(40)</u>	<u>(56)</u>	<u>(3)</u>	<u>(5)</u>	<u>3</u>
Net change in plan fiduciary net position	75,124	92,851	41,956	50,915	84,074
Plan fiduciary net position - beginning	<u>574,762</u>	<u>481,911</u>	<u>439,955</u>	<u>389,040</u>	<u>304,966</u>
Plan fiduciary net position - ending (b)	<u>\$ 649,886</u>	<u>\$ 574,762</u>	<u>\$ 481,911</u>	<u>\$ 439,955</u>	<u>\$ 389,040</u>
 Political subdivision's net pension liability - ending (a) - (b)	<u>\$ (99,003)</u>	<u>\$ (50,997)</u>	<u>\$ 18,334</u>	<u>\$ 67</u>	<u>\$ (4,560)</u>
 Plan fiduciary net position as a percentage of the total Pension liability	117.97%	109.74%	96.33%	99.98%	101.19%
Covered payroll	\$ 287,927	285,221	279,629	273,133	263,889
Political subdivision's net pension liability as a percentage of covered payroll	-34.38%	-17.88%	6.56%	0.02%	-1.73%

Roanoke River Service Authority

Schedule of Employer Contributions - VRS Pension

For the Years Ended June 30, 2010 through 2019

Date	Contributions in Relation to			Employer's Covered Payroll (4)	Contributions as a % of Covered Payroll (5)
	Contractually Required Contribution (1)	Contractually Required Contribution (2)	Contribution Deficiency (Excess) (3)		
2019	\$ 8,906	\$ 8,906	\$ -	\$ 303,203	2.90%
2018	18,634	18,634	-	287,927	6.80%
2017	19,395	19,395	-	285,221	6.80%
2016	20,748	20,748	-	279,629	7.42%
2015	20,167	20,167	-	273,133	7.42%
2014	21,481	21,481	-	263,889	8.14%
2013	20,849	20,849	-	256,136	8.14%
2012	16,197	16,197	-	217,996	7.43%
2011	17,015	17,015	-	229,006	7.43%
2010	10,694	10,694	-	183,435	5.83%

For Reference Only:

Column 1 - Employer contribution rate multiplied by the employer's covered payroll

Column 2 - Actual employer contribution remitted to VRS

Column 4 - Employer's covered payroll amount for the fiscal year

Roanoke River Service Authority

Notes to Required Supplementary Information – VRS Pension

For the Year Ended June 30, 2019

Changes of benefit terms – There have been no actuarially material changes to the System benefit provisions since the prior actuarial valuation.

Changes of assumptions – The following changes in actuarial assumptions were made effective June 30, 2016 based on the most recent experience study of the System for the four-year period ending June 30, 2016:

Largest 10 – Non-Hazardous Duty:

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update to a more current mortality table – RP-2014 projected to 2020
Retirement Rates	Lowered rates at older ages and changed final retirement from 70-75
Withdrawal Rates	Adjusted rates to better fit experience at each year age and service through 9 years of service
Disability Rates	Lowered rates
Salary Scale	No change
Line of Duty Disability	Increase rate from 14% to 20%

All Others (Non 10 Largest) – Non-Hazardous Duty

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update to a more current mortality table – RP-2014 projected to 2020
Retirement Rates	Lowered rates at older ages and changed final retirement from 70 to 75
Withdrawal Rates	Adjusted rates to better fit experience at each year age and service through 9 years of service
Disability Rates	Lowered rates
Salary Scale	No change
Line of Duty Disability	Increase rate from 14% to 15%

Roanoke River Service Authority

Schedule of Employer's Share of Net OPEB Liability
Group Life Insurance Program
For the Measurement Dates of June 30, 2018 and 2017

	<u>2018</u>	<u>2017</u>
Employer's Proportion of the Net GLI OPEB Liability (Asset)	0.00151%	0.00153%
Employer's Proportionate Share of the Net GLI OPEB Liability (Asset)	23,000	23,000
Employer's Covered Payroll	287,927	282,313
Employer's Proportionate Share of the Net GLI OPEB Liability (Asset) as a Percentage of its Covered Payroll	7.99%	8.15%
Plan Fiduciary Net Position as a Percentage of the Total GLI OPEB Liability	51.22%	48.86%

Schedule is intended to show information for 10 years. Since 2018 is the second year of presentation, only two years of data are available. However, additional years will be included as they become available.

For Reference Only

The Plan Fiduciary Net Position as a Percentage of the Total GLI OPEB Liability for the VRS Group Life Insurance Program for each year is presented on page 121 of the VRS 2018 Comprehensive Annual Financial Report (CAFR).

Roanoke River Service Authority

Schedule of Employer Contributions - OPEB GLI

For the Years Ended June 30, 2010 through 2019

Date	Contributions in Relation to			Contributions as a % of	
	Contractually Required Contribution (1)	Contractually Required Contribution (2)	Contribution Deficiency (Excess) (3)	Employer's Covered Payroll (4)	Covered Payroll (5)
2019	\$ 1,577	\$ 1,577	\$ -	\$ 303,203	0.52%
2018	1,497	1,497	-	287,927	0.52%
2017	1,468	1,468	-	282,313	0.52%
2016	1,482	1,482	-	279,629	0.53%
2015	N/A	N/A	-	N/A	N/A
2014	N/A	N/A	-	N/A	N/A
2013	N/A	N/A	-	N/A	N/A
2012	N/A	N/A	-	N/A	N/A
2011	N/A	N/A	-	N/A	N/A
2010	N/A	N/A	-	N/A	N/A

For Reference Only:

Column 1 - Employer contribution rate multiplied by the employer's covered payroll

Column 2 - Actual employer contribution remitted to VRS

Column 4 - Employer's covered payroll amount for the fiscal year

Roanoke River Service Authority

Notes to Required Supplementary Information – OPEB GLI

For the Year Ended June 30, 2019

Changes of benefit terms – There have been no actuarially material changes to the System benefit provisions since the prior actuarial valuation.

Changes of assumptions – The following changes in actuarial assumptions were made effective June 30, 2016 based on the most recent experience study of the System for the four-year period ending June 30, 2016:

General State Employees

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update to a more current mortality table – RP-2014 projected to 2020
Retirement Rates	Lowered rates at older ages and changed final retirement from 70-75
Withdrawal Rates	Adjusted rates to better fit experience at each year age and service through 9 years of service
Disability Rates	Adjusted rates to better match experience
Salary Scale	No change
Line of Duty Disability	Increase rate from 14% to 25%

Teachers

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update to a more current mortality table – RP-2014 projected to 2020
Retirement Rates	Lowered rates at older ages and changed final retirement from 70-75
Withdrawal Rates	Adjusted rates to better fit experience at each year age and service through 9 years of service
Disability Rates	Adjusted rates to better match experience
Salary Scale	No change

SPORS Employees

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update to a more current mortality table – RP-2014 projected to 2020 and reduced margin for future improvement in accordance with experience
Retirement Rates	Increased age 50 rates and lowered rates at older ages
Withdrawal Rates	Adjusted rates to better fit experience
Disability Rates	Adjusted rates to better match experience
Salary Scale	No change
Line of Duty Disability	Increased rate from 60% to 85%

VaLORS Employees

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update to a more current mortality table – RP-2014 projected to 2020 and reduced margin for future improvement in accordance with experience
Retirement Rates	Increased age 50 rates and lowered rates at older ages
Withdrawal Rates	Adjusted rates to better fit experience at each year age and service through 9 years of service
Disability Rates	Adjusted rates to better match experience
Salary Scale	No change
Line of Duty Disability	Decreased rate from 50% to 35%

JRS Employees

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update to a more current mortality table – RP-2014 projected to 2020
Retirement Rates	Decreased rates at first retirement eligibility
Withdrawal Rates	No change
Disability Rates	Removed disability rates
Salary Scale	No change

Largest Ten Locality Employers – General Employees

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update to a more current mortality table – RP-2014 projected to 2020
Retirement Rates	Lowered retirement rates at older ages and extended final retirement age from 70 to 75
Withdrawal Rates	Adjusted termination rates to better fit experience at each age and service year
Disability Rates	Lowered disability rates
Salary Scale	No change
Line of Duty Disability	Increased rate from 14% to 20%

Non-Largest Ten Locality Employers – General Employees

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update to a more current mortality table – RP-2014 projected to 2020
Retirement Rates	Lowered retirement rates at older ages and extended final retirement age from 70 to 75
Withdrawal Rates	Adjusted termination rates to better fit experience at each age and service year
Disability Rates	Lowered disability rates
Salary Scale	No change
Line of Duty Disability	Increased rate from 14% to 15%

Largest Ten Locality Employers – Hazardous Duty Employees

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update to a more current mortality table – RP-2014 projected to 2020
Retirement Rates	Lowered retirement rates at older ages
Withdrawal Rates	Adjusted termination rates to better fit experience at each age and service year
Disability Rates	Increased disability rates
Salary Scale	No change
Line of Duty Disability	Increased rate from 60% to 70%

Non-Largest Ten Locality Employers – Hazardous Duty Employees

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update to a more current mortality table – RP-2014 projected to 2020
Retirement Rates	Increased age 50 rates and lowered rates at older ages
Withdrawal Rates	Adjusted termination rates to better fit experience at each age and service year
Disability Rates	Adjusted rates to better match experience
Salary Scale	No change
Line of Duty Disability	Decreased rate from 60% to 45%

Roanoke River Service Authority

Schedule of Employer's Share of Net OPEB Liability Virginia Local Disability Program - VLDP For the Measurement Dates of June 30, 2018 and 2017

	<u>2018</u>	<u>2017</u>
Employer's Proportion of the Net VLDP OPEB Liability (Asset)	0.00000%	0.00000%
Employer's Proportionate Share of the Net VLDP OPEB Liability (Asset)	-	-
Employer's Covered Payroll	32,000	-
Employer's Proportionate Share of the Net VLDP OPEB Liability (Asset) as a Percentage of its Covered Payroll	0.00%	0.00%
Plan Fiduciary Net Position as a Percentage of the Total VLDP OPEB Liability	51.22%	38.40%

*Schedule is intended to show information for 10 years.
Since 2018 is the second year of presentation, only two years of data is available. However, additional years will be included as they become available.*

For Reference Only

The Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability for the Virginia Local Disability (VLDP) for each year is presented on page 122 of the VRS 2018 Comprehensive Annual Financial Report (CAFR).

Roanoke River Service Authority

Schedule of Employer Contributions for VRS OPEB VLDP

For the Years Ended June 30, 2010 through 2019

Date	Contractually Required Contribution (1)	Contributions in Relation to Contractually Required Contribution (2)	Contribution Deficiency (Excess) (3)	Employer's Covered Payroll (4)	Contributions as a % of Covered Payroll (5)
2019	\$ 306	\$ 306	\$ -	\$ 42,500	0.72%
2018	187	187	-	32,000	0.60%
2017	N/A	N/A	N/A	N/A	N/A
2016	N/A	N/A	N/A	N/A	N/A
2015	N/A	N/A	N/A	N/A	N/A
2014	N/A	N/A	N/A	N/A	N/A
2013	N/A	N/A	N/A	N/A	N/A
2012	N/A	N/A	N/A	N/A	N/A
2011	N/A	N/A	N/A	N/A	N/A
2010	N/A	N/A	N/A	N/A	N/A

For Reference Only

Column 1 – Employer contribution rate multiplied by the employer's covered payroll.

Column 2 – Actual employer contribution remitted to VRS.

Column 4 – Employer's covered payroll amount for the fiscal year.

Roanoke River Service Authority

Notes to Required Supplementary Information OPEB VLDP

For the Year Ended June 30, 2019

Changes of benefit terms – There have been no actuarially material changes to the System benefit provisions since the prior actuarial valuation.

Changes of assumptions – The following changes in actuarial assumptions were made effective June 30, 2016 based on the most recent experience study of the System for the four-year period ending June 30, 2016:

Largest Ten Locality Employers - General and Non-Hazardous Duty Employees

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table – RP-2014 projected to 2020
Retirement Rates	Lowered retirement rates at older ages and extended final retirement age from 70 to 75
Withdrawal Rates	Adjusted termination rates to better fit experience at each year age and service year
Disability Rates	Lowered disability rates
Salary Scale	No change
Line of Duty Disability	Increased rate from 14% to 20%

Non-Largest Ten Locality Employers - General and Non-Hazardous Duty Employees

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Updated to a more current mortality table – RP-2014 projected to 2020
Retirement Rates	Lowered retirement rates at older ages and extended final retirement age from 70 to 75.
Withdrawal Rates	Adjusted termination rates to better fit experience at each year age and service
Disability Rates	Lowered disability rates
Salary Scale	No change
Line of Duty Disability	Increased rate from 14 to 15%

OTHER INFORMATION

Table 1

Roanoke River Service Authority

Revenue Bond Debt Service Coverage

Last Ten Fiscal Years

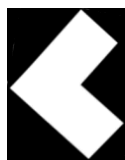
Fiscal Years Ended June 30	Gross Revenues*	Direct Operating Expenses**	Net Available	Principal***	Interest	Total Debt	Coverage
2019	\$ 1,996,114	\$ 1,424,937	571,177	\$ 286,360	\$ 274,605	560,965	1.02
2018	1,968,774	1,380,999	587,775	275,308	285,910	561,218	1.05
2017	1,872,265	1,335,409	536,856	266,731	297,273	564,004	0.95
2016	1,866,890	1,272,073	594,817	225,247	292,034	517,281	1.15
2015	1,800,108	1,208,299	591,809	216,033	298,208	514,241	1.15
2014	1,690,973	1,219,789	471,184	231,370	310,372	541,742	0.87
2013	1,598,023	1,217,473	380,550	240,758	321,507	562,265	0.68
2012	1,419,519	1,134,613	284,906	231,708	330,573	562,281	0.51
2011	1,438,539	1,130,723	307,816	214,105	348,235	562,340	0.55
2010	1,443,625	1,063,559	380,066	214,785	347,495	562,280	0.68

*Operating revenues and interest income.

**Excluding depreciation, interest, and amortization.

***Excludes debt refinancing payoffs.

COMPLIANCE



**Creedle
Jones
& Associates**

A Professional Corporation

Robin B. Jones, CPA, CFP
Denise C. Williams, CPA, CSEP
Kimberly W. Jackson, CPA

Nadine L. Chase, CPA
Zachary T. Wolfe, CPA

Sherwood H. Creedle, Emeritus

Members of
American Institute of Certified Public Accountants
Virginia Society of Certified Public Accountants

INDEPENDENT AUDITOR'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH GOVERNMENT AUDITING STANDARDS

To the Board of Directors
Roanoke River Service Authority

We have audited, in accordance with the auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States; and *Specifications for Audits of Authorities, Boards, and Commissions*, issued by the Auditor of Public Accounts of the Commonwealth of Virginia, the financial statements of the business-type activities of the Roanoke River Service Authority, as of and for the year ended June 30, 2019, and the related notes to the financial statements, which collectively comprise the Roanoke River Service Authority's basic financial statements, and have issued our report thereon dated September 25, 2019.

Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered the Roanoke River Service Authority's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Roanoke River Service Authority's internal control. Accordingly, we do not express an opinion on the effectiveness of the Roanoke River Service Authority's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

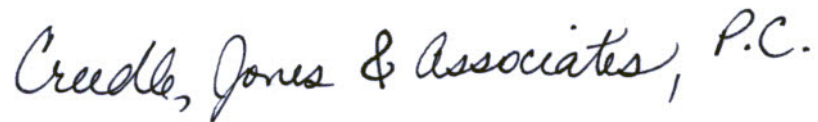
Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit, we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether the Roanoke River Service Authority's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and, accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

A handwritten signature in black ink that reads "Creedle, Jones & Associates, P.C." The signature is written in a cursive, flowing style.

Creedle Jones & Associates, P.C.
Certified Public Accountants

South Hill, Virginia
September 25, 2019