



Virginia  
Retirement  
System

**VIRGINIA RETIREMENT SYSTEM  
DISABILITY INSURANCE PROGRAM  
(Virginia Sickness and Disability Plan)**

**GASB No. 75 Schedules**

**With Independent Auditor's Report Thereon**

**For the Plan Year Ended June 30, 2018**

## Table of Contents

<b>Independent Auditor’s Report.....</b>	<b>3</b>
<b>VRS Disability Insurance Program (VSDP) – Schedule of Employer Allocations .....</b>	<b>6</b>
<b>VRS Disability Insurance Program (VSDP) – Schedule of Net VSDP OPEB Liability (Asset) and Total VSDP OPEB Expense .....</b>	<b>6</b>
<b>VRS Disability Insurance Program (VSDP) – Schedule of Deferred Outflows and Deferred Inflows of Resources by Employer.....</b>	<b>7</b>
<b>VRS Disability Insurance Program (VSDP) – Notes to GASB No. 75 Schedules.....</b>	<b>8</b>



Martha S. Mavredes, CPA  
Auditor of Public Accounts

# Commonwealth of Virginia

*Auditor of Public Accounts*

P.O. Box 1295  
Richmond, Virginia 23218

July 26, 2019

Board of Trustees  
Virginia Retirement System  
1200 E. Main Street  
Richmond, VA 23219

## INDEPENDENT AUDITOR'S REPORT

### Report on the Schedules

We have audited the accompanying schedule of employer allocations of the Virginia Retirement System Disability Insurance Program (VSDP), as of and for the year ended June 30, 2018, and the related notes. We have also audited the total for all state employers of the columns titled net VSDP OPEB liability (asset), total VSDP OPEB expense, total deferred outflows of resources, and total deferred inflows of resources (specified column totals) included in the accompanying schedule of net VSDP OPEB liability (asset) and total VSDP OPEB expense and the schedule of deferred outflows and deferred inflows of resources by employer of the Virginia Retirement System Disability Insurance Program, as of and for the year ended June 30, 2018, and the related notes.

### *Management's Responsibility for the Schedule*

The Virginia Retirement System's management is responsible for the preparation and fair presentation of these schedules 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 the schedules that are free from material misstatement, whether due to fraud or error.

### *Auditor's Responsibility*

Our responsibility is to express opinions on the schedule of employer allocations and the specified column totals included in the schedule of net VSDP OPEB liability (asset) and total VSDP OPEB expense and the schedule of deferred outflows and deferred inflows of resources by employer based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain

[www.apa.virginia.gov](http://www.apa.virginia.gov) | (804) 225-3350 | [reports@apa.virginia.gov](mailto:reports@apa.virginia.gov)

reasonable assurance about whether the schedule of employer allocations and specified column totals included in the schedule of net VSDP OPEB liability (asset) and total VSDP OPEB expense and the schedule of deferred outflows and deferred inflows of resources by employer are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the schedule of employer allocations and the specified column totals included in the schedule of net VSDP OPEB liability (asset) and total VSDP OPEB expense and the schedule of deferred outflows and deferred inflows of resources by employer. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the schedule of employer allocations and the specified column totals included in the schedule of net VSDP OPEB liability (asset) and total VSDP OPEB expense and the schedule of deferred outflows and deferred inflows of resources by employer, 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 schedule of employer allocations and the specified column totals included in the schedule of net VSDP OPEB liability (asset) and total VSDP OPEB expense and the schedule of deferred outflows and deferred inflows of resources by employer 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 the Virginia Retirement System management, as well as evaluating the overall presentation of the schedule of employer allocations and the specified column totals included in the schedule of net VSDP OPEB liability (asset) and total VSDP OPEB expense and the schedule of deferred outflows and deferred inflows of resources by employer.

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 schedules referred to above present fairly, in all material respects, the employer allocations and the net VSDP OPEB liability (asset), total VSDP OPEB expense, total deferred outflows of resources, and total deferred inflows of resources for the total of all participating state employers for the Virginia Retirement System Disability Insurance Program as of and for the year ended June 30, 2018, in accordance with accounting principles generally accepted in the United States of America.

*Other Matter*

We have audited, in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in Government Auditing Standards, issued by the Comptroller General of the United States, the financial statements of the Virginia Retirement System as of and for the year ended June 30, 2018, and our report thereon, dated December 14, 2018, expressed an unmodified opinion on those financial statements.

*Restriction on Use*

Our report is intended solely for the information and use of the Virginia Retirement System management, the Virginia Retirement System Board of Trustees, the Commonwealth Joint Legislative Audit and Review Commission, and the Virginia Retirement System Disability Insurance Program employers and their auditors and is not intended to be and should not be used by anyone other than these specified parties.

AUDITOR OF PUBLIC ACCOUNTS

ZLB/clj

**Virginia Retirement System  
VRS Disability Insurance Program (VSDP)  
Schedule of Employer Allocations  
For the Plan Year Ended and Measurement Date of June 30, 2018**

<b>Employer Code</b>	<b>Employer</b>	<b>Employer Contributions</b>	<b>Employer Allocation Percentage</b>
2XXXX	State Police Officers' Retirement System Employees	\$ 552,757	2.12370%
35885	Fort Monroe Federal Area Development Authority	10,361	0.03981%
3XXXX	All Other State Employees	23,409,734	89.94052%
7XXXX	Virginia Law Officers' Retirement System Employees	2,055,164	7.89597%
	Total for all State Employers	<u>\$ 26,028,016</u>	<u>100.00000%</u>

The accompanying notes are an integral part of the Schedule of Employer Allocations.

**Virginia Retirement System  
VRS Disability Insurance Program (VSDP)  
Schedule of Net VSDP OPEB Liability (Asset) and Total VSDP OPEB Expense  
As of the Measurement Date and For the Plan Year Ended June 30, 2018**

(Dollars in Thousands)

<b>Employer Code</b>	<b>Employer</b>	<b>Net VSDP OPEB Liability (Asset) June 30, 2018</b>	<b>Total VSDP OPEB Expense 2018</b>
2XXXX	State Police Officers' Retirement System Employees	\$ (4,783)	\$ 204
35885	Fort Monroe Federal Area Development Authority	(89)	4
3XXXX	All Other State Employees	(202,573)	10,761
7XXXX	Virginia Law Officers' Retirement System Employees	(17,783)	1,021
	Total for all State Employers	<u>\$ (225,228)</u>	<u>\$ 11,990</u>

The accompanying notes are an integral part of the Schedule of Net VSDP OPEB Liability (Asset) and Total VSDP OPEB Expense.

**Virginia Retirement System**  
**VRS Disability Insurance Program (VSDP)**  
**Schedule of Deferred Outflows and Deferred Inflows of Resources by Employer**  
**As of the Measurement Date of June 30, 2018**

(Dollars in Thousands)

Employer	Deferred Outflows of Resources					Deferred Inflows of Resources				
	Differences Between Expected and Actual Experience	Projected Earnings on OPEB Plan Investments	Change of Assumptions	Changes In Proportionate Share	Total Deferred Outflows of Resources	Differences Between Expected and Actual Experience	Projected Earnings on OPEB Plan Investments	Change of Assumptions	Changes In Proportionate Share	Total Deferred Inflows of Resources
State Police Officers' Retirement System Employees	\$ -	\$ -	\$ -	\$ 28	\$ 28	\$ 204	\$ 282	\$ 282	\$ 318	\$ 1,086
Fort Monroe Federal Area Development Authority	-	-	-	-	-	4	5	5	9	23
All Other State Employees	-	-	-	3,772	3,772	8,595	11,959	11,954	3,759	36,267
Virginia Law Officers' Retirement System Employees	-	-	-	593	593	764	1,046	1,046	307	3,163
<b>Total for all State Employers</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 4,393</b>	<b>\$ 4,393</b>	<b>\$ 9,567</b>	<b>\$ 13,292</b>	<b>\$ 13,287</b>	<b>\$ 4,393</b>	<b>\$ 40,539</b>

The accompanying notes are an integral part of the Schedule of Deferred Outflows and Deferred Inflows of Resources by Employer.

**Virginia Retirement System  
VRS Disability Insurance Program (VSDP)  
Notes to GASB No. 75 Schedules  
For the Plan Year Ended June 30, 2018**

**Note 1. Summary of Significant Accounting Policies**

***Description of the Entity***

The Virginia Retirement System (the System) is an independent agency of the Commonwealth of Virginia. The System administers four separate pension trust funds – the Virginia Retirement System (VRS), the State Police Officers’ Retirement System (SPORS), the Virginia Law Officers’ Retirement System (VaLORS), and the Judicial Retirement System (JRS) as well as several Other Post-Employment Benefit trust funds – the Group Life Insurance Program, the Retiree Health Insurance Credit Program, the Disability Insurance Program for state employees, the Line of Duty Act Program and the Virginia Local Disability Program for participating schools systems and local governments. The Virginia Sickness and Disability Plan (VSDP) is the working name of the Disability Insurance Program for state employees.

***Administration and Management***

The Board of Trustees (the Board) is responsible for the general administration and operation of the pension plans and the other employee benefit plans. The Board has full power to invest and reinvest the trust funds of the System through the adoption of investment policies and guidelines that fulfill the Board’s investment objective to maximize long-term investment returns while targeting an acceptable level of risk.

The Board consists of nine members. Five members are appointed by the Governor and four members are appointed by the Joint Rules Committee of the General Assembly subject to confirmation by the General Assembly. The Board appoints a Director to serve as the Chief Administrative Officer of the System and a Chief Investment Officer to direct, manage, and administer the investment of the System’s funds.

The System issues a Comprehensive Annual Financial Report (CAFR) containing the financial statements and required supplementary information for all of the System’s pension and other employee benefit trust funds. The CAFR is publicly available through the About VRS link on the VRS website at [www.varetire.org](http://www.varetire.org), or a copy may be obtained by submitting a request to the VRS Chief Financial Officer, PO Box 2500, Richmond, VA 23218-2500. The pension and other employee benefit trust funds administered by the System are classified as fiduciary funds and are included in the basic financial statements of the Commonwealth of Virginia.



**Other Post-Employment Benefits (OPEB) – VSDP**

The VSDP is a single employer plan that is presented as a multiple-employer, cost-sharing plan. The VSDP was established pursuant to §51.1-1100 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 VSDP is a managed care program that provides sick, family and personal leave and short-term and long-term disability benefits for State Police Officers, state employees, and VaLORS employees. For purposes of measuring the net VSDP OPEB liability (asset), deferred outflows of resources and deferred inflows of resources related to the VSDP OPEB; and VSDP OPEB expense; information about the fiduciary net position of the VSDP; and the additions to/deductions from the VSDP’s net fiduciary position have been determined on the same basis as they were reported by the System. For this purpose, benefit payments are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value.

**Note 2. General Information about the VSDP OPEB Plan**

**Plan Description**

All full-time and part-time permanent salaried state employees who are covered under the Virginia Retirement System (VRS), the State Police Officers’ Retirement System (SPORS), or the Virginia Law Officers’ Retirement System (VaLORS) hired on or after January 1, 1999 are automatically covered by the VSDP upon employment. The VSDP also covers state employees hired before January 1, 1999 who elected to transfer to VSDP rather than retain their eligibility to be considered for disability retirement. This plan is administered by the System, along with pensions and other OPEB plans, for public employer groups in the Commonwealth of Virginia.

The specific information for the VSDP OPEB, including eligibility, coverage and benefits is set out in the table below:

<b>VSDP PLAN PROVISIONS</b>
<p><b>Eligible Employees</b></p> <p>The VSDP was established January 1, 1999 to provide short-term and long-term disability benefits for non-work-related and work-related disabilities.</p> <p>Eligible employees are enrolled automatically upon employment. They include:</p> <ul style="list-style-type: none"><li>• Full-time and part-time permanent salaried state employees covered under VRS, SPORS and VaLORS (members new to VaLORS following its creation on October 1, 1999, have been enrolled since the inception of VSDP).</li><li>• State employees hired before January 1, 1999, who elected to transfer to the VSDP rather than retain their eligibility to be considered for their pension plan’s disability retirement provisions.</li><li>• Public college and university faculty members who elect the VRS defined benefit plan. They may participate in the VSDP or their institution’s disability program, if offered. If the institution does not offer the program or the faculty member does not make an election, he or she is enrolled in the VSDP.</li></ul>

### **Benefit Amounts**

The VSDP provides the following benefits for eligible employees:

- **Leave** – Sick, family and personal leave. Eligible leave benefits are paid by the employer.
- **Short-Term Disability** – The program provides a short-term disability benefit beginning after a seven-calendar-day waiting period from the first day of disability. The benefit provides income replacement beginning at 100% of the employee's pre-disability income, reducing to 80% and then 60% based on the period of the disability and the length of service of the employee. Short-term disability benefits are paid by the employer.
- **Long-Term Disability (LTD)** – The program provides a long-term disability benefit beginning after 125 workdays of short-term disability and continuing until the employee reaches their normal retirement age. The benefit provides income replacement of 60% of the employee's pre-disability income. If an employee becomes disabled within five years of their normal retirement age, the employee will receive up to five years of VSDP benefits, provided he or she remains medically eligible. Long-term disability benefits are paid for by the VSDP OPEB Plan.
- **Income Replacement Adjustment** – The program provides for an income replacement adjustment to 80% for catastrophic conditions.
- **VSDP Long-Term Care Plan** – The program also includes a self-funded long-term care plan that assists with the cost of covered long-term care services.

### **VSDP Plan Notes:**

- Employees hired or rehired on or after July 1, 2009, must satisfy eligibility periods before becoming eligible for non-work-related short-term disability benefits and certain income-replacement levels.
- A state employee who is approved for VSDP benefits on or after the date that is five years prior to their normal retirement date is eligible for up to five years of VSDP benefits.
- Employees on work-related short-term disability receiving only a workers' compensation payment may be eligible to purchase service credit for this period if retirement contributions are not being withheld from the workers' compensation payment. The rate will be based on 5.00% of the employee's compensation.

### **Cost-of-Living Adjustment (COLA)**

- During periods an employee receives long-term disability benefits, the LTD benefit payment may be increased annually by an amount recommended by the actuary and approved by the Board.
  - Plan 1 employees vested as of 1/1/2013 – 100% of the VRS Plan 1 COLA (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%).
  - Plan 1 employees non-vested as of 1/1/2013, Plan 2 and Hybrid Plan employees – 100% of the VRS Plan 2 and Hybrid COLA (The first 2% increase in the Consumer Price

Index for all Urban Consumers (CPI-U) and half of any additional increase (up to 2%) up to a maximum COLA of 3%).

- For participating full-time employees taking service retirement, the creditable compensation may be increased annually by an amount recommended by the actuary and approved by the Board, from the date of the commencement of the disability to the date of retirement.
  - 100% of the increase in the pay over the previous plan year for continuing active VSDP members in the State, SPORS and VaLORS plans, with as maximum COLA of 4.00%.
- For participating full-time employees receiving supplemental (work-related) disability benefits, the creditable compensation may be increased annually by an amount recommended by the actuary and approved by the Board, from the date of the commencement of the disability to the date of retirement.
  - 100% of the increase in the pay over the previous plan year for continuing active VSDP members in the State, SPORS and VaLORS plans, with as maximum COLA of 4.00%.

### **Contributions**

The contribution requirements for the VSDP are governed by §51.1-1140 of the *Code of Virginia*, as amended, but may be impacted as a result of funding provided to state agencies by the Virginia General Assembly. Each employer’s contractually required employer contribution rate for the VSDP for the year ended June 30, 2018 was 0.66% of covered employee compensation. This rate was based on an actuarially determined rate from an actuarial valuation as of June 30, 2015. The actuarially determined rate was expected to finance the costs of benefits payable during the year, with an actuarial adjustment to amortize the accrued asset.

### **Actuarial Assumptions and Methods**

The total VSDP 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
SPORS employees	3.5 percent – 4.75 percent
VaLORS employees	3.5 percent – 4.75 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 System’s 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)	Updated 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	Adjusted rates to better match experience
Salary Scale	No change
Line of Duty Disability	Increased rate from 14% to 25%

**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)	Updated 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)	Updated 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%

**Note 3. Net VSDP OPEB Liability (Asset)**

The net VSDP OPEB asset (NOA) represents the total VSDP OPEB liability determined in accordance with GASB Statement No. 74, less its fiduciary net position. As of the measurement date of June 30, 2018, NOA amounts for the VSDP OPEB liability (asset) are as follows (amounts expressed in thousands):

Total VSDP OPEB Liability	\$ 237,733
Plan Fiduciary Net Position	<u>462,961</u>
VSDP Net OPEB Liability (Asset)	<u>\$ (225,228)</u>
Plan Fiduciary Net Position as a Percentage of the Total VSDP OPEB Liability	194.74%

The total VSDP 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 VSDP OPEB asset 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.

***Discount Rate***

The discount rate used to measure the total VSDP OPEB liability 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 System’s funding policy and 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 state agency for the VSDP OPEB Plan 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 rate. From July 1, 2018 on, state agencies are assumed to continue to contribute 100% of the actuarially determined contribution rates. Based on those assumptions, the VSDP 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 VSDP OPEB liability.

***Long-Term Expected Rate of Return***

The long-term expected rate of return on the System’s 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 the 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:

<b>Asset Class (Strategy)</b>	<b>Target Allocation</b>	<b>Arithmetic Long-Term Expected Rate of Return</b>	<b>Weighted Average Long-Term Expected Rate of Return</b>
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	15.00%	9.53%	1.43%
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%.

### ***Sensitivity Analysis***

The following table presents the collective net VSDP OPEB liability (asset) of the participating employers in the VSDP OPEB Plan using the discount rate of 7.00%, as well as what the collective net VSDP OPEB liability (asset) of the participating employers 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 (amounts expressed in thousands):

Net VSDP OPEB Liability (Asset) - 1.00% Decrease (6.00%)	\$ (217,112)
Net VSDP OPEB Liability (Asset) - Current Discount Rate (7.00%)	\$ (225,228)
Net VSDP OPEB Liability (Asset) - 1.00% Increase (8.00%)	\$ (232,173)

### **Note 4. Deferred Outflows / (Inflows) of Resources**

The following schedule reflects the amortization of the net balance of remaining deferred outflows / (inflows) of resources at June 30, 2018. The average remaining service lives of all employees provided with benefits through the VSDP OPEB Plan at June 30, 2018 was 6.73 years. Deferred outflows of

resources related to the VSDP resulting from state agency contributions subsequent to the measurement date will be recognized as an increase of the Net VSDP OPEB Asset in the financial statements for the year ended June 30, 2020. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to the VSDP will be recognized in the VSDP expense as follows (amounts expressed in thousands):

Measurement Period Ending June 30, 2019	\$ (8,111)
Measurement Period Ending June 30, 2020	\$ (8,111)
Measurement Period Ending June 30, 2021	\$ (8,111)
Measurement Period Ending June 30, 2022	\$ (4,086)
Measurement Period Ending June 30, 2023	\$ (3,782)
Thereafter	\$ (3,944)

**Note 5. Employer Contributions**

Employers’ proportionate shares were calculated on the basis of historical employer contributions. Although GASB Statement No. 75 encourages the use of the employer’s projected long-term contribution effort to the Other Post-Employment Benefit plan, allocating on the basis of historical employer contributions is considered acceptable. Employer contributions recognized by the VSDP OPEB Plan that are not representative of future contribution effort are excluded in the determination of employers’ proportionate shares. Examples of employer contributions not representative of future contribution effort are contributions for adjustments for prior periods.

The employer contributions used in the determination of employers’ proportionate shares of collective OPEB amounts reported in the Schedule of Employer Allocations was based on the total employer contributions using the plan’s contribution rates and the employer’s covered payroll for FY 2018. This total was \$26,028,016. The employer contributions of \$27,260,000 reported in the VSDP OPEB’s Statement of Changes in Net Position (per the System’s separately issued financial statements) reflects the calculated amount plus approximately \$1,231,984 in other employer contributions and adjustments that were not representative of future contribution efforts.

**Note 6. Additional Financial and Actuarial Information**

Information contained in the VSDP OPEB’s Notes to the Schedule of Employer Allocations and Schedule of the VSDP OPEB’s Amounts by Employer (Schedules) was extracted from the audited financial statements of the System for the fiscal year ended June 30, 2018. Additional financial information supporting the preparation of the VSDP Schedules (including the financial statements and the unmodified audit opinion thereon, and required supplementary information) is presented in the separately issued VRS 2018 Comprehensive Annual Financial Report (CAFR). A copy of the 2018 VRS CAFR is publicly available through the About VRS link on the System’s website at [www.varetire.org](http://www.varetire.org), or a copy may be obtained by submitting a request to the VRS Chief Financial Officer, PO Box 2500, Richmond, VA 23218-2500.