Virginia Polytechnic Institute and State University

2018
ANNUAL FINANCIAL REPORT

Contents

Financial Highlights

For the years ended June 30, 2014 - 2018 (*all dollars in millions; square feet in thousands*)

	2013-14	2014-15	2015-16	2016-17	2017-18
Revenues, expenses, and changes in net position					
Operating revenues	$ 937.5	$ 965.0	$ 1,020.6	$ 1,031.5	$ 1,099.9
Operating expenses	1,227.2	1,259.5	1,315.4	1,364.7	1,423.4
Operating loss (1)	(289.7)	(294.5)	(294.8)	(333.2)	(323.5)
Non-operating revenues and expenses (1)	318.4	316.0	318.0	355.2	363.5
Other revenues, expenses, gains or losses	74.3	51.8	98.4	42.0	51.8
Net increase in net position	$ 103.0	$ 73.3	$ 121.6	$ 64.0	$ 91.8
University net position					
Net investment in capital assets	$ 1,056.9	$ 1,112.1	$ 1,163.8	$ 1,201.3	$ 1,273.2
Restricted	$ 164.9	$ 178.9	$ 209.8	$ 224.5	$ 212.5
Unrestricted (3)	$ 314.3	$ (74.3)	$ (35.3)	$ (23.5)	$ (226.4)
Assets and facilities					
Total university assets	$ 2,284.1	$ 2,369.2	$ 2,503.3	$ 2,528.4	$ 2,632.9
Capital assets, net of accumulated depreciation	$ 1,559.3	$ 1,625.1	$ 1,666.9	$ 1,680.5	$ 1,731.9
Facilities—owned gross square feet	11,139	11,209	11,394	11,374	11,669
Facilities—leased square feet	1,805	1,913	1,922	1,993	2,067
Sponsored programs					
Number of awards received	2,443	2,189	2,291	2,423	2,533
Value of awards received	$ 303.6	$ 296.6	$ 278.1	$ 304.3	$ 336.8
Research expenditures reported to NSF (2)	$ 513.1	$ 504.3	$ 521.8	522.4	N/A
Virginia Tech Foundation					
Gifts and bequests received	$ 81.1	$ 98.5	$ 93.2	$ 145.1	$ 130.4
Expended in support of the university	$ 155.9	$ 166.5	$ 184.9	$ 164.6	$ 179.6
Total assets and managed funds	$ 1,488.7	$ 1,508.0	$ 1,510.6	$ 1,726.4	$ 1,891.0
Endowments (at market value)					
Owned by Virginia Tech Foundation (VTF)	$ 692.0	$ 713.7	$ 705.6	$ 795.7	$ 849.9
Owned by Virginia Tech	96.8	96.5	130.2	191.9	287.0
Managed by VTF under agency agreements	8.0	7.9	7.5	8.6	9.5
Total endowments supporting the university	$ 796.8	$ 818.1	$ 843.3	$ 996.2	$ 1,146.1
Student financial aid					
Number of students receiving selected types of financial aid					
Loans	12,279	12,253	12,282	12,430	12,947
Grants, scholarships and waivers (4)	18,305	18,242	18,409	18,746	19,467
Employment opportunities	10,329	10,437	10,934	11,201	11,193
Total amounts by major category					
Loans	$ 155.5	$ 161.5	$ 165.9	$ 171.4	$ 181.3
Grants, scholarships and waivers (4)	177.4	182.0	194.8	203.6	215.6
Employment opportunities	80.3	81.3	85.5	87.2	89.5
Total financial aid	$ 413.2	$ 424.8	$ 446.2	$ 462.2	$ 486.4

(1) The university will always be expected to show an operating loss since significant recurring revenues are shown as non-operating. Major revenue sources reported as non-operating include state appropriations, gifts, and investment income. These revenue sources are used for general operations in support of the learning, discovery, and engagement missions of the university.
(2) Total research expenditures reported to the National Science Foundation for the current year were not available at publication date.
(3) Unrestricted Net Position is negative due to the implementation of GASB Statement 68 in 2014-15 and GASB Statement 75 in 2017-18.
(4) Periods prior to 2014-15 have been restated to remove prepaid awards from the scholarships total.

The North End Center has 141,000 square feet of mixed-use office and retail space, with an adjacent 800-space parking garage which also serves Moss Arts Center patrons. Several university administrative departments are located within the center including: capital assets and financial management; audit, risk, and compliance; procurement; controller's office; sponsored programs; research compliance; export and secure compliance; human resources; and the office of the dean of the College of Science.

University Highlights

For the years ended June 30, 2012 - 2018

Student admissions	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Total applications (including transfers)							
Undergraduate	23,736	23,101	21,738	23,504	25,095	27,890	29,848
Graduate	9,465	9,544	9,622	9,474	8,916	8,635	8,290
Offers, as a percentage of applications							
Undergraduate	64.8%	69.0%	69.6%	70.2%	70.9%	68.7%	67.7%
Graduate	33.3%	31.2%	31.1%	29.4%	33.1%	31.8%	34.9%
New enrollment, as a percentage of offers							
Undergraduate	40.1%	40.7%	42.0%	39.1%	41.0%	36.2%	38.6%
Graduate	61.1%	62.5%	60.9%	60.3%	67.3%	68.9%	61.0%
Student enrollment							
Enrollment by classification							
Undergraduate	23,700	23,859	24,034	24,247	25,384	25,791	27,193
Graduate and first professional	7,236	7,228	7,171	6,977	7,279	7,379	7,247
Enrollment by campus							
Blacksburg campus	28,650	28,836	29,071	29,173	30,598	31,090	32,304
Northern Virginia Center	1,040	1,018	925	884	861	842	799
Other off-campus locations	1,246	1,233	1,209	1,167	1,204	1,238	1,337
Enrollment by residence							
Virginia	21,371	21,478	21,319	21,145	21,583	22,093	22,715
Other states	7,198	6,975	7,038	7,066	7,521	7,370	7,875
Other countries	2,367	2,634	2,848	3,013	3,559	3,707	3,850
Degrees conferred							
Undergraduate	5,825	5,604	5,722	5,890	5,940	5,952	6,111
Graduate and first professional	2,163	2,041	2,163	2,021	1,973	2,149	2,120
Faculty and staff							
Full-time instructional faculty	1,368	1,422	1,427	1,443	1,479	1,520	1,554
Other faculty and research associates	1,954	2,083	2,263	2,418	2,505	2,554	2,711
Part-time/temporary faculty	264	249	238	218	236	220	230
Support staff	3,449	3,509	3,519	3,467	3,425	3,404	3,390
Total faculty and support staff	7,035	7,263	7,447	7,546	7,645	7,698	7,885
Percent of instructional faculty tenured	61.7%	61.1%	62.0%	60.9%	59.8%	57.4%	55.2%

Message from the Vice President for Finance and Chief Financial Officer

M. Dwight Shelton Jr.

The story of Virginia Tech throughout fiscal year 2018 is one marked by exciting innovation, significant growth, groundbreaking research, increasing educational excellence, and the pursuit of new academic initiatives.

The demand for a Virginia Tech education is at its highest level ever with the university receiving a record-breaking 32,000 undergraduate applications for the fall 2018 semester. With more than 34,000 undergraduate and graduate students, the university is delivering a best-in-class education for the next generation of leaders. The university is committed to providing a Virginia Tech education to additional Virginia students; as a result, the number of Virginia undergraduates has increased from 17,603 in the fall of 2014 to 19,714 enrolled in the fall of 2018. With the demand for a Virginia Tech education growing every year, the university continues to examine the opportunities to expand in terms of size and quality of academic programs to a level more comparable to the leading land-grant universities in the United States. In the midst of this growth pattern, Virginia Tech is recording its highest rankings in multiple U.S. ranking systems.

With research expenditures totaling $522 million for the year ended June 30, 2017, Virginia Tech is ranked 46th among U.S. research universities according to the current annual National Science Foundation annual research expenditures report. Those research activities place Virginia Tech among the top seven percent of universities in the nation for research expenditures. Virginia Tech's research activities reflect the pursuit of new discoveries across a wide array of disciplines.

Closely related to the growth in research expenditures, the university continues to grow as a significant economic driver for the region. The size and scope of its operations propel the university's economic impact; for example, Virginia Tech has more than 13,000 employees serving localities across the state. Its research activities and institutes provide a platform to attract and partner with private industry across the commonwealth, and the university's research programs funded by private industry are growing rapidly. In addition, the university is an active partner in the GO Virginia initiative in our region of the commonwealth, partnering with local and regional entities to advance research that positively impacts the economy.

Virginia Tech's influence and impact continues to grow as the university actively engages with stakeholders to develop the next strategic plan. Fiscal year 2018 included numerous achievements that support Virginia Tech's strategic vision to move beyond traditional academic and disciplinary boundaries.

One notable achievement is the continued growth of Virginia Tech's partnership with Carilion Clinic to provide a high-quality medical education to its students and to increase its pursuit of new biomedical research discoveries. One key element of these evolving programs was the integration of the Virginia Tech Carilion School of Medicine into the university to become the university's ninth college effective July 1, 2018 — the culmination of years of planning and effort from stakeholder groups. The School of Medicine is a reflection of the success of the growing partnership between the university and Carilion Clinic. The university is strongly committed to this partnership as it creates new opportunities for both Virginia Tech and Carilion Clinic. The two partners envision continued development of the Health Science and Technology Campus in the Roanoke Innovation Corridor, with both entities engaged in the pursuit of partnership goals that include enhancing the region's economic development opportunities.

A second major achievement involves the rapidly-growing area of cybersecurity education and research. The university continued to expand its presence and impact in northern Virginia. During 2018, the commonwealth asked the university to assume a leadership role in the $25 million Commonwealth Cyber Initiative, a project authorized by the General Assembly to build an ecosystem of cyber-related research, education, and engagement to position Virginia as a world leader in cybersecurity.

A third major initiative that began in 2017-18 was the university's participation in and assistance to the commonwealth in developing a Tech Talent Pipeline Initiative as a part of the state's successful pursuit of Amazon's location for the HQ2. The university is poised to play a major role in the implementation of the commonwealth's commitments regarding the growth of talent, through both undergraduate and graduate degrees, in key technology areas such as computer science.

Thoughtful, data-informed, and effective financial planning has created a strong financial position for welcoming Virginia Tech's sesquicentennial class of 2022. The incoming freshman class includes more than 2,000 students (34 percent) from underrepresented or underserved populations, a five percent increase from the previous academic year. This year's diverse freshman class represents an important step in realizing the university's 2022 goal to enroll a student body that includes at least 40 percent of its students from underrepresented and underserved groups, including first-generation students and those from lower-income households. Fulfilling this commitment will require enhanced resource generation and strategic actions to respond to the changing landscape of the higher education funding model. An example of the diversity of resources to support this commitment is the $5 million gift received by the university to establish the May Family Foundation Pathway for 1st-Generation Students, which will allow the university to recruit 60 promising first-generation students from across Virginia who demonstrate outstanding academic promise and have an interest in engineering.

Another significant achievement that will enhance the educational programs and opportunities for our students was the launch of the Calhoun Honors Discovery Program, a collaborative learning opportunity that will benefit 200 Honors College students annually and better equip graduates with knowledge and skills to succeed in today's complex, dynamic society. This program was made possible through a significant gift to this program.

As a land-grant institution, access and affordability remain a vital commitment of the university. Virginia Tech continues to expand resident undergraduate enrollment, coupled with a renewed focus on providing financial aid to students from low- and middle-income families. For the third year in a row, the university held tuition increases to 2.9 percent, the lowest levels of tuition increases in this century. The total cost of education (including room and board) for a Virginia resident undergraduate at Virginia Tech for 2017-18 was $21,920, placing the university 16th among a state-established peer group of 24 national public institutions. The university continues to assess the lowest non-instructional mandatory charge of any public four-year institution in Virginia, directing 85 percent of a resident undergraduate's mandatory charges towards the instructional mission.

Virginia Tech's commitment to increasing financial aid for students with need is evidenced by providing institutional funds totaling $54.7 million in student financial aid to 10,961 undergraduate students — an average of $4,991 per student for the academic year. The university's undergraduate financial aid program, Funds for the Future, assists returning students with financial need by offsetting all or a portion of increases in tuition and fees based on the level of family income. This program provided grant assistance to 4,085 students in 2018. The university continues to explore enhancements to this program to provide predictable pricing for families and mitigate the impact of tuition increases.

In fiscal year 2018, Virginia Tech received $263.1 million in General Fund appropriations for its academic division, cooperative extension and agricultural experiment station division, student financial assistance, research, and Corps of Cadets programs. While the state provided an additional $2.4 million for access and affordability in 2017-18, it also levied a five percent budget reduction on the university's instructional division. The university worked with the state to shield the land grant division from this budget reduction. Continued enrollment demand allowed for the strategic growth of the undergraduate population, helping to mitigate the impact of the reduction on academic programs. Thoughtful planning, enhanced resource generation including private philanthropy, and strategic cost containment further contributed to the university's ability to make new academic investments in a period of flat state support. However, the combination of these actions and the incorporation of state support for employee compensation and fringe benefit rate increases resulted in a slight overall increase in state funding of $1.5 million over 2016-17.

Significantly increasing private fundraising represents a strategic goal for the university as it strives to continue to invest in and grow the quality of its academic programs. This goal responds to the reality of periodic reductions of state support over time as the commonwealth is compelled to address other pressing state priorities. As a result, philanthropic giving continued to increase at Virginia Tech in fiscal year 2018. Virginia Tech's first-ever Giving Day resulted in more than 5,000 gifts totaling $1.6 million. Fiscal year 2018 was the second consecutive year in which donations to Virginia Tech surpassed $150 million. The value of the Virginia Tech Foundation's endowed assets grew to $1.15 billion as of June 30, 2018, an increase of more than $150 million from the previous year. As measured against the Cambridge Associates' peer group universe over the previous five-year period, the endowment's return of 8.7 percent outperformed the benchmark and ranked in the top 14th percentile. Continued strong philanthropy, coupled with the university's growing endowment, will provide flexible financial support for university initiatives and expand financial aid resources to students.

Over the past decade, Virginia Tech has made significant investments in its academic and physical environments to better attract talented and motivated students and faculty. Increasing campus sustainability and reducing energy consumption have been significant drivers in these investments. The university has launched a number of initiatives in support of its five-year Energy Action Plan, and those efforts to date have generated more than $1.9 million in energy savings — with an expected $6 million total upon the plan's full integration.

During fiscal year 2018, the university made significant progress toward implementing its 2018-2024 Capital Outlay Plan. The university initiated 19 projects (53 percent) on the plan, obtained the largest-ever state allocation of funds for campus-wide facility repairs to address deferred maintenance, and actively engaged with state policymakers to position the university's top instruction and research projects for the next major capital bond program.

Fiscal year 2018 continued a multi-decade effort of steady capital improvements, including 31 active projects with a total budget of $679 million and $107 million in expenditures. Major construction improvements underway during the year include full renovations to three instruction buildings, completion of a high-performance data center, a new baseball stadium, softball facilities, and major improvements to indoor track and field facilities, renovation of a 350-bed residence hall, a new power substation, and installation of fire alarm systems in multiple campus buildings. The university's portfolio includes 15 major capital projects in the design phase, and Virginia Tech anticipates those projects entering the construction phase during fiscal years 2019 and 2020. These projects include major renovations of key assets and new construction that support the continuity and growth of the instruction, research, extension, and auxiliary enterprise programs.

The university's capital program receives support from strategic state investments for academic buildings, self-generated revenues from auxiliary enterprises, private support, judicious use of fees, and careful management of debt resources. The university reported a debt ratio of 3.97 percent for fiscal year 2018 with a long-term debt liability of $484 million. The university's forward-looking capital outlay planning and debt allocation planning processes ensure capacity will be available for high priority projects in the future while complying with the university's performance measures of managing the debt program within a five percent debt ratio and maintaining a credit rating of AA- or better. The university currently has credit ratings of Aa1 from Moody's and AA from Standard and Poor's.

As we look to the year ahead, Virginia Tech is poised for continued growth and service to the commonwealth, our students, and the citizens of the commonwealth. The university will complete and begin implementation on a new strategic plan that will include refreshed vision and mission statements and robust metrics to measure the university's progress towards its strategic plan. Our investments into a strategic enrollment planning system, including changes to the admissions application review process, will help us continue to diversify our student population. Virginia Tech will bolster its presence, impact, and programs in the Roanoke and Northern Virginia regions as strategic actions for the future. The university's healthy financial outlook provides a strong foundation on which to pursue these goals. Undoubtedly, Virginia Tech is well-positioned to become a global land-grant research institution that discovers and disseminates new knowledge in teaching and learning, research and discovery, and outreach and engagement.

M. Dwight Shelton Jr.

Management's Responsibility for Financial Reporting and Internal Controls

The information in this *Annual Financial Report*, including the accompanying basic financial statements, notes, management's discussion and analysis, and other information is the responsibility of Virginia Tech executive management. Responsibility for the accuracy of the financial information and fairness of its presentation, including all disclosures, rests with the management of the university. Management believes the information is accurate in all material respects and fairly presents the university's revenues, expenses, and changes in net position as well as its overall financial condition. This report was prepared in accordance with generally accepted accounting principles for public colleges and universities in the United States of America as prescribed by the Governmental Accounting Standards Board. Management is responsible for the objectivity and integrity of all representations herein. The *Annual Financial Report* includes all disclosures necessary for the reader of this report to gain a broad understanding of the university's operations for the year ended June 30, 2018.

The administration is responsible for establishing and maintaining the university's system of internal controls. Key elements of the university's system of internal controls include: careful selection and training of administrative personnel; organizational structure that provides appropriate division of duties; thorough and continuous monitoring, control, and reporting of operating budgets versus actual operating results; well communicated written policies and procedures; annual self-assessments led by the Office of the University Controller; a growing management services segment; and an extensive internal audit function. Although there are inherent limitations to the effectiveness of any system of accounting controls, management believes that the university's system provides reasonable, but not absolute, assurances that assets are safeguarded from unauthorized use or disposition, and accounting records are sufficiently reliable to permit preparation of financial statements and appropriate accountability for assets and liabilities.

The Finance and Resource Management Committee and the Compliance, Audit, and Risk Committee of the Virginia Tech Board of Visitors review and monitor the university's financial reporting and accounting practices. These committees meet with external independent auditors annually to review the *Annual Financial Report* and results of audit examinations. The committees also meet with internal auditors and university financial officers at least quarterly. These meetings include a review of the scope, quality, and results of the internal audit program, and a review of issues related to internal controls and quality of financial reporting.

The Auditor of Public Accounts (APA), the office of the Commonwealth of Virginia's auditors, has examined these annual financial statements and the report thereon appears on the facing page. The APA examination includes a study and evaluation of the university's system of internal controls, financial systems, policies, and procedures, resulting in the issuance of a management letter describing various issues considered worthy of management's attention. The university has implemented policies and procedures for the adequate and timely resolution of such issues. No material weaknesses on internal control matters were found by the APA for the fiscal year ended June 30, 2018.

M. Dwight Shelton Jr.
Vice President for Finance and Chief Financial Officer

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY
An equal opportunity, affirmative action institution

Martha S. Mavredes, CPA
Auditor of Public Accounts

P.O. Box 1295
Richmond, Virginia 23218

November 28, 2018

The Honorable Ralph S. Northam, Governor of Virginia

The Honorable Thomas K. Norment, Jr., Chairman, Joint Legislative Audit and Review Commission

Board of Visitors, Virginia Polytechnic Institute and State University

INDEPENDENT AUDITOR'S REPORT

Report on Financial Statements

We have audited the accompanying financial statements of the business-type activities and aggregate discretely presented component units of Virginia Polytechnic Institute and State University, a component unit of the Commonwealth of Virginia, as of and for the year ended June 30, 2018, and the related notes to the financial statements, which collectively comprise the University'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 did not audit the financial statements of the aggregate discretely presented component units of the University, which are discussed in Notes 1 and 26. Those financial statements were audited by other auditors whose reports thereon have been furnished to us, and our opinion, insofar as it relates to theamounts included for the component units of the University, is based on the reports of the other auditors.

We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in Government Auditing Standards, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The financial statements of the component units of the University that were audited by other auditors upon whose reports we are relying were audited in accordance with auditing standards generally accepted in the United States of America, but not in accordance with Government Auditing Standards.

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 financial statement presentation.

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

Opinion

In our opinion, based on our audit and the reports of other auditors, the financial statements referred to above present fairly, in all material respects, the financial position of the business-type activities and aggregate discretely presented component units of Virginia Polytechnic Institute and State University as of June 30, 2018, and the respective changes in financial position and cash flows, where applicable, thereof for the year then ended, in accordance with accounting principles generally accepted in the United States of America.

Emphasis of Matter

Change in Accounting Principle

As discussed in Notes 1 and 20 of the accompanying financial statements, Virginia Polytechnic Institute and State University implemented Governmental Accounting Standards Board Statement No. 75, related to accounting and financial reporting for postemployment benefits other than pensions. Our opinion is not modified with respect to this matter.

Other Matters

Prior-Year Summarized Comparative Information

We have previously audited the University's 2017 financial statements, and we expressed an unmodified audit opinion on the respective financial statements in our report dated November 3, 2017. In our opinion, while the summarized comparative information presented herein as of and for the year ended June 30, 2017, is consistent, in all material respects, with the audited financial statements from which it has been derived, it does not include the necessary adjustments for the 2017 statements to be comparative with the 2018 financial statements as described in Note 1.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the following be presented to supplement the basic financial statements: Management's Discussion and Analysis on pages 7 through 15, the Schedules of Virginia Tech's Share of Net Pension Liability, the Schedules of Virginia Tech's Pension Contributions, the Schedule of Virginia Tech's Share of OPEB Liability (Asset), the Schedule of Virginia Tech's OPEB Contributions, and the Notes to Required Supplementary Information on pages 55 through 58. 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 the 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.

Supplementary and Other Information

Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise the University's basic financial statements. The supplementary information such as the Virginia Tech Foundation, Inc. information, Affiliated Corporations Financial Highlights, and Consolidating Schedules and the other information such as the University Highlights and Financial Highlights are presented for the purpose of additional analysis and are not a required part of the basic financial statements.

The Virginia Tech Foundation, Inc. information, Affiliated Corporations Financial Highlights, and Consolidating Schedules are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the Virginia Tech Foundation, Inc. information, Affiliated Corporations Financial Highlights, and Consolidating Schedules are fairly stated, in all material respects, in relation to the basic financial statement taken as a whole.

The University Highlights and Financial Highlights have not been 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 November 28, 2018 on our consideration of the University'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 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 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 University's internal control over financial reporting and compliance.

Martha S. Mavredes

AUDITOR OF PUBLIC ACCOUNTS

JMR/vks

Virginia Polytechnic Institute and State University, popularly known as Virginia Tech, is a comprehensive, land-grant university located in Blacksburg, Virginia. The university offers 202 graduate, undergraduate, and professional degree programs through its eight academic colleges: Agriculture and Life Sciences, Architecture and Urban Studies, Engineering, Liberal Arts and Human Sciences, Natural Resources and Environment, Pamplin College of Business, Science, and the Virginia-Maryland College of Veterinary Medicine.

Virginia Tech has evolved into a position of increasing national prominence since its founding in 1872, consistently ranking among the nation's top universities for undergraduate and graduate programs. The university's research program was ranked 46th among the top research institutions in the United States by the National Science Foundation in its latest survey measuring annual research expenditures.

The university is an agency of the Commonwealth of Virginia, and therefore included as a component unit in the Commonwealth of Virginia's *Comprehensive Annual Financial Report*. The 14 members of the Virginia Tech Board of Visitors govern university operations. Members of the board are appointed by the Governor of Virginia.

Overview

This unaudited *Management's Discussion and Analysis* (MD&A) is required supplemental information under the Governmental Accounting Standards Board's (GASB) reporting model. It is designed to assist readers in understanding the accompanying financial statements and provide an overall view of the university's financial activities based on currently known facts, decisions, and conditions. This discussion includes an analysis of the university's financial condition and results of operations for the fiscal year ended June 30, 2018. Comparative numbers are included for the fiscal year ended June 30, 2017. Since this presentation includes highly summarized data, it should be read in conjunction with the accompanying basic financial statements, including notes and other supplementary information. The university's management is responsible for all of the financial information presented, including this discussion and analysis.

The university's financial statements have been prepared in accordance with GASB Statement 35, *Basic Financial Statements—and Management's Discussion and Analysis—for Public Colleges and Universities*, as amended by GASB Statements 37, 38, and 63. The three required financial statements are the *Statement of Net Position* (balance sheet), the *Statement of Revenues, Expenses, and Changes in Net Position* (operating statement), and the *Statement of Cash Flows*. These statements are summarized and analyzed in the following sections. Combining schedules included in *Optional Supplementary Information* indicate how major fund groups were aggregated to arrive at the single column totals presented on the *Statement of Net Position* and the *Statement of Revenues, Expenses, and Changes in Net Position*.

Using criteria provided in GASB Statement 39, *Determining Whether Certain Organizations Are Component Units*, and GASB Statement 60, *The Financial Reporting Entity: Omnibus,* amendments of GASB Statement 14, the university's eight affiliated corporations were evaluated on the nature and significance of their relationship to the university. The Virginia Tech Foundation Inc. (VTF or 'the foundation') and Virginia Tech Services Inc. (VTS) were determined to be component units and are presented in a separate column on the university's financial statements. VTF serves the university by generating significant funding from private sources and aggressively managing its assets to provide supplemental funding to the university. VTS operates the university bookstores and provides other services for the use and benefit of students, faculty and staff. The foundation and VTS are not part of this MD&A, but detail regarding their financial activities can be found in Note 26 of the *Notes to Financial Statements*. Transactions between the university and these component units have not been eliminated in this year's financial statements.

The following GASB statements of standards became effective in fiscal year 2018: Statement 75, *Accounting and Financial Reporting for Postemployment Benefits other than Pensions*; Statement 81, *Irrevocable Split-Interest Agreements*; Statement 85, *Omnibus 2017;* and Statement 86, *Certain Debt Extinguishment Issues*. GASB Statement 75 established standards of accounting and financial reporting for defined benefit and defined contribution Other Postemployment Benefits (OPEB) that are provided to the employees of state and local governmental employers. OPEB includes medical, dental, vision, hearing, and other health related benefits as well as death benefits, life insurance, disability and long-term care. The OPEB programs of Virginia Tech are administered by the Virginia Retirement System and the Department of Human Resource Management. Statement 75 requires government employers that offer OPEB benefits to recognize an OPEB liability (unfunded accrued liability) or asset in their statement of net position. Virginia Tech recognized its proportionate share of each of the OPEB liabilities and/ or assets, resulting in an OPEB liability of $226,743,000 and a net restricted OPEB asset of $7,790,000. Additionally, Statement 75 resulted in a net beginning balance reduction in the unrestricted net position of $241,230,000 and an increase in restricted net position of $6,374,000. GASB Statement 75 also established standards for measuring and recognizing liabilities and assets, deferred outflows of resources, deferred inflows of resources, and expenditures related to other postemployment benefits. Similar to pension expense, OPEB expense is now based on the net OPEB liability change between reporting dates, with some sources of change recognized immediately in expense and others amortized over years. Contributions to the OPEB plan from the employer subsequent to the measurement date of the OPEB liability and before the end of the reporting period should be reported as a deferred outflow of resources related to OPEB. In the current year, Virginia Tech recognized deferred outflows of $15,623,000 and deferred inflows of $34,775,000 for Other Postemployment Benefits. Additionally, Statement 75 mandates an extensive footnote disclosure as well as required Supplementary Information. See Note 20 for additional OPEB information. GASB Statements 81, 85, and 86 did not have a significant effect upon the university's financial statements in the current year.

Statement of Net Position

The *Statement of Net Position* (SNP) presents the assets, liabilities and net position of the university as of the end of the fiscal year. The purpose of the statement is to present a snapshot of the university's financial position to readers of the financial statements.

The data presented aids readers in determining the assets available to continue operations of the university. It also allows readers to see what the university owes to vendors, investors and lending institutions. Finally, the SNP provides a picture of the university's net position and the restrictions for expenditure of the components of net position. Sustained increase in net position over time is one indicator of the financial health of the organization.

The university's net position is classified as follows:

Net investment in capital assets — Net investment in capital assets represents the university's total investment in capital assets, net of accumulated depreciation, amortization and outstanding debt obligations related to those capital assets. Debt incurred, but not yet expended for capital assets, is not included as a component of net investment in capital assets.

Restricted component of net position, expendable — The expendable category of the restricted component of net position includes resources the university is legally or contractually obligated to expend, with restrictions imposed by external third parties. This category partially consists of quasi-endowments totaling $54.1 million. The investment of quasi-endowments is managed by VTF.

Restricted component of net position, nonexpendable — The nonexpendable category of the restricted component of net position consists of endowment and similar type funds where donors or other outside sources have stipulated, as a condition of the gift instrument, the principal is to be maintained inviolate and in perpetuity, and invested for the purpose of producing present and future income to be expended or added to principal. The university's nonexpendable endowments of $14.4 million are included in its column on the SNP.

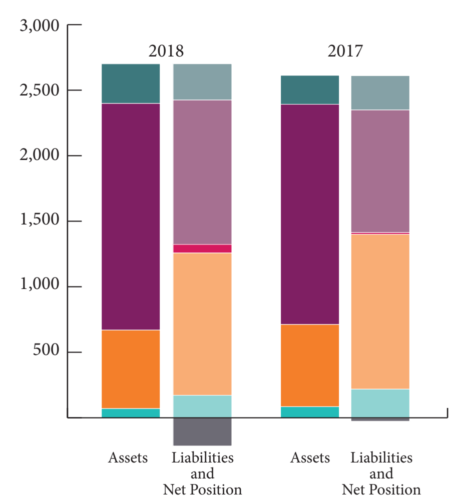
Unrestricted component of net position — The unrestricted component of net position represents resources used for transactions relating to academic departments and general operations of the university, and may be used at the discretion of the university's board of visitors to meet current expenses for any lawful purpose in support of the university's primary missions of instruction, research and outreach. These resources are derived from student tuition and fees, state appropriations, recoveries of facilities and administrative (indirect) costs, and sales and services of auxiliary enterprises and educational departments. The auxiliary enterpris-

Summary Statement of Net Position

Assets, Liabilities and Net Position

For the years ended June 30, 2018 and 2017
(all dollars in millions)

	2018	2017	Change Amount	Change Percent
Current assets	$ 298.1	$ 220.6	$ 77.5	35.1 %
Capital assets, net	1,731.9	1,680.5	51.4	3.1 %
Other assets	602.9	627.3	(24.5)	(3.9)%
Total assets	2,632.9	2,528.4	104.4	4.1 %
Deferred outflow of resources (1)	70.0	84.6	(14.6)	(17.3)%
Current liabilities	279.3	261.6	17.7	6.7 %
Noncurrent liabilities	1,099.1	936.1	163.0	17.4 %
Total liabilities	1,378.4	1,197.7	180.7	15.1 %
Deferred inflow of resources (2)	65.2	13.0	52.2	401.5 %
Invested in capital assets, net	1,273.2	1,201.3	71.9	6.0 %
Restricted	212.5	224.5	(12.0)	(5.4)%
Unrestricted	(226.4)	(23.5)	(202.9)	(863.4)%
Total net position	$ 1,259.3	$ 1,402.3	$ (143.0)	(10.2)%



(1) Deferred outflows of resources are included with assets in the adjacent graph.
(2) Deferred inflows of resources are included with liabilities in the adjacent graph.

es are self-supporting entities that provide services for students, faculty and staff. Examples of the university's auxiliaries are intercollegiate athletics and student residential and dining programs. The unrestricted component of net position absorbed 100% of the beginning balance adjustment for the OPEB liability resulting from the implementation of GASB Statement 75.

Total university assets increased by $104.4 million or 4.1% during fiscal year 2018, bringing the total to $2,632.9 million at year-end. Current assets grew by $77.5 million. The growth is the result of an increase in cash and cash equivalents ($79.4 million) partially due to the close out of the Dana investment account, which typically held long term investments, in order to improve investment returns. The funds were then temporarily invested in shorter term cash equivalents. Additionally, there was an overall increase in the total current cash equivalents due to additional cash flows from tuition and fee revenue and auxiliary enterprise system funds revenue. Noncurrent assets grew by $26.9 million. Capital assets, net, increased by $51.4 million reflecting the ongoing construction of university research and instructional facilities, and the capitalization of completed facilities discussed in detail in the following section, Capital Asset and Debt Administration. Accounts receivable for capital projects increased by $10.7 million largely due to receivable from Carilion for the Virginia Tech Carilion health sciences technology campus project in Roanoke. Other assets increased by $7.8 million due to the implementation of GASB Statement 75 which requires government employers that provide OPEB programs to their employees to recognize the net liability or asset for each program. Virginia Tech recognized a $7.8 million asset for the Virginia Sickness and Disability Program. Offsetting these increases were decreases in noncurrent cash and cash equivalents ($15.2 million) reflecting the spend down of capital project cash and decline in long term investments ($5.5 million) reflecting the close out of the Dana investment account and the drop in the amount due from the Commonwealth of Virginia ($22.1 million) due to the completion of projects funded by the VCBA 21st century bond program.

Total university liabilities increased by $180.7 million or 15.1% during fiscal year 2018. The current liabilities category increased $17.7 million and the noncurrent liabilities category grew by $163.0 million. The increase in current liabilities was largely the result of an increase of $8.7 million in commercial paper used to temporarily fund capital projects, growth in unearned revenue ($5.8 million) as well as the addition of the current portion of the OPEB liability ($2.8 million). The increase in noncurrent liabilities is primarily due to the implementation of GASB Statement 75 which requires government employers that provide OPEB programs to their employees to recognize the net liability or asset for each program. Virginia Tech recognized a total OPEB liability in the amount of $226.8 million ($2.8 million current, $223.9 million noncurrent). The noncurrent OPEB liability was offset by a decrease in the pension liability ($52.4 million), and a decrease in long term debt of $10.9 million, with only minor increases and decreases in the remaining categories.

The increase in total assets along with the increase in total liabilities is reflected in the year-over-year decrease of the university's net position of $143.0 million (10.2%). Net position in the category of net investment in capital assets increased $71.9 million, reflecting the university's continued investment in new facilities and equipment supporting the university's mission as well as the prudent management of the university's fiscal resources. The large decrease in unrestricted net position is misleading because prior year amounts were not restated for the GASB Statement 75 beginning balance adjustment of $241.2 million.

Cadets moved into the university's newest residence hall, New Cadet Hall, in August 2017, adjacent to Pearson Hall and Lane Hall on Upper Quad

Capital Asset and Debt Administration

One of the critical factors in ensuring the quality of the university's academic, research and residential life functions is the development and renewal of its capital assets. The university continues to maintain and upgrade current structures, as well as pursue opportunities for additional facilities. Investment in new structures and the upgrade of current structures serve to enrich high-quality instructional programs, residential lifestyles and research activities.

Note 7 of the *Notes to Financial Statements* describes the university's significant investment in depreciable capital assets with gross additions of $171.5 million during fiscal year 2018. Major projects included the completion of New Cadet Hall and Pearson Hall on the upper quad ($86.4 million), residential door access improvements ($7.1 million), and the Biocomplexity Institute data center expansion in Steger Hall ($5.2 million). Ongoing investments in instructional, research, and computer equipment totaled $41.9 million. Depreciation and amortization expense related to capital assets was $106.1 million with net asset retirements of $1.3 million. The net increase in depreciable capital assets for this period was $64.1 million. The net decrease in nondepreciable capital assets ($12.7 million) was primarily due to fewer construction in progress expenses during the current year for major building projects to be completed after fiscal year 2018. The major projects remaining in the construction-in-progress category include athletic facility improvements ($32.7 million); renovation of Sandy Hall, the Liberal Arts Building, and the front section of Davidson Hall ($26.9 million); renovation of recreational sports facilities ($24.9 million); renovation of O'Shaughnessy Hall ($19.1 million); the expansion of the Virginia Tech Carilion health sciences and technology campus in Roanoke ($11.3 million); and other on-going capital improvements throughout the university ($29.3 million). In addition, $2.6 million was withheld as retainage payable on major projects under construction. This retainage amount will be moved to the building asset category once final payments are made to the construction contractors. Proceeds from the sale of commercial paper were used to provide temporary funding for some projects under construction. The majority of the temporary financing will be replaced with permanent debt through the issuance of long-term bonds and notes.

Noncurrent liabilities related to debt experienced a net decrease of $10.9 million during fiscal year 2018. The major cause of this decrease is a result of the reclassification of long-term debt from the noncurrent to current liabilities category ($31.6 million), offset by the issuance of long-term debt ($24.8 million). See Notes 12 and 13 of the *Notes to Financial Statements* for more details.

The educational and general (E&G) portion of the university's capital outlay program represents three projects currently under construction. These projects include a public-private partnership to expand the Virginia Tech Carilion health sciences and technology campus in Roanoke ($91.7 million); the renovation of Sandy Hall, Liberal Arts Building, and the front of Davidson Hall ($35.0 million); and upgrades to fire alarm systems in several buildings on campus ($4.9 million). In addition to the capital projects underway, there were several new construction and renovation projects approved for instructional and research facilities. The new construction projects include a renovation and expansion of Holden Hall ($61.9 million), an upgrade to the university's chiller system ($40.8 million), improvements to agriculture production and research facilities near the main campus and at Kentland farm ($31.5 million), and renovation of undergraduate science laboratories in Derring and Hahn Halls ($10.0 million). The Commonwealth of Virginia will provide partial funding for several of these E&G projects. In addition to funding received from the commonwealth, the projects may also be funded from a combination of private gifts, student fees, other customer revenues, and debt financing.

Funding for Authorized Current and Future Capital Projects

As of June 30, 2018
(all dollars in millions)

	State Funds[1]	Other Funds[2]	University Debt Issued Before June 30, 2018	University Debt To Be Issued After June 30, 2018	Total Funding	Cash Basis Project-To-Date Expenses
Current education and general	$ 111.8	$ 16.3	$ 23.8	$ -	$ 151.9	$ 53.0
Current auxiliary enterprise	-	9.0	4.5	-	13.5	11.9
Total current	111.8	25.3	28.3	-	165.4	64.9
Future education and general	106.9	25.9	-	27.3	160.1	7.8
Future auxiliary enterprise	-	34.4	-	97.1	131.5	3.4
Total future	106.9	60.3	-	124.4	291.6	11.2
Total authorized	$ 218.7	$ 85.6	$ 28.3	$ 124.4	$ 457.0	$ 76.1

(1) Includes the general fund, capital appropriations, and the general obligation bonds of the Commonwealth of Virginia.
(2) Includes private gifts, auxiliary surpluses, student fees, and other customer revenues.

The university's auxiliary enterprises have approval for four new capital projects. These future capital projects include improvements to facilities housing student wellness services, a new residence hall to support a creativity and innovation district, renovation of Jamerson Center for the student-athlete performance center, and expansion of broadcasting facilities for the new ACC Network channel. Since auxiliaries are required to be self-supporting, no state general funds or capital appropriations are provided for these projects. These projects will be funded by a combination of private gifts, student fees, other customer revenues, and debt financing.

Virginia Tech had a total authorization of $457.0 million in capital building projects as of June 30, 2018, requiring approximately $124.4 million in additional debt financing. Capital projects in progress carried commitments to construction contractors, architects, and engineers totaling $87.3 million at June 30, 2018. These obligations are for future effort and as such have not been accrued as expenses or liabilities on the university's financial statements.

The majority of the financial commitment is attributed to the expansion of the Virginia Tech Carilion Health Sciences and Technology Campus ($64.0 million). These commitments represent only a portion of the university's capital projects currently under construction or authorized by the commonwealth.

The university's bond ratings of Aa1 and AA from Moody's and Standard & Poor's, respectively, reflect strong student demand, balanced operating performance and adequate reserves to address unforeseen expenses.

Statement of Revenues, Expenses, and Changes in Net Position

Operating and non-operating activities creating changes in the university's total net position are presented in the *Statement of Revenues, Expenses, and Changes in Net Position*, found on page 17. The purpose of the statement is to present all revenues received and accrued, all expenses paid and accrued, and gains or losses from investments and capital assets.

Revenues, Expenses, and Changes in Net Position

For the years ended June 30, 2018 and 2017
(all dollars in millions)

	2018	2017	Change Amount	Change Percent
Operating revenues	$ 1,099.9	$ 1,031.5	$ 68.4	6.6 %
Operating expenses	1,423.4	1,364.7	58.7	4.3 %
Operating loss	(323.5)	(333.2)	9.7	(2.9)%
Non-operating revenues and expenses	363.5	355.2	8.3	2.3 %
Income before other revenues, expenses, gains or losses	40.0	22.0	18.0	81.8 %
Other revenues, expenses, gains or losses	51.8	42.0	9.8	23.3 %
Increase in net position	91.8	64.0	27.8	43.4 %
Net position - beginning of year	1,167.5	1,338.3	(170.8)	(12.8)%
Net position - end of year	$ 1,259.3	$ 1,402.3	$ (143.0)	(10.2)%

Operating revenues are generally received through providing goods and services to the various customers and constituencies of the university. Operating expenses are expenditures made to acquire or produce the goods and services provided in return for the operating revenues, and to carry out the missions of the university. Salaries and fringe benefits for faculty and staff are the largest type of operating expense. Non-operating revenues are revenues received for which goods and services are not directly provided. Included in this category are state appropriations and gifts which supplement the payment of operating expenses of the university and support student scholarships. Therefore, the university, like most public institutions, expects to show an operating loss.

Operating Revenues

Total operating revenues increased by $68.4 million or 6.6% from the prior fiscal year. The growth in operating revenues came predominantly from three categories: student tuition and fees, auxiliary enterprise revenue, and sponsored grants and contracts. The increase in student tuition and fees ($38.3 million or 8.3%) was expected given an increasing student population and the rise in both in-state and out-of-state tuition and fees rates. The growth in auxiliary enterprise revenue ($15.5 million or 6.2%) follows the increasing student population and reflects the high level of satisfaction with the services provided by Tech's auxiliaries. Sponsored grants and contracts increased by $15.9 million or 5.5%. Grants and contracts awarded by federal sponsors improved by $10.1 million and nongovernmental grants and contracts rose by $4.8 million while both state grants and contracts and local grants and contracts rose minimally ($0.8 million and $0.2 million.) Other operating revenue fell by $1.3 million largely due to a decrease in insurance recoveries related to prior years. Overall, the university's operating revenues increased to $1,099.9 million in fiscal year 2018, compared to $1,031.5 million in fiscal year 2017.

Non-operating and Other Revenues and Expenses

Non-operating revenue and expenses totaled $363.5 million, an increase of $8.3 million from the previous year's total. Revenue increases in this category resulted primarily from growth in gift

Summary of Revenues

Increase (Decrease) in Revenue

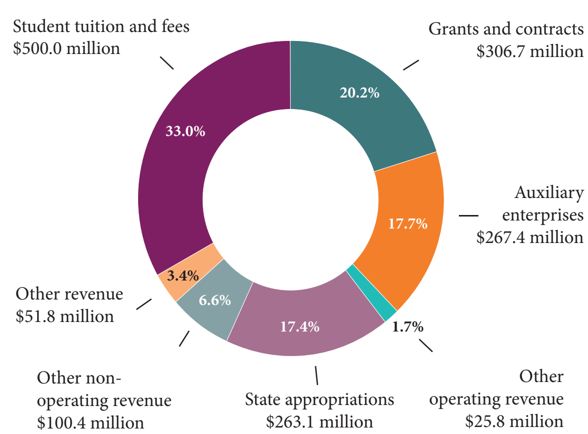
For the years ended June 30, 2018 and 2017
(all dollars in millions)

	2018	2017	Change Amount	Change Percent
Operating revenue				
Student tuition and fees, net	$ 500.0	$ 461.7	$ 38.3	8.3 %
Grants and contracts	306.7	290.8	15.9	5.5 %
Auxiliary enterprises	267.4	251.9	15.5	6.2 %
Other operating revenue	25.8	27.1	(1.3)	(4.8)%
Total operating revenue	1,099.9	1,031.5	68.4	6.6 %
Non-operating revenue				
State appropriations	263.1	261.7	1.4	0.5 %
Other non-operating revenue*	100.4	93.5	6.9	7.4 %
Total non-operating revenue	363.5	355.2	8.3	2.3 %
Other revenue				
Capital appropriations	(32.9)	-	(32.9)	- %
Capital grants and gifts	85.1	44.5	40.6	91.2 %
Loss on disposal of capital assets	(0.4)	(2.5)	2.1	(84.0)%
Total other revenue	51.8	42.0	9.8	23.3 %
Total revenue	$ 1,515.2	$ 1,428.7	$ 86.5	6.1 %

* Includes gifts, investment income, interest expense on debt related to capital assets, federal Pell grants, federal ARRA stabilization funds, and other non-operating revenue.

Total Revenues by Source

For the year ended June 30, 2018



funding transferred from the Virginia Tech Foundation ($9.9 million), with small increases in federal student financial aid ($2.2 million) and state appropriations ($1.4 million). Investment income decreased $2.2 million due to changing market conditions. Non-operating grants and contracts fell by $1.7 million while interest expense on debt related to capital assets rose by $1.1 million.

Total other revenue, expenses, gains and losses grew by $9.8 million compared to the prior year. Capital appropriations decreased by $32.9 million while capital grants and gifts increased $40.6 million. This change in funding was due to the commonwealth supplanting the capital appropriations that had been accounted for in prior years with VCBA 21st century funding that is accounted for as a capital grant and gift. Additionally there was a decline in the loss on disposal of capital assets.

Revenues from all sources (operating, non-operating, and other) for fiscal year 2018 totaled $1,515.2 million, increasing by $86.5 million from the prior year. Operating expenses (shown below and in the chart on the next page) totaled $1,423.4 million for fiscal year 2018, reflecting a year-over-year increase of $58.7 million. Total revenues less total operating expenses resulted in an increase to net position of $91.8 million.

Total Expenses

The university is committed to recruiting and retaining outstanding faculty and staff. The personnel compensation package is one way to successfully compete with peer institutions and nonacademic employers. The natural expense category, compensation and benefits, comprises $911.7 million or 64.0% of the university's total operating expenses. This category increased by $39.8 million (4.6%) over the previous year, with compensation growing by $30.4 million and benefits increasing by $9.4 million. Generally, changes to expenses in this category come from three sources: increases or reductions in the number of personnel, annual salary increases, and the general trends in the costs of fringe benefits. A second category with a significant increase over the prior year was contractual services ($13.6 million). The growth in this area

Summary of Expenses by Natural Classiÿcation

Increase (Decrease) in Expenses by Natural Classification

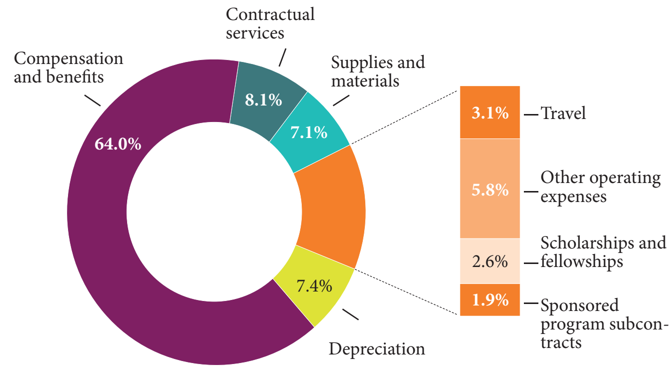
For the years ended June 30, 2018 and 2017

(all dollars in millions)

			Change	
	2018	2017	Amount	Percent
Compensation and benefits	$ 911.7	$ 871.9	$ 39.8	4.6 %
Contractual services	115.2	101.6	13.6	13.4 %
Supplies and materials	100.7	108.7	(8.0)	(7.4)%
Travel	43.6	46.2	(2.6)	(5.6)%
Other operating expenses	82.3	78.9	3.4	4.3 %
Scholarships and fellowships	37.1	34.3	2.8	8.2 %
Sponsored program subcontracts	26.7	21.8	4.9	22.5 %
Depreciation and amortization	106.1	101.3	4.8	4.7 %
Total operating expenses	$ 1,423.4	$ 1,364.7	$ 58.7	4.3 %

Total Expenses by Natural Classification

For the year ended June 30, 2018



The newly renovated staircase outside Derring Hall improves the appearance, function, and safety of one of the most heavily trafficked areas on campus.

was due to several items including the reclassification of library subscription services from the supply account code to contractual service, the reclassification of the contract with Blacksburg transit for bus service from the travel category and the addition of the contract to provide bus service to Northern Virginia. The supply category saw a decrease of $8.0 million largely due to the reclassification of the library subscription services.

Operating expenses for fiscal year 2018 totaled $1,423.4 million, up $58.7 million from fiscal year 2017. The instruction category had the largest increase ($19.6 million). The majority of the increase was in the compensation and benefits category which reflects the university's commitment to maintaining a high quality faculty and staff. The research category experienced an increase of $11.7 million, reflecting the rise in grants and contracts coming into the university. Expenditures by Tech's auxiliary enterprises also saw an increase ($9.1 million). Salaries, wages and fringe benefits, along with an increase in other operating expenses, account for the majority of the expense increase in auxiliary enterprises.

In the functional categories for support activities, there were moderate increases in both institutional support ($5.6 million) and academic support ($3.8 million). Compensation and benefits account for the majority of the increases in both of these areas.

In summary, the university's operating revenues grew by $68.4 million or 6.6% over the preceding year, while operating expenses increased by $58.7 million or 4.3%. This resulted in an operating loss for the current fiscal year of $323.5 million in comparison to the operating loss of $333.2 million generated during the previous year. The primary reason for the decline in the operating loss was the growth in tuition and fees revenue and auxiliary enterprise revenue. State appropriations and other net non-operating revenues were used to meet operating expenses not offset by operating revenues.

Summary of Expenses by Function

Increase (Decrease) in Expenses by Function

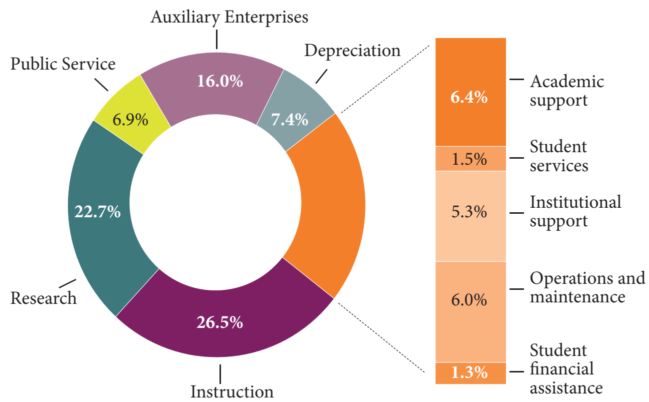
For the years ended June 30, 2018 and 2017
(all dollars in millions)

	2018	2017	Change Amount	Change Percent
Instruction	$ 377.5	$ 357.9	$ 19.6	5.5 %
Research	323.0	311.3	11.7	3.7 %
Public service	98.0	97.7	0.3	0.3 %
Auxiliary enterprises	227.8	218.7	9.1	4.2 %
Depreciation and amortization	106.1	101.3	4.8	4.7 %
Subtotal	1,132.4	1,086.9	45.5	4.2 %
Support, maintenance, and other expenses				
Academic support	91.2	87.4	3.8	4.4 %
Student services	20.8	18.6	2.2	12.0 %
Institutional support	75.9	70.3	5.6	8.0 %
Operations and maintenance of plant	84.8	85.0	(0.2)	(0.2)%
Student financial assistance*	18.3	16.5	1.8	10.9 %
Total support, maintenance, and other	291.0	277.8	13.2	4.8 %
Total operating expenses	$ 1,423.4	$ 1,364.7	$ 58.7	4.3 %

*Includes loan administrative fees and collection costs.

Total Expenses by Function

For the year ended June 30, 2018



In addition to an entirely new look, the project created common spaces for active and passive recreation, with intentional space for collaboration and engagement.

Statement of Cash Flows

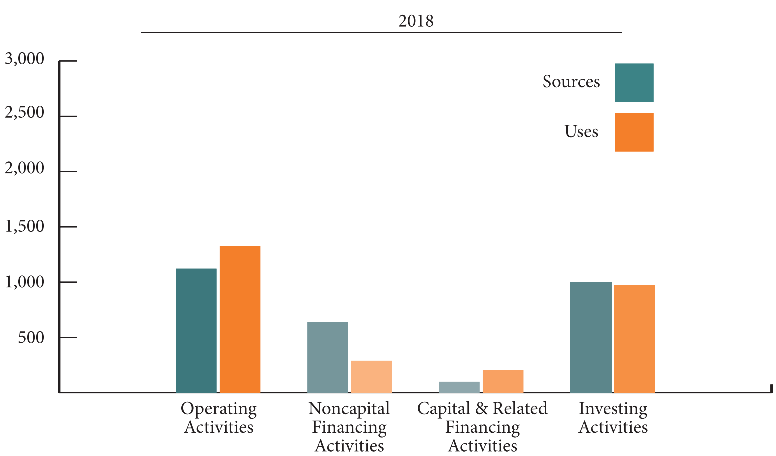
The *Statement of Cash Flows* presents detailed information about the cash activity of the university during the year. Cash flows from operating activities will always be different from the operating loss on the *Statement of Revenues, Expenses and Changes in Net Position* (SRECNP). This difference occurs because the SRECNP is prepared on the accrual basis of accounting and includes non-cash items, such as depreciation expenses, whereas the *Statement of Cash Flows* presents cash inflows and outflows without regard to accrual items. The *Statement of Cash Flows* should help readers assess the ability of an institution to generate sufficient cash flows necessary to meet its obligations.

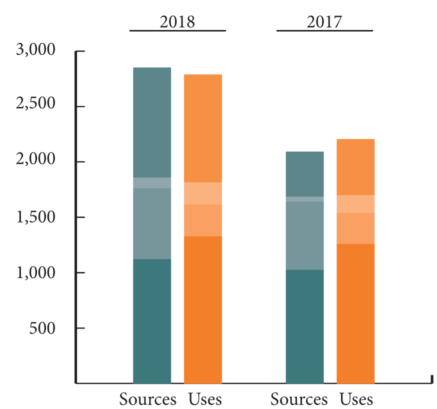
The statement is divided into five sections. The first section, *Cash flows from operating activities*, deals with operating cash flows and shows net cash used by operating activities of the university. The *Cash flows from noncapital financing activities* section reflects cash received and disbursed for purposes other than operating, investing and capital financing. GASB requires general appropriations from the commonwealth and noncapital gifts be shown as cash flows from noncapital financing activities. *Cash flows from capital and related financing activities* presents cash used for the acquisition and construction of capital and related items. Plant funds and related long-term debt activities (except depreciation and amortization), as well as gifts to endowments, are included in cash flows from capital financing activities. *Cash flows from investing activities* reflect the cash flows generated from investments which include purchases, proceeds, and interest. The last section reconciles the operating income or loss reflected on the *Statement of Revenues, Expenses, and Changes in Net Position* for fiscal year 2018 to net cash used by operating activities.

Net cash used by operating activities was $205.5 million, a $28.3 million decrease from prior year. Total cash inflow for operating activities rose by $97.7 million with the largest inflow increases in student tuition and fees ($38.8million) and auxiliary enterprises ($47.8 million). Total cash outflows increased by $69.4 million with the major increases in operating activity uses of cash being compensation and benefits ($55.4 million) and operating expenses ($11.6 million). Operating activity uses of cash significantly exceeded operating activity sources of cash due to classification of state appropriations ($263.3 million) and gifts ($71.4 million) as noncapital financial activities.

Significant increases of cash outflows in the capital financing area were for the acquisition and construction of capital assets ($144.5 million) and for principal ($33.1 million) and interest ($20.1 million) on capital-related debt. This reflects the university's continued investment in buildings, equipment, and infrastructure of the campus.

Summary of Cash Flows





Summary of Cash Flows
For the years ended June 30, 2018 and 2017
(all dollars in millions)

	2018	2017	Change Amount	Change Percent
Net cash used by operating activities	$ (205.5)	$ (233.8)	$ 28.3	12.1 %
Net cash provided by noncapital activities	352.5	335.9	16.6	4.9 %
Net cash provided (used) by capital and related financing activities	(103.9)	(115.6)	11.7	10.1 %
Net cash provided (used) by investing activities	21.1	(99.2)	120.3	121.3 %
Net increase (decrease) in cash and cash equivalents	64.2	(112.7)	176.9	157.0 %
Cash and cash equivalents - beginning of year	151.4	264.1	(112.7)	(42.7)%
Cash and cash equivalents - end of year	$ 215.6	$ 151.4	$ 64.2	42.4 %

The graphs above demonstrate the relationship between sources and uses of cash. The graph on the left shows activity for fiscal year 2018 only, grouped by related sources and uses of cash, while the graph on the right displays that same activity for fiscal years 2018 and 2017 in a stacked format.

Economic Outlook

As a public institution, the university is subject to many of the macro-economic conditions that impact the nation and the Commonwealth of Virginia. Stable, yet slowly growing state revenue collections combined with growing nondiscretionary costs have constrained the commonwealth's ability to make significant, sustained investments in higher education operations; however, the commonwealth recently invested $25 million into the Commonwealth Cyber Security Initiative that will be led by Virginia Tech, signaling the state's interest in supporting targeted activities that spur economic growth. The commonwealth currently supports 17 percent of the university's budget through general fund appropriations. The state's slow revenue growth has tempered the university's expected reliance upon general fund investment and prompted continuous exploration of cost containment measures and strategies for revenue enhancement, including increased philanthropy, industry partnerships, and enrollment growth to meet the needs of the university. The Virginia Tech Board of Visitors maintains its authority to establish tuition and fee rates, and significant national, state, and institutional emphasis continues to focus on maintaining a slow rate of tuition growth for undergraduate students, particularly those from Virginia.

Demand for a Virginia Tech education continues to grow, providing a stable and growing source of revenue to support instructional activities. Tuition and fees now provide 36 percent of the total university budget. Once again, the university experienced the largest number of applications ever for the fall 2018 incoming freshman class, and expects overall enrollment to continue to grow. Demand from both resident and nonresident students contributes to this growth, as Virginia Tech continues to work to extend access to qualified students. As the largest producer of STEM-H graduates in the commonwealth, Virginia Tech is well-positioned to further advance instruction and research in this growing domain and to strengthen Virginia's workforce and knowledge-driven economy.

An additional major input to the university budget is federal support. University leadership monitors the potential impact of the federal budget process on both the state and national economies as well as university program funding, including externally sponsored research, land-grant activities, and student financial aid.

While significant focus is placed on sustainable revenue sources, the university also continues to employ cost containment and innovative resource enhancement strategies to successfully advance the institution and its strategic priorities. As compared to peer institutions, internal benchmarking demonstrates that Virginia Tech operates an administratively lean organization, directing a larger share of overall resources towards academic activities than peers, on average. The university will continue to employ strategic planning processes to advance its core missions of instruction, research, and public service, and manage university resources to achieve critical priorities.

Virginia Tech, along with all other Virginia institutions of higher education, continues to benefit from significant decentralized authority from the Commonwealth of Virginia through the requested restructuring of higher education. Restructuring provides additional flexibility and authority to the participating institutions with the potential for increased efficiencies and cost savings. The university works to leverage existing authorities to drive efficiencies for cost savings. To build on the demonstrated success of restructuring, the university is working with state officials to explore additional opportunities to enhance this partnership that would further expand and enhance institutional autonomy and allow the university to better meet the needs of the commonwealth its citizens.

To manage its exposure to risk, the university's investment policy, established by the Board of Visitors and monitored by the board's Finance and Resource Management Committee, requires that its public funds be invested in accordance with the *Investment of Public Funds Act* (Section 2.2-4500 through 2.2-4516, et seq., *Code of Virginia*). The university has limited its investment in securities outside the scope of the *Investment in Public Funds Act* to restricted gift funds, local funds, and nongeneral fund reserves and balances designated by management as quasi-endowments. These funds are invested in the Virginia Tech Foundation's consolidated endowment fund and managed in accordance with the provisions of the *Uniform Prudent Management of Institutional Funds Act* (Section 64.2-1100, et seq., *Code of Virginia*). At the end of the fiscal year, the value of the university's quasi-endowments invested in the foundation totaled $289.7 million, an increase of $96.5 million over the preceding year.

The university continually monitors the valuation of its investments. At June 30, 2018, the market value for the university's non-endowed cash, cash equivalents, and investments totaled $378.4 million, including unrealized losses on investments of $1.4 million, compared to the market value of its investments at September 30, 2018 of $506.7 million and unrealized losses of $1.0 million. Growth of investments during this time period is due to the normal cyclical collections of tuition and fees.

Executive management believes that the university will maintain its solid financial foundation and is positioned to continue to advance excellence in teaching, research, and public service. Management's policies of cost containment and investing in strategic initiatives will ensure the university is prepared to manage the changing environment of higher education while continuing to advance the university's strategic plan. The financial position of the university is strong as evidenced by its diversified portfolio of research funding, National Science Foundation research ranking, strong student demand from increasingly talented students, auxiliary enterprises with high customer satisfaction, growing contributions to endowments, increased assets, and quality debt ratings from Moody's (Aa1) and Standard and Poor's (AA). These debt ratings allow the university to obtain funding for capital projects with advantageous terms.

The university's overall financial position remains strong. Management continues to maintain a close watch over university resources to ensure its ability to strategically respond to unknown internal and external issues and sustain its current high quality educational programs and favorable financial position.

With its thriving and engaged community of students, faculty, and staff, Virginia Tech's future remains bright as the commonwealth's largest public university.

Statement of Net Position

As of June 30, 2018, with comparative financial information as of June 30, 2017
(all dollars in thousands)

	2018 Virginia Tech	2018 Component Units	2017 Virginia Tech (restated)	2017 Component Units
ASSETS				
Current assets				
Cash and cash equivalents (Note 4)	$ 180,841	$ 10,429	$ 101,468	$ 20,668
Short-term investments (Notes 1, 4, 26)	-	26,360	-	9,820
Accounts and contributions receivable, net (Notes 1, 5, 26)	73,312	56,641	74,527	46,812
Notes receivable, net (Note 1,6)	1,661	587	1,187	645
Due from Commonwealth of Virginia (Note 10)	15,424	-	16,672	-
Inventories	10,323	4,665	10,149	5,697
Prepaid expenses	16,516	1,031	16,577	1,342
Other assets	-	1,218	-	3,838
Total current assets	298,077	100,931	220,580	88,822
Noncurrent assets				
Cash and cash equivalents (Note 4)	34,768	79,371	49,971	43,604
Short-term investments (Note 4)	544	-	-	-
Due from Commonwealth of Virginia (Note 10)	8,204	-	30,333	-
Accounts and contributions receivable, net (Notes 1, 5, 26)	13,646	74,469	2,940	80,715
Notes receivable, net (Notes 1, 6)	18,359	22,931	19,078	22,685
Net investments in direct financing leases	-	68,390	-	67,956
Irrevocable trusts held by others, net	-	8,209	-	7,770
Long-term investments (Notes 4, 26)	519,462	1,257,017	524,962	1,130,429
Depreciable capital assets, net (Notes 7, 26)	1,535,581	199,054	1,471,443	204,198
Nondepreciable capital assets (Notes 7, 26)	196,345	84,106	209,070	83,939
Intangible assets, net	-	553	-	582
Other assets (Note 20)	7,937	4,749	93	3,805
Total noncurrent assets	2,334,846	1,798,849	2,307,890	1,645,683
Total assets	2,632,923	1,899,780	2,528,470	1,734,505
DEFERRED OUTFLOWS OF RESOURCES				
Deferred loss on long-term debt defeasance (Note 14)	8,758	-	9,747	-
Deferred outflow for VRS pension (Note 18)	45,601	-	74,837	-
Deferred outflow for other postemployment benefits (Note 20)	15,623	-	-	-
Total deferred outflows	69,982	-	84,584	-
LIABILITIES				
Current liabilities				
Accounts payable and accrued liabilities (Note 8)	140,543	10,892	140,306	13,087
Accrued compensated absences (Notes 1, 15)	24,461	793	25,236	750
Unearned revenue (Notes 1, 9)	48,956	4,673	43,236	4,700
Funds held in custody for others	15,616	-	15,755	-
Commercial paper (Note 11)	15,200	-	6,520	-
Long-term debt payable (Notes 12, 13, 26)	31,648	20,172	30,605	28,820
Other postemployment benefits liabilities (Note 20)	2,871	-	-	-
Other liabilities	-	1,950	-	2,701
Total current liabilities	279,295	38,480	261,658	50,058
Noncurrent liabilities				
Accrued compensated absences (Notes 1, 15)	20,947	180	18,337	184
Federal student loan program contributions refundable (Note 15)	12,954	-	13,694	-
Unearned revenue	-	1,393	-	1,327
Long-term debt payable (Notes 12, 13, 26)	452,657	224,983	463,605	230,455
Liabilities under trust agreements	-	25,344	-	30,240
Agency deposits held in trust (Note 26)	-	301,950	-	204,154
Pension liability (Note 18)	386,163	-	438,576	-
Other postemployment benefits liabilities (Note 20)	223,872	-	-	-
Other liabilities	2,527	9,631	1,871	10,339
Total noncurrent liabilities	1,099,120	563,481	936,083	476,699
Total liabilities	1,378,415	601,961	1,197,741	526,757
DEFERRED INFLOWS OF RESOURCES				
Deferred gain on long-term debt defeasance (Note 14)	944	-	1,038	-
Deferred inflow for VRS pension (Note 18)	29,466	-	11,943	-
Deferred inflow for other postemployment benefits (Note 20)	34,775	-	-	-
Total deferred inflows	65,185	-	12,981	-
NET POSITION				
Net investment in capital assets	1,273,212	134,137	1,201,333	123,661
Restricted, nonexpendable	14,414	567,456	11,851	522,131
Restricted, expendable				
Scholarships, research, instruction, and other	115,206	496,836	103,976	472,743
Capital projects	11,533	-	39,676	-
Debt service and auxiliary operations	71,338	-	69,008	-
Unrestricted	(226,398)	99,390	(23,512)	89,213
Total net position	$ 1,259,305	$ 1,297,819	$ 1,402,332	$ 1,207,748

The accompanying Notes to Financial Statements are an integral part of this statement.

Statement of Revenues, Expenses, and Changes in Net Position

For the year ended June 30, 2018 with comparative financial information for the year ended June 30, 2017

(all dollars in thousands)

	2018		2017	
	Virginia Tech	Component Units	Virginia Tech (restated)	Component Units
OPERATING REVENUES				
Student tuition and fees, net (Note 1)	$ 499,984	$ -	$ 461,750	$ -
Gifts and contributions	-	74,731	-	86,947
Federal appropriations	14,726	-	14,789	-
Federal grants and contracts	208,643	-	198,505	-
State grants and contracts	12,815	-	12,007	-
Local grants and contracts (Note 3)	14,536	-	14,234	-
Nongovernmental grants and contracts	55,972	-	51,238	-
Sales and services of educational activities	18,292	-	17,979	-
Auxiliary enterprise revenue, net (Note 1)	267,441	47,840	251,854	45,782
Other operating revenues	7,480	57,030	9,154	54,502
Total operating revenues	1,099,889	179,601	1,031,510	187,231
OPERATING EXPENSES				
Instruction	377,490	6,805	357,871	5,254
Research	322,962	11,158	311,297	10,572
Public service	97,954	5,749	97,761	4,701
Academic support	91,219	24,118	87,416	24,519
Student services	20,839	-	18,627	-
Institutional support	75,940	41,161	70,276	35,545
Operation and maintenance of plant	84,821	14,025	84,917	13,238
Student financial assistance	18,307	30,624	16,488	24,165
Auxiliary enterprises	227,792	39,071	218,712	37,587
Depreciation and amortization (Note 7)	106,059	10,929	101,310	10,445
Other operating expenses	4	9,815	55	12,342
Total operating expenses (Note 25)	1,423,387	193,455	1,364,730	178,368
OPERATING REVENUE (LOSS)	(323,498)	(13,854)	(333,220)	8,863
NON-OPERATING REVENUES (EXPENSES)				
State appropriations (Note 22)	263,127	-	261,717	-
Gifts	71,532	-	61,640	-
Non-operating grants and contracts	806	-	2,509	-
Federal student financial aid (Pell)	19,826	-	17,620	-
Investment income, net	16,324	13,565	18,491	14,018
Net gain (loss) on investments	-	40,013	-	81,165
Other non-operating revenue	7,893	-	8,129	-
Interest expense on debt related to capital assets	(16,004)	(8,245)	(14,851)	(8,422)
Net non-operating revenues (expenses)	363,504	45,333	355,255	86,761
INCOME BEFORE OTHER REVENUES, EXPENSES, GAINS, OR LOSSES	40,006	31,479	22,035	95,624
Change in valuation of split interest agreements	-	2,701	-	27
Capital appropriations (Note 23)	(32,896)	-	-	-
Capital grants and gifts ( )	85,088	12,391	44,507	14,149
Gain (loss) on disposal of capital assets	(369)	(79)	(2,530)	(79)
Additions to permanent endowments	-	43,249	-	43,994
Loss on extinguishment of debt	-	-	-	(5,266)
Other revenues (expenses)	-	330	-	(744)
Total other revenues, expenses, gains, and losses	51,823	58,592	41,977	52,081
INCREASE IN NET POSITION	91,829	90,071	64,012	147,705
NET POSITION—BEGINNING OF YEAR (NOTE 1)	1,167,476	1,207,748	1,338,320	1,060,043
NET POSITION—END OF YEAR	$ 1,259,305	$ 1,297,819	$ 1,402,332	$ 1,207,748

The accompanying Notes to Financial Statements are an integral part of this statement.

Statement of Cash Flows

For the Year Ended June 30, 2018, with comparative financial information as of June 30, 2017
(all dollars in thousands)

	2018	2017
CASH FLOWS FROM OPERATING ACTIVITIES		
Tuition and fees	$ 500,755	$ 461,976
Federal appropriations	16,887	9,368
Grants and contracts	287,538	279,682
Sales and services of education departments	18,292	17,979
Auxiliary enterprise charges	286,351	238,635
Other operating receipts	7,030	9,154
Payments for operating expenses	(391,862)	(380,257)
Payments to employees and fringe benefits	(912,090)	(856,725)
Payments for scholarships and fellowships	(17,961)	(16,207)
Loans issued to students	(4,021)	(3,335)
Collection of loans to students	3,512	5,885
Net cash used by operating activities	(205,569)	(233,845)
CASH FLOWS FROM NONCAPITAL FINANCING ACTIVITIES		
State appropriations	263,277	261,706
Payment to commonwealth for VRS	(2,740)	(4,110)
Non operating grants and contracts	806	2,509
Direct lending receipts	138,829	132,701
Direct lending disbursements	(138,869)	(132,733)
Agency receipts	144,899	139,554
Agency disbursements	(144,998)	(142,732)
Federal student financial aid (Pell)	19,826	17,620
Gifts for other than capital purposes	71,420	61,381
Net cash provided by noncapital financing activities	352,450	335,896
CASH FLOWS FROM CAPITAL FINANCING ACTIVITIES		
Capital appropriations	(3,279)	4,238
Gifts for capital assets	62,081	38,835
Proceeds from issuance capital debt	24,847	-
Proceeds from the sale of capital assets	1,430	1,361
Acquisition and construction of capital assets	(144,449)	(110,519)
Commercial paper	8,680	1,095
Principal paid on capital-related debt	(33,095)	(30,920)
Interest paid on capital-related debt	(20,070)	(19,635)
Net cash used by capital financing activities	(103,855)	(115,545)
CASH FLOWS FROM INVESTING ACTIVITIES		
Proceeds from sales and maturities of investments	989,193	401,714
Interest on investments	4,486	4,127
Purchases of investments	(972,535)	(505,045)
Net cash used by investing activities	21,144	(99,204)
NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	64,170	(112,698)
CASH AND CASH EQUIVALENTS - BEGINNING OF YEAR	151,439	264,137
CASH AND CASH EQUIVALENTS - END OF YEAR	$ 215,609	$ 151,439

The accompanying Notes to Financial Statements are an integral part of this statement.

Statement of Cash Flows (continued)

For the Year Ended June 30, 2018, with comparative financial information as of June 30, 2017
(all dollars in thousands)

RECONCILIATION OF OPERATING LOSS TO NET CASH USED BY OPERATING ACTIVITIES	2018	2017
Operating loss	$ (323,498)	$ (333,220)
Adjustments to reconcile net loss to net cash used by operating activities:		
Depreciation expense	106,059	101,310
Changes in assets, deferred outflows, liabilities and deferred inflows:		
Receivables, net	11,243	(17,407)
Inventories	(174)	532
Prepaid and other asset items	7	1,027
Other postemployment benefit asset	(1,416)	-
Notes receivable, net	245	763
Deferred outflow for VRS pension	29,236	(23,896)
Deferred outflow for other postemployment benefits	(5,830)	-
Accounts payable and other liabilities	(4,002)	(4,677)
Accrued payroll	142	10,084
Compensated absences	1,835	496
Unearned revenue	5,720	2,691
Pension liability	(52,413)	45,671
Other post employment benefits liability	(24,281)	-
Federal loan contributions refundable	(740)	3
Deferred inflow for VRS pension	17,523	(17,222)
Deferred inflow for other postemployment benefits	34,775	-
Total adjustments	117,929	99,375
Net cash used by operating activities	$ (205,569)	$ (233,845)

NONCASH INVESTING, CAPITAL , AND FINANCING ACTIVITIES	2018	2017
Change in accounts receivable related to non-operating income	$ 21,034	$ (414)
Capital assets acquired through in-kind donations as a component of capital gifts and grants income	$ 5,918	$ 9,173
Change in fair value of investments recognized as a component of investment income	$ (2,661)	$ 9,191
Change in value of interest payable affecting interest paid	$ (244)	$ (105)
Capital assets acquired through the assumption of a liability	$ 2,483	$ 186
Change in interest receivable affecting interest income	$ 274	$ 336
Loss on disposal of capital assets	$ (369)	$ (2,530)
Capitalization of interest revenue and expense (net)	$ (439)	$ (974)
Amortization of bond premium/discount and gain/loss on debt refunding	$ (3,245)	$ (3,447)
Change in pension liability recognized as a component of non-operating revenue	$ -	$ (10,791)

The accompanying Notes to Financial Statements are an integral part of this statement.

Contents

Note 1

Summary of Significant Accounting Policies

Reporting Entity

Virginia Polytechnic Institute and State University is a public land-grant university serving the Commonwealth of Virginia, the nation, and the world community. The discovery and dissemination of new knowledge are central to its mission. Through its focus on teaching and learning, research, and discovery, outreach and engagement, the university creates, conveys, and applies knowledge to expand personal growth and opportunity, advance social and community development, foster economic competitiveness, and improve the quality of life.

The university includes all funds and entities over which the university exercises or has the ability to exercise oversight authority for financial reporting purposes.

Under Governmental Accounting Standards Board (GASB) Statement 39, Virginia Tech Foundation Inc. (VTF) and Virginia Tech Services Inc. (VTS) are included as component units of the university.

A separate report is prepared for the Commonwealth of Virginia that includes all agencies, boards, commissions, and authorities over which the commonwealth exercises or has the ability to exercise oversight authority. The university is a component unit of the Commonwealth of Virginia and is included in the basic financial statements of the commonwealth.

Virginia Tech Foundation Inc.

The foundation is a legally separate, tax-exempt organization established in 1948 to receive, manage, and disburse private gifts in support of Virginia Tech programs. The foundation is governed by a 35-member board of directors. The bylaws of the foundation provide that the rector of the board of visitors, the president of the alumni association, the president of the athletic fund, and the president of the university shall serve as ex-officio members of the VTF board. The remainder of the board is composed of alumni and friends of the university who actively provide private support for university programs. Directors are elected by a vote of the membership of the foundation. Membership is obtained by making gifts at or above a specified level to the foundation.

The foundation serves the university by generating significant funding from private sources and aggressively managing its assets to provide funding which supplements state appropriations. It provides additional operating support to colleges and departments, assists in the funding of major building projects, and provides seed capital for new university initiatives. Although the university does not control the timing or amount of receipts from the foundation, the majority of resources, or income which the foundation holds and invests, is restricted to the activities of the university by the donors. Because these restricted resources held by the foundation can only be used by or for the benefit of the university, the foundation is considered a component unit of the university and is discretely presented in the financial statements. The administrative offices of Virginia Tech Foundation Inc. are located at University Gateway Center, 902 Prices Fork Road, Blacksburg, Virginia 24061.

During this fiscal year, the foundation distributed $84,672,000 to the university, for both restricted and unrestricted purposes.

Virginia Tech Services Inc.

Virginia Tech Services Inc. was formed as a separate nonprofit corporation to own and operate bookstores and provide other services for the use and benefit of the students, faculty, staff, and alumni of Virginia Tech. VTS transfers any surplus funds to the university or the foundation for allocation and use by the university as the president of the university and board of visitors deem appropriate. Although the university does not control the timing or amount of receipts from VTS, the majority of its resources or income is for the benefit of the university. Because of this, VTS is considered a component unit of the university and is discretely presented in the financial statements. The administrative offices of Virginia Tech Services Inc. are located in the University Bookstore, 115 Kent Street, Blacksburg, Virginia 24061.

During this fiscal year, VTS paid $962,000 to the university, primarily for the rental of facilities and sale of items benefiting the Student Government Association.

Financial Statement Presentation

GASB Statement 35, *Basic Financial Statements—and Management's Discussion and Analysis—for Public Colleges and Universities*, issued November 1999, establishes accounting and financial reporting standards for public colleges and universities within the financial reporting guidelines of GASB Statement 34, *Basic Financial Statements—and Management's Discussion and Analysis—for State and Local Governments.* The standards are designed to provide financial information that responds to the needs of three groups of primary users of general-purpose external financial reports: the citizenry, legislative and oversight bodies, and investors and creditors. The university is required under this guidance to include *Management's Discussion and Analysis*, and basic financial statements, including notes, in its financial statement presentation.

In fiscal year 2018 the following GASB statements of standards became effective: Statement 75, *Accounting and Financial Reporting for Postemployment Benefits other than Pensions*; Statement 81, *Irrevocable Split-Interest Agreements*; Statement 85, *Omnibus 2017;* and Statement 86, *Certain Debt Extinguishment Issues*. GASB Statement 75 established standards of accounting and financial reporting for defined benefit and defined contribution other postemployment benefits (OPEB) that are provided to the employees of state and local governmental employers. OPEB includes medical, dental, vision, hearing, and other health related benefits as well as death benefits, life insurance, disability and long-term care. The OPEB programs of Virginia Tech are administered by the Virginia Retirement System and the Department of Human Resource Management. Statement 75 requires government employers that offer OPEB benefits to recognize an OPEB liability (unfunded accrued liability) or asset in their statement of net position. Virginia Tech recognized its proportionate share of each of the OPEB liabilities and/ or assets, resulting in an OPEB liability of $226,743,000 and a net OPEB asset of $7,790,000. In addition, Statement 75 resulted in a net beginning balance reduction in the unrestricted net position of $234,856,000, as well as a beginning balance increase of $6,374,000 in restricted net position. GASB Statement 75 also established standards for measuring and recognizing liabilities and assets, deferred outflows of resources, deferred inflows of resources, and expenditures related to other postemployment benefits. Similar to pension expense, OPEB expense is now based on the net OBEB liability change between reporting dates, with some sources of the changes recognized immediately in expense and others amortized over years. Contributions to the OPEB plan from the employer subsequent to the measurement date of the net OPEB liability and before the end of the reporting period should be reported as a deferred outflow of resources related to OPEB. Virginia Tech recognized deferred outflows of $15,623,000 and deferred inflows of $34,775,000 for other postemployment benefits. Additionally, Statement 75 mandates an extensive footnote disclosure as well as required supplementary information. See Note 20 for additional OPEB information. GASB Statements 81, 85, and 86 did not have a significant effect upon the university's financial statements in the current year.

Basis of Accounting

For financial reporting purposes, the university is considered a special-purpose government engaged only in business-type activities. Accordingly, the university's financial statements are being presented using the economic resources measurement focus and the accrual basis of accounting. Under the accrual basis, revenues are recognized when earned, and expenses are recorded when an obligation has been incurred. All significant intra-agency transactions have been eliminated.

Cash Equivalents

For purposes of the statements of net position and cash flows, the university considers all highly liquid investments with an original maturity of 90 days or less to be cash equivalents.

Short-term Investments

Short-term investments include securities that have an original maturity over 90 days but less than or equal to one year at the time of purchase.

Investments

GASB Statement 31, *Accounting and Financial Reporting for Certain Investments and for External Investment Pools*, as modified by GASB Statement 59, and GASB Statement 72, *Fair Value Measurement and Application*, require that purchased investments, interest-bearing temporary investments classified with cash and investments received as gifts be recorded at fair value (see Note 4). Changes in unrealized gain or loss on the carrying value of the investments are reported as a part of investment income in the *Statement of Revenues, Expenses, and Changes in Net Position*.

Accounts Receivable

Accounts receivable consists of tuition and fee charges to students, and auxiliary enterprise services provided to students, faculty, and staff. Accounts receivable also include amounts due from federal, state and local governments, as well as nongovernmental sources, in connection with reimbursement of allowable expenses made pursuant to the university's grants and contracts. Accounts receivable are recorded net of allowance for doubtful accounts. See Note 5 for a detailed list of accounts receivable amounts by major categories.

Notes Receivable

Notes receivable consists of amounts due from the Federal Perkins Loan Program, the Health Professional Student Loan Program, other student loans, and loans to affiliated organizations. See Note 6 for a list of notes receivable amounts by major categories.

Inventories

Inventories are stated at the lower of cost or market (primarily first-in, first-out method) and consist mainly of expendable supplies for operations of auxiliary enterprises and fuel for the physical plant.

Prepaid Expenses

Prepaid expenses are expenses for future fiscal years that were paid in advance of June 30, 2018. Payments of expenses that extend beyond fiscal year 2019 are classified as noncurrent assets. Prepaid expenses consist primarily of library serial subscriptions, information technology contracts, property leases, and insurance.

Noncurrent Cash and Investments

Noncurrent cash and investments are reported as restricted because restrictions change the nature or normal understanding of the availability of the asset. This includes resources restricted for the acquisition or construction of capital assets, resources legally segregated for the payment of principal and interest as required by debt covenants, unspent debt proceeds and other restricted investments, to make debt service payments or purchase other noncurrent assets.

Capital Assets

Capital assets consisting of land, buildings, infrastructure and equipment are stated at appraised historical cost or actual cost where determinable. Construction in progress, equipment in process and software in development are capitalized at actual cost as expenses are incurred. Library materials are valued using published average prices for library acquisitions, and livestock is stated at estimated market value. All gifts of capital assets are recorded at acquisition value as of the date of donation.

Equipment is capitalized when the unit acquisition cost is $2,000 or greater and the estimated useful life is one year or more. Software is capitalized when the acquisition and/or the development costs exceed $100,000. Renovation costs are capitalized when expenses total more than $100,000, the asset value significantly increases, or the useful life is significantly extended. Routine repairs and maintenance are charged to operating expense in the year the expense is incurred.

Depreciation is computed using the straight-line method over the useful life of the assets. The useful life is 40 to 60 years for buildings, 10 to 50 years for infrastructure and land improvements, 10 years for library books, and 3 to 30 years for fixed and movable equipment. Livestock is not depreciated, as it tends to appreciate over the university's normal holding period.

Special collections are not capitalized due to the collections being: (1) held for public exhibition, education, or research in the furtherance of public service rather than financial gain; (2) protected, kept unencumbered, cared for and preserved; and (3) subject to university policy requiring the proceeds from the sales of collection items to be used to acquire other items for collections.

Interest Capitalization

Interest expense incurred during the construction of capital assets is capitalized, if material, net of interest income earned on resources set aside for this purpose. The university incurred and capitalized net interest expense related to the construction of capital assets totaling $438,000 for this fiscal year.

Pensions

The Virginia Retirement System (VRS) State Employees Retirement Plan and the Virginia Law Officers' Retirement System (VaLORS) Retirement Plan are single employer pension plans that are treated like cost-sharing plans. For the purpose 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 VRS plan and the VaLORS plan, and the additions to/deductions from the VRS plan's and the VaLORS plan's net fiduciary position have been determined on the same basis as they were reported by 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 Postemployment Benefits

Pre-Medicare Retiree Healthcare Plan — Pre-Medicare Retiree Healthcare is a single-employer defined benefit OPEB plan that is treated like a cost-sharing plan for financial reporting purposes. This program was established by Title 2.2, Chapter 28 of the *Code of Virginia* for retirees who are not yet eligible to participate in Medicare. It is the same health insurance program offered to active employees and managed by the Virginia Department of Human Resources Management. After retirement, Virginia Tech no longer subsidizes the retiree's premium; however, since both active employees and retirees are included in the same pool for purposes of determining health insurance rates, retiree rates are effectively lower than what might otherwise be available outside of this benefit.

Group Life Insurance — The Virginia Retirement System (VRS) Group Life Insurance (GLI) program is a multiple employer, cost-sharing plan. It provides coverage to state employees, teachers, and employees of participating political subdivisions. The GLI program was established pursuant to §51.1-500 et seq. of the *Code of Virginia*, as amended, which provides the authority under which benefit terms are established or may be amended. The GLI program is a defined benefit plan that provides a group life insurance benefit for employees of participating employers.

State Employee Health Insurance Credit Program — The Virginia Retirement System (VRS) State Employee Health Insurance Credit (HIC) program is a single employer plan that is presented as a multiple-employer, cost-sharing plan. The HIC program was established pursuant to §51.1-1400 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 HIC program is a defined benefit plan that provides a credit toward the cost of health insurance coverage for retired state employees.

Line of Duty Act Program — The Virginia Retirement System (VRS) Line of Duty Act (LODA) program is a multiple-employer, cost-sharing plan. The LODA program was established pursuant to §9.1-400 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 LODA program provides death and health insurance benefits to eligible state employees and local government employees, including volunteers, who die or become disabled as a result of the performance of their duties as a public safety officer. In addition, health insurance benefits are provided to eligible survivors and family members.

VRS Disability Insurance Program — The Virginia Retirement System (VRS) Disability Insurance Program (Virginia Sickness and Disability Program, VSDP) is a single employer plan that is presented as a multiple-employer, cost-sharing plan. The Disability Insurance Program 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 Disability Insurance Program 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 liability of these OPEB programs, their expenses and deferred outflows/inflows of resources, information about their fiduciary net positions, and additions to/deductions from their net fiduciary positions have been determined on the same basis as reported by VRS. In addition, benefit payments for these programs are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value.

Accrued Compensated Absences

Certain salaried employees' attendance and leave regulations make provisions for the granting of a specified number of days of leave with pay each year. The amount reflects all unused vacation leave, sabbatical leave and the amount payable upon termination under the Commonwealth of Virginia's sick leave pay out policy. The applicable share of employer related taxes payable on the eventual termination payments is also included. The university's liability and expense for the amount of leave earned by employees, but not taken, as of June 30, 2018 is recorded in the *Statement of Net Position*, and is included in the various functional categories of operating expenses in the *Statement of Revenues, Expenses, and Changes in Net Position*.

Unearned Revenues

Unearned revenue represents revenue collected but not earned as of June 30, 2018, primarily composed of revenue for grants and contracts, prepaid athletic ticket sales, and prepaid student tuition and fees. Summer Session I tuition and fees received during the fiscal year are considered earned at the end of the refund period, approximately June 15th of each year. Tuition and fees received prior to year end for Summer Session II are unearned and recognized as revenue in the next fiscal year. See Note 9 for a detailed list of unearned revenue amounts.

Funds Held in Custody for Others

Funds held in custody for others represents funds held by the university on behalf of others as a result of agency relationships with various groups and organizations.

Noncurrent Liabilities

Noncurrent liabilities include: (1) the principal amounts of revenue bonds payable, notes payable and capital lease obligations with maturities greater than one year, (2) pension plan liabilities, (3) OPEB liabilities, and (4) estimated amounts for accrued compensated absences and other liabilities that will not be paid within the next fiscal year.

Deferred Outflows of Resources

Deferred outflows of resources are defined as the consumption of net assets applicable to a future reporting period. The deferred outflows of resources have a positive effect on net position similar to assets.

Deferred Inflows of Resources

Deferred inflows of resources are defined as the acquisition of net assets applicable to a future reporting period. The deferred inflows of resources have a negative effect on net position similar to liabilities.

Net Position

The university's net position is classified as follows:

Net investment in capital assets — Net investment in capital assets represents the university's total investment in capital assets, net of accumulated depreciation and outstanding debt obligations related to those capital assets. To the extent debt has been incurred but not yet expended for capital assets, such amounts are not included as a component of net investment in capital assets.

Restricted component of net position, expendable — The expendable category of the restricted component of net position includes resources for which the university is legally or contractually obligated to spend in accordance with restrictions imposed by external third parties.

Restricted component of net position, nonexpendable — The nonexpendable category of the restricted component of net position is comprised of endowment and similar type funds where donors or other external sources have stipulated, as a condition of the gift instrument, that the principal is to be maintained inviolate and in perpetuity, and invested for the purpose of producing present and future income to be expended or added to principal.

Unrestricted component of net position — Unrestricted net position represents resources derived from student tuition and fees, state appropriations, recoveries of facilities and administrative (indirect) costs, and sales and services of educational departments and auxiliary enterprises. These resources are used for transactions relating to educational departments and general operations of the university, and may be used at the discretion of the university's board of visitors to meet current expenses for any lawful purpose.

When an expense is incurred that can be paid using either restricted or unrestricted resources, the university's policy is to apply the expense towards restricted resources before unrestricted resources.

Income Taxes

The university is considered an integral part of the Commonwealth of Virginia and as such is excluded from federal income taxes.

Classifications of Revenues and Expenses

The university has classified its revenues as either operating or non-operating revenues according to the following criteria:

Operating revenues — Operating revenues include activities that have the characteristics of exchange transactions, such as (1) student tuition and fees, net of scholarship allowance; (2) sales and services of auxiliary enterprises, net of scholarship allowance; (3) most federal, state, local, and nongovernmental grants and contracts and federal appropriations; and (4) interest on institutional student loans.

Non-operating revenues — Non-operating revenues are revenues received for which goods and services are not provided. State appropriations, gifts, and other revenue sources that are defined as non-operating revenues by GASB Statement 9, *Reporting Cash Flows of Proprietary and Nonexpendable Trust Funds and Governmental Entities That Use Proprietary Fund Accounting*, and GASB Statement 34, *Basic Financial Statements-and Management's Discussion and Analysis—for State and Local Governments* are included in this category.

Operating and non-operating Expenses – Non-operating expenses include interest on debt related to the purchase of capital assets and losses on disposal of capital assets. All other expenses are classified as operating expenses.

Scholarship Allowance

Student tuition and fees, certain auxiliary revenues and student financial assistance expenses are reported net of scholarship allowance in the *Statement of Revenues, Expenses, and Changes in Net Position*. Scholarship allowance is the difference between the stated charge for goods and services provided by the university and the amount paid by students and/or third parties making payments on the students' behalf. For the fiscal year ended June 30, 2018, the scholarship allowance for student tuition and fee revenue and auxiliary enterprise revenue totaled $113,598,000 and $25,172,000, respectively. Scholarship allowance to students is reported using the alternative method as prescribed by the National Association of College and University Business Officers (NACUBO). The alternative method is an algorithm that computes scholarship allowance on a university-wide basis rather than on an individual student basis.

Beginning Balance Adjustment

The university's beginning net position, as of July 1, 2017 has been adjusted. The adjustment is due to the implementation of GASB Statement 75, Accounting and Financial Reporting for Postemployment Benefits Other than Pensions. Prior year balances were not restated for GASB Statement 75; only the beginning balances for fiscal year 2018 were adjusted. The adjustment is as follows *(all dollars in thousands)*:

Net position, July 1, 2017	$	1,402,332
Other postemployment benefit asset		6,374
Deferred outflows		9,794
Other postemployment benefit liability		(251,024)
Adjusted net position, July 1, 2017	$	1,167,476

Comparative Data

The university presents its financial information on a comparative basis. The basic financial statements include certain prior year summarized comparative information in total, but not at the level of detail required for a presentation in conformity with generally accepted accounting principles. Accordingly, the prior year information should be read in conjunction with the university's financial statements for the year ended June 30, 2017, from which the summarized information was derived. Also, the summarized comparative information presented does not include the necessary adjustments related to the implementation of GASB Statement 75 for the 2017 financial statements to be comparative with the 2018 financial statements. The information needed to make these adjustments is not available for prior years.

Renovations to O'Shaughnessy Hall were substantially complete in FY 2018. The building will house 335 students as the Leadership and Social Change Residential College.

Note 2

Related Parties

In addition to the component units discussed in Note 1, Virginia Tech also has related parties that were not considered significant. These financial statements do not include the assets, liabilities, and net position of the related parties that support university programs. The related parties of the university are: Virginia Tech Alumni Association, Virginia Tech Athletic Fund Inc., Virginia Tech Intellectual Properties Inc., Virginia Tech Corps of Cadets Alumni Inc., Virginia Tech Applied Research Corporations (VTARC), Virginia Tech Innovation Corporation, Virginia Tech India Research and Education Forum (VTIREF) and any of the subsidiaries of these corporations.

The organizations are related to the university by affiliation agreements. These agreements require an annual audit to be performed by independent auditors. Affiliated organizations that hold no financial assets and certify all financial activities or transactions through the Virginia Tech Foundation Inc. may be exempt from the independent audit requirement. Exemption requirements are met by Virginia Tech Alumni Association, Virginia Tech Athletic Fund Inc., and Virginia Tech Corp of Cadets Alumni Inc. They are therefore not required to have an annual audit. Virginia Tech Intellectual Properties Inc., Virginia Tech Applied Research Corporation, Virginia Tech Innovation Corporation, and Virginia Tech India Research and Education Forum (VTIREF) are required to have an annual audit. Auditors have examined the financial records of these organizations and a copy of their audit reports have or will be provided to the university.

Note 3

Local Government Support

The university, through the operation of its Cooperative Extension Service, maintains offices in numerous cities and counties throughout the Commonwealth of Virginia. Personnel assigned to these locations receive a portion of their compensation from local governments. Also included in the expenses of these extension offices are unit support services, which include such items as rent, telephone, supplies, equipment, and extension program expenses. The estimated amount contributed by the various local governments totaled $12,143,000 in 2018, and has been included in revenues and expenses of the accompanying financial statements. The university received other local government support of $2,393,000 in 2018.

Note 4

Cash, Cash Equivalents, and Investments

The following information is provided with respect to the university's cash, cash equivalents and investments as of June 30, 2018. The following risk disclosures are required by GASB Statement 40, *Deposit and Investment Risk Disclosures*:

Custodial credit risk (Category 3 deposits and investments) — The custodial credit risk for deposits is the risk that, in the event of the failure of a depository financial institution, a government will not be able to recover deposits or will not be able to recover collateral securities that are in the possession of an outside party. The custodial credit risk for investments is the risk that, in the event of the failure of the counterparty to a transaction, a government will not be able to recover the value of investment or collateral securities that are in the possession of an outside party. The university had no category 3 deposits or investments for 2018.

Credit risk — Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. GASB Statement 40 requires the disclosure of the credit quality rating on any investments subject to credit risk.

Concentration of credit risk — The risk of loss attributed to the magnitude of a government's investment in a single issuer is referred to as concentration of credit risk. GASB Statement 40 requires disclosure of any issuer with more than 5% of total investments. More than 5% of Virginia Tech's investments are in the Federal Home Loan Bank (FHLB). These comprise 14.97% of the university's total investments. The university's investment policy requires its investment pools and sub-portfolios be diversified so that no more than 3% of the value of the respective portfolios is invested in securities of any single issuer, excluding U.S. government securities and money market funds.

Interest rate risk — This is the risk that interest rate changes will adversely affect the fair value of an investment. GASB Statement 40 requires disclosure of maturities for any investments subject to interest rate risk. The university uses a duration methodology to measure the maturities of its investment portfolios. The university's *Statement of Policy Governing the Investment of University Funds* established two major allocations, Primary Liquidity and Extended Duration, managed by external investment firms. Asset allocations to Primary Liquidity are targeted at 50% of total investments with approximate maturities less than 60 days. The Extended Duration allocation may be structured into three sub-portfolios; a Short Duration Portfolio, an Intermediate Duration Portfolio and a Long Duration Portfolio.

Foreign currency risk — This risk refers to the possibility that changes in exchange rates will adversely affect the fair value of an investment or a deposit. The university had no foreign investments or deposits for 2018.

Cash and Cash Equivalents

Cash deposits held by the university are maintained in accounts that are collateralized in accordance with the *Virginia Security for Public Deposits Act*, Section 2.2-4400, et seq., *Code of Virginia*. Cash and cash equivalents represent cash with the treasurer, cash on hand, certificates of deposit and temporary investments with original maturities of 90 days or less, and cash equivalents with the Virginia State Non-Arbitrage Program (SNAP®). SNAP® offers a professionally-managed money market mutual fund, which provides a temporary pooled investment vehicle for proceeds pending expenditure, and with record keeping, depository and arbitrage rebate calculations. SNAP® complies with all standards of GASB Statement 79. SNAP® investments are reported using the net asset value per share, which is calculated on an amortized cost basis that provides an NAV per share that approximates fair value. Cash and cash equivalents reporting requirements are defined by GASB Statement 9, *Reporting Cash Flows of Proprietary and Nonexpendable Trust Funds and Governmental Entities that Use Proprietary Fund Accounting.*

Investments

A categorization of university investments follows. Short-term investments have an original maturity of over 90 days but less than or equal to one year. Long-term investments have an original maturity greater than one year.

Summary of Investments
As of June 30, 2018
(all dollars in thousands)

	Current Assets	Noncurrent Assets	Total
Cash and cash equivalents	$ 180,841	$ 34,768	$ 215,609
Short-term investments	-	544	544
Long-term investments	-	519,462	519,462
Cash and investments	$ 180,841	$ 554,774	735,615
Less cash			7,184
Total investments			$ 728,431

The investment policy of the university is established by the board of visitors and monitored by the board's Finance and Audit Committee. Authorized investments are set forth in the *Investment of Public Funds Act*, Section 2.2-4500 through 2.2-4516, et seq., *Code of Virginia*. Authorized investments include: U.S. Treasury and agency securities, corporate debt securities, asset-backed securities, mortgage-backed securities, AAA rated obligations of foreign governments, bankers acceptances and bank notes, negotiable certificates of deposit, repurchase agreements and money market funds.

All gifts, local funds, and nongeneral fund reserves and balances the university determines appropriate and permitted by law may be invested in the VTF Consolidated Endowment Program. These funds are governed by the foundation's investment and spending policies, and managed in accordance with the provisions of the *Virginia Uniform Prudent Management of Institutional Funds Act.* See Note 26 for additional information on investments held with Virginia Tech Foundation.

Investments Measured at Fair Value Including Categorization of Credit Quality and Interest Rate Risk

Held on June 30, 2018
(all dollars in thousands)

	Credit Rating	Less than 1 Year	1-5 Years	6/30/2018	Fair Value Measurement* Level 1	Level 2
Investments by fair value level						
U.S. Treasury and Agency securities (1)	N/A	$ 22,158	$ 41,278	$ 63,436	$ 62,785	$ 651
Debt securities						
Corporate bonds and notes	A1	8,426	8,691	17,117	-	17,117
Corporate bonds and notes	A2	7,098	6,710	13,808	-	13,808
Corporate bonds and notes	A3	6,262	11,877	18,139	-	18,139
Corporate bonds and notes	Aa2	870	6,964	7,834	-	7,834
Corporate bonds and notes	Aa3	7,177	3,444	10,621	-	10,621
Corporate bonds and notes	Aaa	1,527	-	1,527	-	1,527
Repurchase agreements	N/A	25,733	-	25,733	-	25,733
Asset backed securities	Aaa	14,392	19,623	34,015	-	34,015
Asset backed securities (2)	AAA	7,380	17,197	24,577	-	24,577
Federal agency securities						
Unsecured bonds and notes	Aaa	126,042	14,207	140,249	-	140,249
Mortgage backed securities	Aaa	992	16,531	17,523	-	17,523
Mortgage backed securities (2)	AAA	-	1,993	1,993	-	1,993
Money market and mutual funds	Aaa	108	-	108	108	-
Money market and mutual funds (2)	AAA	2,822	-	2,822	2,822	-
Commercial paper	Aaa	20,921	-	20,921	-	20,921
Commercial paper	P-1	4,950	-	4,950	-	4,950
Total investments by fair value level		256,858	148,515	405,373	$ 65,715	$ 339,658
Investments measured at net asset value (NAV)						
Deposits with VTF		3,029	-	3,029		
Dairymen's Equity w/o specific maturity		-	-	63		
Investments w/o specific maturities, held with VTF		-	-	286,696		
Total investments measured at NAV		3,029	-	289,788		
Investments not measured at fair value						
Money market fund	Aaa	22,790	-	22,790		
Virginia SNAP fund(3)	AAAm	10,320	-	10,320		
Short-term investment fund (3)	AAAm	160	-	160		
Total investments not measured at fair value		33,270	-	33,270		
Total investments		$ 293,157	$ 148,515	$ 728,431		

*Debt and equity securities classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets for those securities. Debt securities classified in Level 2 of the fair value hierarchy are valued using a matrix pricing technique. Matrix pricing is used to value securities based on the securities' relationship to benchmark quoted prices. Money market investments are so close to fair value when measured at amortized cost that they are generally equivalent.

(1) Credit quality ratings are not required for U.S. Government securities that are explicitly guaranteed by the U.S. Government.
(2) Rating provided by Fitch Ratings. All other ratings provided by Moody's Investor Service unless noted otherwise.
(3) Rating provided by Standard & Poor's Financial Services. All other ratings provided by Moody's Investor Service unless noted otherwise.

Note 5

Accounts Receivable

Accounts receivable as of June 30, 2018
(all dollars in thousands)

Current accounts receivable		
Grants and contracts	$	49,326
Risk management and litigation		10,100
Federal appropriations		6,650
Student tuition and fees		2,388
Accrued investment interest		992
Auxiliary enterprises and other operating activities		5,718
Total current accounts receivable before allowance		75,174
Less allowance for doubtful accounts		1,862
Net current accounts receivable		73,312
Noncurrent accounts receivable		
Capital gifts, grants, and other receivables		13,264
Accrued investment interest		234
Build America Bond interest receivable		148
Total noncurrent accounts receivable		13,646
Total accounts receivable	$	87,258

Note 6

Notes Receivable

Notes receivable consists of the following as of June 30, 2018
(all dollars in thousands):

Current notes receivable		
Federal Perkins students loan program	$	1,040
VTT LLC operating and equipment loan		353
Brookings student loan programs		151
Other short-term loans		308
Total current notes receivable		1,852
Less allowance for doubtful accounts		191
Net current notes receivable		1,661
Noncurrent notes receivable		
Federal Perkins students loan program		12,896
VTT LLC operating and equipment loan		3,474
Brookings student loan programs		1,633
Health Professional student loan program		576
Other short-term loans		238
Total noncurrent notes receivable		18,817
Less allowance for doubtful accounts		458
Net noncurrent notes receivable		18,359
Total notes receivable	$	20,020

Note 7

Capital Assets

Changes in capital assets for the year ending June 30, 2018
(all dollars in thousands)

	Beginning Balance	Additions	Retirements	Ending Balance
Depreciable capital assets				
Buildings	$ 1,787,870	$ 115,305	$ 283	$ 1,902,892
Moveable equipment	542,390	41,917	19,594	564,713
Software and intangible assets	26,621	1,838	135	28,324
Fixed equipment	131,482	6,945	260	138,167
Infrastructure	125,568	4,944	4	130,508
Library books	77,373	570	1,079	76,864
Total depreciable capital assets, at cost	2,691,304	171,519	21,355	2,841,468
Less accumulated depreciation and amortization				
Buildings	572,001	48,899	282	620,618
Moveable equipment	395,439	41,764	18,390	418,813
Software and intangible assets	16,274	4,631	62	20,843
Fixed equipment	68,531	5,942	221	74,252
Infrastructure	98,534	3,017	1	101,550
Library books	69,082	1,806	1,077	69,811
Total accumulated depreciation and amortization	1,219,861	106,059	20,033	1,305,887
Total depreciable capital assets, net of accumulated depreciation and amortization	1,471,443	65,460	1,322	1,535,581
Nondepreciable capital assets				
Land	46,822	-	-	46,822
Livestock	643	-	253	390
Construction in progress	157,493	104,455	117,738	144,210
Equipment in process	3,703	4,046	3,283	4,466
Software in development	409	48	-	457
Total nondepreciable capital assets	209,070	108,549	121,274	196,345
Total capital assets, net of accumulated depreciation and amortization	$ 1,680,513	$ 174,009	$ 122,596	$ 1,731,926

Note 8

Accounts Payable and Accrued Liabilities

Accounts payable and accrued liabilities at June 30, 2018
(all dollars in thousands)

Accounts payable	$	37,494
Accounts payable, capital projects		19,455
Accrued salaries and wages payable		80,955
Retainage payable		2,639
Total current accounts payable and accrued liabilities	$	140,543

Retainage payable represents funds held by the university as retainage on various construction contracts for work performed. Funds retained will be remitted as agreed upon satisfactory completion of the projects.

Note 9

Unearned Revenue

Unearned revenue consists of the following at June 30, 2018
(all dollars in thousands)

Grants and contracts	$	17,916
Prepaid athletic tickets		14,386
Prepaid tuition and fees		10,668
Other auxiliary enterprises		5,986
Total unearned revenue	$	48,956

Note 10

Commonwealth Capital Reimbursement Programs and Capital Gifts

The commonwealth has established several programs to provide state-supported institutions of higher education with bond proceeds for financing the acquisition and replacement of instructional and research equipment and facilities. During fiscal year 2018, funding has been provided to the university from three programs (21st Century program, Central Maintenance Reserve program and the Equipment Trust Fund program) managed by the Virginia College Building Authority (VCBA). The VCBA issues bonds and uses the proceeds to reimburse the university and other institutions of higher education for expenses incurred in the acquisition of equipment and facilities. The university also receives capital funding for equipment and facilities from private gifts, grants, and contracts.

The *Statement of Revenues, Expenses, and Changes in Net Position* includes the amounts listed below for the year ended June 30, 2018, in "Capital Grants and Gifts" line item for equipment and facilities. Part of the funding for these programs is a receivable from the commonwealth at June 30, 2018 as shown in the subsequent paragraph *(all dollars in thousands)*:

VCBA 21st Century program	$ 34,780
VCBA Central Maintenance Reserve program	14,609
VCBA Equipment Trust Fund program	15,424
Private gifts	18,197
Grants and contracts	2,078
	$ 85,088

The line items, "Due from the Commonwealth of Virginia", on the *Statement of Net Position* for the year ended June 30, 2018, represent pending reimbursements from the following programs *(all dollars in thousands):*

	Current	Noncurrent
VCBA Equip Trust Fund program	$ 15,424	$ -
VCBA 21st Century program	-	8,204
	$ 15,424	$ 8,204

Note 11

Short-term Debt

On March 31, 2008, the Virginia Tech Board of Visitors approved the short-term financing of capital projects with commercial paper issued through the Virginia Municipal League/Virginia Association of Counties (VML/VACo) commercial paper program. This tax-exempt commercial paper financing program gives the university access to a revolving facility to finance or refinance up to $50 million for capital projects under construction that have been previously approved for debt financing by either the board of visitors or the General Assembly of the Commonwealth of Virginia.

At June 30, 2018, the amount outstanding was $15,200,000. The average days-to-maturity was 24 days with a weighted average effective interest rate of 1.82%.

Note 12

Summary of Long-term Indebtedness

Bonds Payable

The university has issued two categories of bonds pursuant to section 9 of Article X of the Constitution of Virginia.

Section 9(d) bonds are revenue bonds which are limited obligations of the university, payable exclusively from pledged general revenues, and which are not legal or moral debts of the Commonwealth of Virginia. Pledged general revenues include general fund appropriations, student tuition and fees, facilities and administrative (indirect) cost recoveries, auxiliary enterprise revenues, and other revenues not required by law to be used for another purpose. The university has issued section 9(d) bonds directly through underwriters and also participates in the Public Higher Education Financing Program (Pooled Bond Program) created by the Virginia General Assembly in 1996. Through the Pooled Bond Program, the Virginia College Building Authority issues section 9(d) bonds with the proceeds used to purchase debt obligations (notes) of the university and other institutions of higher education. The notes are secured by pledged general revenues of the university.

Section 9(c) bonds are general obligation revenue bonds issued by the Commonwealth of Virginia on behalf of the university and secured by the net revenues of the completed project and the full faith, credit, and taxing power of the Commonwealth of Virginia.

Bond covenants related to some of these bonds, both 9(c) and 9(d), require the use of established groups of funds called systems. The Virginia Tech Foundation Inc. and the investment firms of Standish Mellon and Merganser hold these funds in trust for managing the net revenues and debt service of certain university auxiliaries. The revenue bonds issued by the Dormitory and Dining Hall System, the Athletic Facilities System, the University Services System (includes the Career and Professional Development, Center for the Arts, Health Services, Recreational Sports, Student Engagement and Campus Life, Student Organizations, and Rescue Squad auxiliaries), and the Utility System (includes Virginia Tech Electric Service) are secured by a pledge of each system's net revenues generated from student or customer fees, and are further secured by the pledged general revenues of the university.

Notes Payable

Notes payable are debt obligations between the Virginia College Building Authority (VCBA) and the university. VCBA issues bonds through the Pooled Bond Program and uses the proceeds to purchase debt obligations (notes) of the university. The notes are secured by the pledged general revenues of the university.

Capital Leases

Capital leases represent the university's obligation primarily to the Virginia Tech Foundation Inc. for lease agreements related to facilities. The leased facilities include the Student Services building, the Public Safety building, the Hunter Andrews Information Systems building addition, the Integrated Life Sciences building (ILSB) which includes a separate lease for a vivarium located in the ILSB, the North End Center building and parking garage, the Prince Street building in Alexandria, Virginia, and the Kentland Dairy complex. The leased equipment includes two shuttle buses. The assets under capital lease are recorded at the net present value of the minimum lease payments during the lease term.

Long-term Debt Payable Activity
As of June 30, 2018
(all dollars in thousands)

	Beginning Balance	Additions	Retirements	Ending Balance	Current Portion
Bonds payable					
Section 9(c) general obligation revenue bonds	$ 134,153	$ -	$ 9,673	$ 124,480	$ 8,032
Section 9(d) revenue bonds	61,611	-	3,023	58,588	2,910
Notes payable	227,091	24,847	18,353	233,585	16,915
Capital lease obligations	71,355	2,483	6,186	67,652	3,791
Total long-term debt payable	$ 494,210	$ 27,330	$ 37,235	$ 484,305	$ 31,648

Future Principal Commitments
For fiscal years subsequent to 2018
(all dollars in thousands)

	Section 9(c) Bonds	Section 9(d) Bonds	Notes Payable	Capital Lease Obligations	Total Long-term Debt Payable
2019	$ 8,032	$ 2,910	$ 16,915	$ 3,791	$ 31,648
2020	8,108	3,050	17,940	3,972	33,070
2021	8,442	2,440	15,720	4,236	30,838
2022	8,804	2,560	16,330	3,402	31,096
2023	9,173	2,650	16,255	3,382	31,460
2024 - 2028	48,961	15,345	76,475	19,715	160,496
2029 - 2033	19,080	18,035	39,830	16,519	93,464
2034 - 2038	1,600	8,435	16,045	12,635	38,715
Unamortized premiums (discounts)	12,280	3,163	18,075	-	33,518
Total future principal requirements	$ 124,480	$ 58,588	$ 233,585	$ 67,652	$ 484,305

Future Interest Commitments
For fiscal years subsequent to 2018
(all dollars in thousands)

	Section 9(c) Bonds	Section 9(d) Bonds	Notes Payable	Capital Lease Obligations	Total Long-term Debt Payable
2019	$ 4,781	$ 2,122	$ 8,696	$ 3,072	$ 18,671
2020	4,431	1,994	7,865	2,898	17,188
2021	4,082	1,890	7,070	2,764	15,806
2022	3,707	1,772	6,301	2,511	14,291
2023	3,318	1,674	5,526	2,346	12,864
2024 - 2028	10,087	6,536	18,426	8,933	43,982
2029 - 2033	1,741	3,571	6,348	4,573	16,233
2034 - 2038	48	468	1,348	1,143	3,007
Total future interest requirements	$ 32,195	$ 20,027	$ 61,580	$ 28,240	$ 142,042

Future Principal Commitments by System
For fiscal years subsequent to 2018
(all dollars in thousands)

	Section 9(c) Bonds	Section 9(d) Bonds	Notes Payable	Capital Lease Obligations	Total Long-term Debt Payable
Athletic system					
Principal	$ -	$ 510	$ 40,735	$ -	$ 41,245
Unamortized premiums (discounts)	-	(3)	5,019	-	5,016
Total for athletic system	-	507	45,754	-	46,261
Dormitory and dining hall system					
Principal	90,720	46,660	10,985	-	148,365
Unamortized premiums (discounts)	9,778	2,936	599	-	13,313
Total for dormitory and dining hall system	100,498	49,596	11,584	-	161,678
Electric service utility system					
Principal	-	3,960	1,652	-	5,612
Unamortized premiums (discounts)	-	130	70	-	200
Total for electric service utility system	-	4,090	1,722	-	5,812
University services system					
Principal	-	2,940	47,692	-	50,632
Unamortized premiums (discounts)	-	41	3,447	-	3,488
Total for university services system	-	2,981	51,139	-	54,120
All systems					
Principal	90,720	54,070	101,064	-	245,854
Unamortized premiums (discounts)	9,778	3,104	9,135	-	22,017
Total for all systems	100,498	57,174	110,199	-	267,871
Other nonsystem debt					
Principal	21,480	1,355	114,446	67,652	204,933
Unamortized premiums (discounts)	2,502	59	8,940	-	11,501
Total for other nonsystem debt	23,982	1,414	123,386	67,652	216,434
Total future principal requirements	$ 124,480	$ 58,588	$ 233,585	$ 67,652	$ 484,305

Detail of Long-term Indebtedness

As of June 20, 2018
(all dollars in thousands)

	Interest rates	Maturity	Principal Payable	Unamortized Premium (Discount)	Ending Balance
Bonds Payable					
Revenue bonds - Section 9(d)					
Athletic system					
Series 2015B, issued $510	2.50% - 3.50%	2035	$ 510	$ (3)	$ 507
Dormitory and dining hall system					
Series 2015A, issued $51,425	2.00% - 5.00%	2035	46,660	2,936	49,596
Electric service utility system					
Series 2015D, issued $4,390	2.75% - 4.00%	2035	3,960	130	4,090
University services system					
Recreational Sports auxiliary					
Series 2015C, issued $3,280	2.00% - 4.00%	2035	2,940	41	2,981
Other nonsystem debt					
Northern Virginia Graduate Center					
Series 2015E, issued $2,635 - refunding series 2004A	3.00%	2020	1,355	59	1,414
Total revenue bonds			55,425	3,163	58,588
General obligation revenue bonds - Section 9(c)					
Dormitory and dining hall system					
Series 2014B, issued $587 - partial refundings series 2004B	2.00% - 5.00%	2019	137	15	152
Series 2009B, issued $39,005	4.00% - 5.00%	2019	1,950	331	2,281
Series 2009B, issued $3,720	4.00% - 5.00%	2019	185	32	217
Series 2009D, issued $1,891 - partial refunding series 2004A	5.00%	2022	1,230	126	1,356
Series 2012A, issued $942 - partial refunding series 2004A	5.00%	2024	704	118	822
Series 2013B, issued $3,576 - partial refunding series 2007A	4.00% - 5.00%	2027	3,576	425	4,001
Series 2013B, issued $7,842 - partial refunding series 2007A	4.00% - 5.00%	2027	7,842	932	8,774
Series 2015B, issued $10,671 - partial refunding series 2008B	4.00% - 5.00%	2028	10,671	1,765	12,436
Series 2016B, issued $24,200 - partial refunding series 2009B	2.00% - 5.00%	2029	24,200	4,072	28,272
Series 2016B, issued $2,310 - partial refunding series 2009B	2.00% - 5.00%	2029	2,310	389	2,699
Series 2010A, issued $34,650	3.00% - 5.00%	2030	23,670	394	24,064
Series 2011A, issued $18,860	4.34%	2031	14,245	1,179	15,424
Total dormitory and dining hall system			90,720	9,778	100,498
Other nonsystem general obligation revenue bonds					
Parking facilities					
Series 2009B, issued $24,590	4.00% - 5.00%	2019	835	146	981
Series 2009D, issued $190 - partial refunding series 2006B	5.00%	2022	155	13	168
Series 2013B, issued $218 - partial refunding series 2006B	4.00% - 5.00%	2026	184	22	206
Series 2015B, issued $921 - partial refunding series 2008B	4.00% - 5.00%	2028	921	152	1,073
Series 2010A, issued $745	2.00% - 5.00%	2030	495	8	503
Series 2016B, issued $18,890 - partial refunding series 2009B	2.00% - 5.00%	2034	18,890	2,161	21,051
Total other nonsystem general obligation revenue bonds			21,480	2,502	23,982
Total general obligation revenue bonds			112,200	12,280	124,480
Total bonds payable			$ 167,625	$ 15,443	$ 183,068
Notes Payable					
Athletic system					
Series 2007B, issued $2,860 - partial refunding series 2001A	4.00% - 4.50%	2020	$ 1,890	$ -	$ 1,890
Series 2009B, issued $8,705	2.00% - 5.00%	2020	790	82	872
Series 2010B, issued $11,540 - partial refunding series 2001A	4.00% - 5.00%	2027	7,625	562	8,187
Series 2012B, issued $32,365 - refunding series 2004D revenue bond	3.00% - 5.00%	2029	25,045	3,423	28,468
Series 2016A, issued $5,385 - partial refunding series 2009B	3.00% - 5.00%	2030	5,385	952	6,337
Total athletic system			40,735	5,019	45,754
Dormitory and dining hall system					
Series 2007B, issued $3,395 - partial refunding 1998A	4.00% - 4.50%	2019	735	-	735
Series 2014B, issued $3,695 - refunding series 2004B	3.00% - 5.00%	2019	1,530	137	1,667
Series 2012A, issued $1,350 - partial refunding series 2005	5.00%	2025	1,210	151	1,361
Series 2014B, issued $340 - partial refunding series 2005	3.00% - 5.00%	2026	205	27	232
Series 2010A, issued $9,650	3.75% - 5.50%	2031	7,305	284	7,589
Total dormitory and dining hall system			10,985	599	11,584
Electric service utility system					
Series 2007B, issued $646 - partial refunding series 2000A	4.00% - 5.00%	2020	431	-	431
Series 2007B, issued $1,060 - partial refunding series 2002A	4.00% - 4.50%	2020	371	5	376
Series 2010B, issued $345 - partial refunding series 2000A	5.00% - 5.75%	2021	215	13	228
Series 2010B, issued $770 - partial refunding series 2002A	5.25%	2023	635	52	687
Total electric service utility system			1,652	70	1,722
University services system					
Career Services auxiliary					
Series 2007B, issued $1,621 - partial refunding series 2002A	4.00% - 4.50%	2020	567	7	574
Series 2010B, issued $1,190 - partial refunding series 2002A	5.25%	2023	975	81	1,056
Center for the Arts auxiliary					
Series 2010B, issued $19,445	3.75% - 5.60%	2036	16,060	455	16,515
Series 2011A, issued $19,375	3.00% - 5.00%	2037	16,840	715	17,555

Health Services auxiliary					
Series 2009B, issued $4,365	2.00% - 5.00%	2020	410	45	455
Series 2009B, issued $12,420	2.00% - 5.00%	2020	1,170	127	1,297
Series 2009A, issued $1,475	2.75% - 5.00%	2021	145	8	153
Series 20015B, issued $800 - partial refunding series 2009A	3.00% - 5.00%	2029	800	113	913
Series 2016A, issued $2,780 - partial refunding series 2009B	3.00% - 5.00%	2030	2,780	492	3,272
Series 2016A, issued $7,945 - partial refunding series 2009B	3.00% - 5.00%	2030	7,945	1,404	9,349
Total university services system			47,692	3,447	51,139
Other nonsystem notes payable					
Boiler pollution controls					
Series 2014B, issued $720 - partial refunding series 2006A	3.00% - 5.00%	2024	630	79	709
Series 2016A, issued $375 - partial refunding series 2006A	3.00%	2027	375	34	409
Campus heating plant					
Series 2009B, issued $5,875	2.00% - 5.00%	2020	535	56	591
Series 2014B, issued $1,790 - partial refunding series 2007A	3.00% - 5.00%	2026	1,790	228	2,018
Series 2016A, issued $575 - partial refunding series 2007A	3.00% - 5.00%	2028	575	99	674
Series 2016A, issued $3,625 - partial refunding series 2009B	3.00% - 5.00%	2030	3,625	640	4,265
Chiller plant					
Series 2011A, issued $7,515	3.00% - 5.00%	2032	6,110	407	6,517
Infectious waste facility					
Series 2007B, issued $359 - partial refunding series 2000A	4.00% - 4.50%	2020	239	-	239
Series 2010B, issued $190 - partial refunding series 2000A	5.00% - 5.75%	2021	120	7	127
Goodwin Hall					
Series 2011A, issued $13,410	5.00%	2020	4,320	451	4,771
Series 2011A, issued $12,695	3.00% - 5.00%	2032	10,330	688	11,018
Holtzman Alumni Center and Skelton Conference Center					
Series 2010B, issued $3,215 - partial refunding series 2003A	4.38% - 5.00%	2021	2,470	183	2,653
Series 2012A, issued $12,320 - partial refunding series 2003A	4.75%	2031	10,115	805	10,920
ICTAS II					
Series 2009B, issued $13,045	2.00% - 5.00%	2020	1,230	133	1,363
Series 2016A, issued $8,345 - partial refunding series 2009B	3.00% - 5.00%	2030	8,345	1,474	9,819
Kelly Hall					
Series 2014B, issued $6,040 - partial refunding series 2006A	3.00% - 5.00%	2024	5,295	667	5,962
Series 2016A, issued $3,180 - partial refunding series 2006A	3.00%	2027	3,180	283	3,463
Life Sciences I Facility					
Series 2012A, issued $3,985 - partial refunding series 2005	5.00%	2025	3,565	445	4,010
Series 2014B, issued $1,005 - partial refunding series 2005	3.00% - 5.00%	2026	615	78	693
Steger Hall					
Series 2007B, issued $5,649 - partial refunding series 2002A	4.00% - 4.50%	2020	1,977	26	2,003
Series 2010B, issued $10,155 - partial refunding series 2002A	4.00% - 5.25%	2028	9,405	349	9,754
Surge space building					
Series 2014B, issued $2,730 - partial refunding series 2006A	3.00% - 5.00%	2022	2,240	231	2,471
Unified Communications					
Series 2015A, issued $6,160	5.00%	2023	4,615	517	5,132
Veterinary medicine instruction addition					
Series 2012B, issued $9,820	3.00% - 5.00%	2033	8,115	856	8,971
Virginia Tech Carilion biosciences addition					
Series 2018A, issued $24,630	2.75% - 3.30%	2038	24,630	204	24,834
Total other nonsystem notes payable			114,446	8,940	123,386
Total notes payable			$ 215,510	$ 18,075	$ 233,585
Capital leases payable					
North End Center building and parking garage			$ 37,394	$ -	$ 37,394
Kentland Farm dairy complex			12,825	-	12,825
Integrated Life Sciences (ILSB) building and vivarium			11,563	-	11,563
Student Services building, Public Safety building, Hunter Andrews addition, Prince Street building, and shuttle buses			5,870	-	5,870
Total capital leases payable			$ 67,652	$ -	$ 67,652

Note 14

Long-term Debt Defeasance

Previous Years

In previous fiscal years, in accordance with GASB Statement 7, *Advance Refundings Resulting in the Defeasance of Debt,* the university excluded from its financial statements the assets in escrow and the debt payable that were defeased in-substance. For the year ended June 30, 2018, bonds and notes payable considered defeased in previous years totaled $77,500,000.

Debt Defeasance – Gains (Losses)

Prior to fiscal year 2014, gains and losses from the defeasance of long-term debt were netted and included in the long-term debt payable (current and noncurrent) and depreciable capital assets, net categories on the *Statement of Net Position*. Beginning in fiscal year 2014, GASB Statement 65, *Items Previously Reported as Assets and Liabilities*, reclassifies gains and losses on defeased debt to deferred outflows of resources or deferred inflows of resources. The tables below provide detail on the unamortized gains and losses included in the deferred outflows of resources and deferred inflows of resources by bond category for defeased outstanding debt from prior years.

Deferred Outflows for Debt Defeasance
As of June 30, 2018
(all dollars in thousands)

	Beginning Balance	Additions	Retirements	Ending Balance
Bonds payable				
Section 9(c) general obligation revenue bonds	$ (2,929)	$ -	$ 281	$ (2,648)
Section 9(d) revenue bonds	(84)	-	28	(56)
Notes payable	(6,734)	-	680	(6,054)
Total deferred outflows for debt defeasance	$ (9,747)	$ -	$ 989	$ (8,758)

Deferred Inflows for Debt Defeasance
As of June 30, 2018
(all dollars in thousands)

	Beginning Balance	Additions	Retirements	Ending Balance
Bonds payable				
Section 9(c) general obligation revenue bonds	$ 160	$ -	$ (22)	$ 138
Notes payable	878	-	(72)	806
Total deferred inflows for debt defeasance	$ 1,038	$ -	$ (94)	$ 944

Note 15

Change in Other Liabilities

A summary of the changes in other liabilities for the year ended June 30, 2018
(all dollars in thousands)

	Beginning Balance	Additions	Reductions	Ending Balance	Current Portion
Accrued compensated absences	$ 43,573	$ 36,592	$ 34,757	$ 45,408	$ 24,461
Federal student loan program contributions refundable	13,694	250	990	12,954	-
Net pension liability	438,576	-	52,413	386,163	-
Other postemployment benefits	-	226,743	-	226,743	2,871
Total other liabilities	$ 495,843	$ 263,585	$ 88,160	$ 671,268	$ 27,332

Virginia Tech's drone park, the tallest drone park in the U.S., opened with President Tim Sands at a ceremony in FY 2018. Faculty and students involved in drone research were on hand to demonstrate the capabilities of various unmanned aircraft.

Note 16

Lease Commitments

The university has entered into numerous agreements to lease land, buildings, and equipment. With some of these agreements, the university is committed under various operating leases for equipment and space. In general, the leases are for three- to ten-year terms with renewal options. The university expects similar leases to replace these leases during the normal course of business. The total lease expense was approximately $34,665,000 for the year ended June 30, 2018. This amount includes approximately $24,432,000 in lease payments to the Virginia Tech Foundation Inc. for office and laboratory space. In addition, the total lease expense includes approximately $3,196,000 of short-term equipment rentals that can be terminated at any time.

A summary of future minimum lease payments under operating leases as of June 30, 2018, follows (*all dollars in thousands*):

2019	$ 21,764
2020	18,486
2021	15,061
2022	7,583
2023	4,493
2024 – 2028	8,542
2029 – 2033	3,423
2034 – 2038	2,397
2039 – 2043	2,156
2044 – 2048	2,156
2049 – 2053	2,156
2054 – 2058	2,044
2059 – 2063	1,482
Total future minimum lease payments	$ 91,743

Note 17

Capital Improvement Commitments

The amounts listed in the following tables represent the value of obligations remaining on capital improvement project contracts. These obligations are for future effort and as such have not been accrued as expenses or liabilities on the university's financial statements. Outstanding contractual commitments for capital improvement projects at June 30, 2018 are listed below.

Capital Commitments by Project

(all dollars in thousands)

Virginia Tech Carilion health sciences expansion	$ 67,934
Undergraduate science labs – new building	4,544
Student wellness improvements	4,493
Holden Hall renovation	2,567
Other projects	7,797
Total capital commitments by project	$ 87,335

Capital Commitments by Funding Source

(all dollars in thousands)

VCBA 21st Century bonds (commonwealth)	$ 47,938
Bonds and notes payable (university)	31,364
University cost recoveries	5,966
Auxiliary enterprise funds	2,067
Total capital commitments by funding source	$ 87,335

Note 18

Pension Plan

PLAN DESCRIPTIONS

All full-time, salaried permanent employees of state institutions are automatically covered by the VRS State Employee Retirement Plan (SERP) or the VaLORS Retirement Plan upon employment, unless they are eligible faculty and choose to enroll in the optional retirement program described in Note 19. These plans are single-employer plans treated as cost-sharing plans for financial reporting purposes. They are administered by the Virginia Retirement System (VRS, or 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 in the VRS State Employee Retirement Plan – Plan 1, Plan 2, and, Hybrid and two different benefit structures for covered employees in the VaLORS Retirement Plan – Plan 1 and Plan 2. Each of these benefit structures has a 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:

RETIREMENT PLAN PROVISIONS BY PLAN STRUCTURE

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.

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.

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

Eligible Members - Plan 1

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. 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.

Eligible Members – Plan 2

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. 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.

Eligible Members – Hybrid Plan

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

- State 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

*Some state employees are not eligible to participate in the Hybrid Retirement Plan. They include members of the Virginia Law Officers' Retirement System (VaLORS), and employees eligible for an optional retirement plan (ORP) who have prior service under Plan 1 or Plan 2. These employees must select Plan 1 or Plan 2 (as applicable) or the ORP plan.

RETIREMENT CONTRIBUTIONS

Retirement Contributions - Plan 1

State employees, excluding state elected officials, and optional retirement plan participants, 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.

Retirement Contributions - Plan 2

State employees contribute 5% of their compensation each month to their member contribution account through a pre-tax salary reduction.

Retirement Contributions - Hybrid Plan

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

Creditable Service - Plan 1

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.

Creditable Service - Plan 2

Same as Plan 1.

Creditable Service - Hybrid Plan

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

Vesting - Plan 1

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.

Vesting - Plan 2

Same as Plan 1.

Vesting - Hybrid Plan

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. 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 70½.

CALCULATING THE BENEFIT

Calculating the Benefit - Plan 1

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.

Calculating the Benefit - Plan 2

See definition under Plan 1.

Calculating the Benefit - Hybrid Plan

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

Average Final Compensation - Plan 1

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

Average Final Compensation - Plan 2

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

Average Final Compensation - Hybrid Plan

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

SERVICE RETIREMENT MULTIPLIER

Service Retirement Multiplier - Plan 1

For SERP, 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%. For VaLORS, the retirement multiplier for VaLORS employees is 1.70% or 2.00%.

Service Retirement Multiplier - Plan 2

For SERP, 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. For VaLORS, the retirement multiplier for VaLORS employees is 2.00%.

Service Retirement Multiplier - Hybrid Plan

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; VaLORS - Not applicable.

Defined Contribution Component: Not applicable.

NORMAL RETIREMENT AGE

Normal Retirement Age - Plan 1

For SERP, age 65. For VaLORS, age 60.

Normal Retirement Age - Plan 2

For SERP, normal Social Security retirement age. For VaLORS, same as Plan 1.

Normal Retirement Age - Hybrid Plan

Defined Benefit Component: SERP - Same as Plan 2; VaLORS - Not applicable.

Defined Contribution Component: Members are eligible to receive distributions upon leaving employment, subject to restrictions.

EARLIEST UNREDUCED RETIREMENT ELIGIBILITY

Earliest Unreduced Retirement Eligibility - Plan 1

For SERP, age 65 with at least five years (60 months) of creditable service or at age 50 with at least 30 years of creditable service. For VaLORS, age 60 with at least five years of creditable service or age 50 with at least 25 years of creditable service.

Earliest Unreduced Retirement Eligibility - Plan 2

For SERP, normal Social Security retirement age with at least five years (60 months) of creditable service or when age and service equal 90. For VaLORS, same as Plan 1.

Earliest Unreduced Retirement Eligibility - Hybrid Plan

Defined Benefit Component: SERP - Normal Social Security retirement age and have at least five years (60 months) of creditable service or when their age and service equal 90; VaLORS - Not applicable.

Defined Contribution Component: Members are eligible to receive distributions upon leaving employment, subject to restrictions.

EARLIEST REDUCED RETIREMENT ELIGIBILITY

Earliest Reduced Retirement Eligibility - Plan 1

For SERP, age 55 with at least five years (60 months) of creditable service or age 50 with at least 10 years of creditable service. For VaLORS: 50 with at least five years of creditable service.

Earliest Reduced Retirement Eligibility - Plan 2

For SERP, age 60 with at least five years (60 months) of creditable service. For VaLORS, same as Plan 1.

Earliest Reduced Retirement Eligibility - Hybrid Plan

Defined Benefit Component: SERP - Age 60 with at least five years (60 months) of creditable service; VaLORS - Not applicable.

Defined Contribution Component: Members are eligible to receive distributions upon leaving employment, subject to restrictions.

COST-OF-LIVING ADJUSTMENT (COLA) IN RETIREMENT

Cost-of-Living Adjustment (COLA) in Retirement - Plan 1

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%.

Eligibility rules:

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.

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.

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.

Cost-of-Living Adjustment (COLA) in Retirement - Plan 2

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%. Eligibility rules and exceptions are the same as Plan 1.

Cost-of-Living Adjustment (COLA) in Retirement - Hybrid Plan

Defined Benefit Component: The COLA is the same as Plan 2. The eligibility rules and exceptions are the same as Plan 1

Defined Contribution Component: Not applicable.

DISABILITY COVERAGE

Disability Coverage - Plan 1

Members who are eligible to be considered for disability retirement and retire on disability, the retirement multiplier is 1.7% on all service, regardless of when it was earned, purchased or granted. Most state employees are covered under the Virginia Sickness and Disability Program (VSDP), and are not eligible for disability retirement. VSDP members are subject to a one-year waiting period before becoming eligible for non-work-related disability benefits.

Disability Coverage - Plan 2

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. Most state employees are covered under the Virginia Sickness and Disability Program (VSDP), and are not eligible for disability retirement. VSDP members are subject to a one-year waiting period before becoming eligible for non-work related disability benefits.

Disability Coverage - Hybrid Plan

State employees (including Plan 1 and Plan 2 opt-ins) participating in the Hybrid Retirement Plan are covered under the Virginia Sickness and Disability Program (VSDP), and are not eligible for disability retirement. Hybrid members (including Plan 1 and Plan 2 opt-ins) covered under VSDP are subject to a one-year waiting period before becoming eligible for non-work-related disability benefits.

PURCHASE OF PRIOR SERVICE

Purchase of Prior Service - Plan 1

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 toward vesting, eligibility for retirement and the health insurance credit. Only active members are eligible to purchase prior service. When buying service, members must purchase their most recent period of service first. Members also may be eligible to purchase periods of leave without pay.

Purchase of Prior Service - Plan 2 Same as Plan 1.

Purchase of Prior Service - Hybrid Plan

Defined Benefit Component: Same as Plan 1, with the exception that Hybrid Retirement Plan members are ineligible for ported service.
Defined Contribution Component: Not applicable.

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 provided to state agencies by the Virginia General Assembly. Employees are required to contribute 5.00% of their compensation toward their retirement. Prior to July 1, 2012, the 5.00% member contribution was paid by the employer. Beginning July 1, 2012 state employees were required to pay the 5.00% member contribution and the employer was required to provide a salary increase equal to the amount of the increase in the employee-paid member contribution. Each state agency's contractually required contribution rate for the year ended June 30, 2018 was 13.49% of covered employee compensation for employees in the VRS State Employee Retirement Plan. For employees in the VaLORS Retirement Plan, the contribution rate was 21.05% of covered employee compensation. These rates were based on an actuarially determined rate(s) from an actuarial valuation as of June 30, 2015. The contribution rate for the VRS State Employee Retirement Plan also reflects the transfer in June 2016 of $162,406,273 as an accelerated payback of the deferred contribution in the 2010-12 biennium. The contribution rate for the VaLORS Retirement Plan also reflects the transfer in June 2016 of $16,491,559 as an accelerated payback of the deferred contribution in the 2010-12 biennium. The actuarially determined 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 from Virginia Tech to the VRS State Employee Retirement Plan were $36,466,000 and $35,348,000 for the years ended June 30, 2018 and June 30, 2017, respectively. Contributions from Virginia Tech to the VaLORS Retirement Plan were $483,000 and $487,000 for the years ended June 30, 2018 and June 30, 2017, respectively.

PENSION LIABILITIES, PENSION EXPENSE, AND DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED INFLOWS OF RESOURCES RELATED TO PENSIONS

At June 30, 2018, Virginia Tech reported a liability of $381,766,000 for its proportionate share of the VRS State Employee Retirement Plan Net Pension Liability and a liability of $4,397,000 for its proportionate share of the VaLORS Retirement Plan Net Pension Liability. The Net Pension Liability was measured as of June 30, 2017 and the total pension liability used to calculate the Net Pension Liability was determined by an actuarial valuation as of that date. Virginia Tech's proportion of the Net Pension Liability was based on Virginia Tech's actuarially determined employer contributions to the pension plan for the year ended June 30, 2017 relative to the total of the actuarially determined employer contributions for all participating employers. At June 30, 2017, Virginia Tech's proportion of the VRS State Employee Retirement Plan was 6.551% as compared to 6.576% at June 30, 2016. At June 30, 2017, the Virginia Tech's proportion of the VaLORS Retirement Plan was 0.670% as compared to 0.672% at June 30, 2016.

For the year ended June 30, 2018, Virginia Tech recognized pension expense of $30,780,000 for the VRS State Employee Retirement Plan and $250,000 the VaLORS Retirement Plan. Since there was a change in proportionate share between June 30, 2016 and June 30, 2017, a portion of the pension expense was related to deferred amounts from changes in proportion and from differences between employer contributions and the proportionate share of employer contributions.

At June 30, 2018, Virginia Tech reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources *(all dollars in thousands):*

	SERP		VALORS	
	Deferred Outflows	Deferred Inflows	Deferred Outflows	Deferred Inflows
Differences between expected and actual experience	$ 810	$ 11,560	$ 13	$ 10
Change in assumptions	3,708	-	-	286
Net difference between projected and actual earnings on pension plan investments	-	16,308	-	122
Changes in proportion and differences between employer contributions and proportionate share of contributions	4,097	1,136	24	44
Employer contributions subsequent to the measurement date	36,466	-	483	-
Total	$ 45,081	$ 29,004	$ 520	$ 462

A total of $36,949,000 ($36,466,000 for SERP and $483,000 for VaLORS) reported as deferred outflows of resources related to pensions resulting from Virginia Tech's contributions subsequent to the measurement date will be recognized as a reduction of the Net Pension Liability in the year ended June 30, 2019. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows *(all dollars in thousands)*:

Year ended June 30	SERP	VALORS
FY2019	$ (11,732)	$ (236)
FY2020	$ (2,452)	$ (101)
FY2021	$ (141)	$ (6)
FY2022	$ (10,968)	$ (82)
FY2023	$ -	$ -

ACTUARIAL ASSUMPTIONS

VRS State Employee Retirement Plan (SERP)

The total pension liability for the VRS State Employee Retirement Plan was based on an actuarial valuation as of June 30, 2016, 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, 2017.

Inflation	2.5%
Salary increases, including inflation	3.5% – 5.35%
Investment rate of return	7.0%, net of pension plan investment expense, including inflation*

Mortality rates (SERP)

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; 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; female 130% of rates.

The actuarial assumptions used in the June 30, 2016 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	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 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%

VaLORS Retirement Plan

The total pension liability for the VaLORS Retirement Plan was based on an actuarial valuation as of June 30, 2016, 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, 2017.

Inflation	2.5 %
Salary increases, including inflation	3.5 % – 4.75 %
Investment rate of return	7.0 %, net of pension plan investment expense, including inflation*

Mortality rates (VaLORS)

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; males set forward 1 year with 1.0% increase compounded from ages 70 to 90; females set forward 1 year.

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, 2016 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	Updated to 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 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%

** 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.*

NET PENSION LIABILITY

The net pension liability (NPL) is calculated separately for each system and represents that particular system's total pension liability determined in accordance with GASB Statement 67, less that system's fiduciary net position. As of June 30, 2017, NPL amounts for the VRS State Employee Retirement Plan and the VaLORS Retirement Plan are as follows *(amounts expressed in thousands):*

	SERP	VaLORS
Total Pension Liability	$ 23,617,412	$ 2,002,184
Plan Fiduciary Net Position	17,789,888	1,345,887
Employers' NPL (Asset)	$ 5,827,524	$ 656,297
Plan Fiduciary Net Position as a percentage of the total pension liability	75.33%	67.22%

The total pension 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 pension liability is disclosed in accordance with the requirements of GASB Statement 67 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 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 :

Asset Class (Strategy)	Target Allocation	Arithmetic Long-term Expected Rate of Return	Weighted Average Long-term Expected Rate of Return
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	100.00 %		4.80 %
Inflation			2.50 %
Expected arithmetic nominal return*			7.30 %

* 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. Through the fiscal year ending June 30, 2019, the rate contributed Virginia Tech for the VRS State Employee Retirement Plan and the VaLORS Retirement Plan will be subject to the portion of the VRS Board-certified rates that are funded by the Virginia General Assembly. From July 1, 2019 on, all agencies 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.

SENSITIVITY OF VIRGINIA TECH'S PROPORTIONATE SHARE OF THE NET PENSION LIABILITY TO CHANGES IN THE DISCOUNT RATE

The following presents Virginia Tech's proportionate share of the VRS State Employee Retirement Plan (SERP) and the VaLORS Retirement Plan net pension liability using the discount rate of 7.00%, as well as what Virginia Tech's proportionate share of the 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 *(all dollars in thousands):*

	1.00% Decrease (6.00%)	Current Discount Rate (7.00%)	1.00%Increase (8.00%)
Virginia Tech's proportionate share of the VRS net pension liability	$ 563,920	$ 381,766	$ 228,796
Virginia Tech's proportionate share of the VaLORS net pension liability	$ 6,134	$ 4,397	$ 2,961

PENSION PLAN FIDUCIARY NET POSITION

Detailed information about the VRS State Employee Retirement Plan's Fiduciary Net Position or the VaLORS Retirement Plan's Fiduciary Net Position is available in the separately issued VRS 2017 Comprehensive Annual Financial Report (CAFR). A copy of the 2017 VRS CAFR may be downloaded from the VRS website at http://www.varetire.org/Pdf/Publications/2017-annual-report.pdf, or by writing to the System's Chief Financial Officer at P.O. Box 2500, Richmond, VA, 23218-2500.

PAYABLES TO THE PENSION PLAN

The amount of payables outstanding to the VRS State Employee Retirement Plan (SERP) and the VaLORS Retirement Plan at June 30, 2018, was approximately $2.1 million for legally required contributions into the plans.

Note 19

Defined Contribution Plans

Optional Retirement Plan

Full-time faculty and certain administrative staff may participate in optional retirement plans as authorized by the Code of Virginia rather than the VRS retirement plan. These optional retirement plans are defined contribution plans offered through Teachers Insurance and Annuity Association – College Retirement Equities Fund (TIAA-CREF), and Fidelity Investments Tax-Exempt Services Company. There are two defined contribution plans. Plan 1 is for employees hired prior to July 1, 2010, and retirement benefits received are based upon the university's 10.4 percent contribution, plus net investment gains or losses. Plan 2 is for employees hired on or after July 1, 2010, and retirement benefits received are based upon the university's 8.5 percent contribution and the employee's 5.0 percent contribution plus net investment gains or losses. Individual contracts issued under the plan provide for full and immediate vesting of both university and employee contributions. Total pension costs under this plan were approximately $27,673,000 for year ended June 30, 2018. Contributions to the optional retirement plan were calculated using the base salary amount of approximately $317,842,000 for this fiscal year.

Deferred Compensation Plan

Employees of the university are employees of the Commonwealth of Virginia. State employees may participate in the commonwealth's Deferred Compensation Plan. Participating employees can contribute to the plan each pay period with the commonwealth matching up to $20 per pay period. The dollar amount match can change depending on the funding available in the commonwealth's budget. The Deferred Compensation Plan is a qualified defined contribution plan under section 401(a) of the Internal Revenue Code. The university expense for matching contributions to this plan, which is an amount assessed by the commonwealth, was approximately $2,343,000 for the fiscal year 2018.

Federal Pension Plans

Certain Cooperative Extension Service (CES) professional employees are participants in either the Federal Employee Retirement System (FERS) or the Federal Civil Service Retirement System (CSRS). The FERS and CSRS are defined benefit plans in which benefits are based upon the highest base pay over any three consecutive years and the years of creditable service. The costs under these plans were approximately $93,000 for the year ended June 30, 2018. Contributions to the FERS and CSRS were calculated using the base salary amount of approximately $784,000 for the fiscal year 2018.

In addition, the university provided $28,000 in employer contributions to the Thrift Savings Plan for the year ended June 30, 2018. The Thrift Savings Plan is a defined contribution plan in which the university matches employee contributions within certain limitations.

Note 20

Other Postemployment Benefits

The university participates in postemployment benefit programs that are sponsored by the commonwealth and administered by the Virginia Retirement System (VRS, or the System) or the Department of Human Resource Management. These programs include the Pre-Medicare Retiree Healthcare program, Virginia Sickness and Disability program, Group Life Insurance program, Retiree Health Insurance Credit program, and Line of Duty Act program. The specific information for each of these OPEB (Other Postemployment Benefit) programs is described below:

PLAN DESCRIPTIONS

Pre-Medicare Retiree Healthcare (PMRH) program - All full-time and part-time permanent salaried Virginia Tech 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) are eligible to participate in the commonwealth's healthcare program upon employment. Retirees who are not yet eligible for Medicare health benefits may participate in this program by meeting certain eligibility requirements.

Virginia Sickness and Disability (VSDP) program - All full-time and part-time permanent salaried Virginia Tech 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 VSDP upon employment. The VSDP program also covers Virginia Tech employees hired before January 1, 1999 who elected to transfer to VSDP rather than retain their eligibility to be considered for disability retirement.

Group Life Insurance (GLI) program - All full-time, salaried, permanent employees of Virginia Tech are automatically covered by the GLI program upon employment. (NOTE: 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 Virginia Tech directly for the premiums. Virginia Tech deducts these premiums from members' paychecks and pays the premiums to the insurer. Since this is a separate and fully insured program, it is not included as part of the GLI program postemployment benefit.)

Retiree Health Insurance Credit (HIC) program - All full-time, salaried, permanent employees of Virginia Tech are automatically covered by the HIC program. Members earn one month of service credit toward the benefit for each month they are employed and for which Virginia Tech pays contributions to VRS. The health insurance credit is a tax-free reimbursement in an amount set by the General Assembly for each year of service credit against qualified health insurance premiums retirees pay for single coverage, excluding any portion covering the spouse or dependents. The credit cannot exceed the amount of the premiums and ends upon the retiree's death.

Line of Duty Act (LODA) program - All paid employees and volunteers in hazardous duty positions in Virginia localities and hazardous duty 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) are automatically covered by the LODA program. As required by statute, the VRS is responsible for managing the assets of the program. The Virginia Tech contributions are determined by the VRS actuary using anticipated program costs and the number of covered individuals associated with all participating employers.

PLAN PROVISIONS

PMRH program

Eligible employees

For a retiree to participate in the Pre-Medicare Retiree Healthcare (PMRH) program, the participant must be eligible for a monthly annuity from the VRS or a periodic benefit from one of the qualified Optional Retirement Plan (ORP) vendors, and:

- be receiving (not deferring) the annuity or periodic benefit immediately upon retirement
- have his or her last employer before retirement be the state
- be eligible for coverage as an active employee in the State Health Benefits Program until his or her retirement date (not including extended coverage)
- have submitted within 31 days of his or her retirement date an enrollment form to his or her benefits administrator to enroll

There are no assets accumulated in a trust to pay benefits for this program.

VSDP program

Eligible employees

The Virginia Sickness and Disability Program (VSDP), also known as the Disability Insurance Trust Fund was established January 1, 1999 to provide short-term and long-term disability benefits for non-work-related and work-related disabilities.
Eligible employees are enrolled automatically upon employment. They include:

- Full-time and part-time permanent salaried Virginia Tech 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).
- State employees hired before January 1, 1999, who elected to transfer to VSDP rather than retain their eligibility to be considered for VRS disability retirement.
- Virginia Tech faculty members who elect the VRS defined benefit plan.

Benefit Amounts

The Virginia Sickness and Disability Program (VSDP) provides the following benefits for eligible retirees:

- Long-Term Disability – If an employee becomes disabled within five years of his or her normal retirement age, the employee will receive up to five years of VSDP benefits, provided he or she remains medically eligible.
- 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.

Cost-of-Living Adjustment (COLA)

- During periods an employee receives long-term disability benefits, the LTD benefit 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 employee 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 VSDP members in the State, SPORS and VaLORS Plans, with a maximum COLA of 4.00%

GLI program

Eligible employees

The GLI program was established July 1, 1960, for state employees, teachers, and employees of political subdivisions that elect the program. 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 member contributions and accrued interest.

Benefit amounts

The benefits payable under the GLI program have several components:

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: accidental dismemberment benefit, safety belt benefit, repatriation benefit, felonious assault benefit, and accelerated death benefit option.

Reduction in benefit amounts

The benefit amounts provided to members covered under the GLI 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.

Minimum Benefit Amount and Cost-of-Living Adjustment (COLA)

For covered members with at least 30 years of creditable service, there is a minimum benefit payable under the GLI program. The minimum benefit was set at $8,000 by statute. The amount increases annually based on the VRS Plan 2 cost-of-living adjustment and is currently $8,111.

Retiree HIC program

Eligible Employees

The HIC program was established January 1, 1990 for retired state employees covered under VRS, SPORS, VaLORS and the Judicial Retirement System (JRS) who retire with at least 15 years of service credit. Eligible employees are enrolled automatically upon employment. They include full-time and part-time permanent salaried state employees covered under VRS, SPORS, VaLORS and JRS.

Benefit amounts
The HIC program provides the following benefits for eligible employees:

At Retirement – For employees who retire, the monthly benefit is $4.00 per year of service per month with no cap on the benefit amount.

Disability Retirement – For employees other than state police officers who retire on disability or go on long-term disability under the Virginia Sickness and Disability Program (VSDP), the monthly benefit is $120.00 or $4.00 per year of service, whichever is higher. For state police officers with a non-work-related disability who retire on disability or go on long-term disability under VSDP, the monthly benefit is $120.00 or $4.00 per year of service, whichever is higher. For state police officers with a work-related disability, there is no benefit provided under the HIC program if the premiums are being paid under the Virginia Line of Duty Act (LODA). However, they may receive the credit for premiums paid for other qualified health plans.

HIC program notes
- The monthly HIC benefit cannot exceed the individual premium amount.
- Employees who retire after being on long-term disability under VSDP must have at least 15 years of service credit to qualify for HIC as a retiree.

LODA program

Eligible Employees
The eligible employees of the LODA program are paid employees and volunteers in hazardous duty positions in Virginia localities and hazardous duty 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).

Benefit Amounts
The Line of Duty Act Program (LODA) provides death and health insurance benefits for eligible individuals.

Death benefits – The Line of Duty Act program death benefit is a one-time payment made to the beneficiary or beneficiaries of a covered individual. Amounts vary as follows:

- $100,000 when a death occurs as the direct or proximate result of performing duty as of January 1, 2006, or after.
- $25,000 when the cause of death is attributed to one of the applicable presumptions and occurred earlier than five years after the retirement date.
- An additional $20,000 benefit is payable when certain members of the National Guard and U.S. military reserves are killed in action in any armed conflict on or after October 7, 2001.

Health insurance benefits – The Line of Duty Act program provides health insurance benefits through the Virginia Department of Human Resource Management (DHRM). The health benefits are modeled after the State Employee Health benefits Program plans and provide consistent, premium-free continued health plan coverage for LODA-eligible disabled individuals, survivors and family members. Individuals receiving the health insurance benefits must continue to meet eligibility requirements as defined by the Line of Duty Act.

CONTRIBUTIONS

PMRH program
Virginia Tech does not pay a portion of the retirees' healthcare premium; however, since both active employees and retirees are included in the same pool for purposes of determining health insurance rates, this generally results in a higher rate for active employees. Therefore, Virginia Tech effectively subsidizes the costs of the participating retirees' healthcare through payment of Virginia Tech's portion of the premiums for active employees.

VSDP program
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 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 adjustment to amortize the accrued OPEB assets. Contributions to the VSDP from Virginia Tech were $977,000 and $915,000 for the years ended June 30, 2018 and June 30, 2017, respectively.

GLI program
The contribution requirements for the GLI 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 GLI 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, 2018 was 0.52% 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, 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. Contributions to the GLI program from Virginia Tech were $2,880,000 and $2,704,000 for the years ended June 30, 2018 and June 30, 2017, respectively.

Retiree HIC program
The contribution requirement for active employees is governed by §51.1-1400(D) 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 state agency's contractually required employer contribution rate for the year ended June 30, 2018 was 1.18% of covered employee compensation for employees in the Retiree HIC program. 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 earned by employees during the year, with an additional amount to finance any unfunded accrued liability. Contributions from Virginia Tech to the Retiree HIC program were $6,653,000 and $6,147,000 for the years ended June 30, 2018 and June 30, 2017, respectively.

LODA program
The contribution requirements for the LODA program are governed by §9.1-400.1 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 LODA program for the year ended June 30, 2018 was $567.37 per covered full-time-equivalent employee. This rate was based on an actuarially determined rate from an actuarial valuation as of June 30, 2015 and represents the pay-as-you-go funding rate and not the full actuarial cost of the benefits under the program. The actuarially determined pay-as-you-go rate was expected to finance the costs and related expenses of benefits payable during the year. Contributions to the LODA program from Virginia Tech were $25,000 and $28,000 for the years ended June 30, 2018 and June 30, 2017, respectively.

LIABILITIES, EXPENSE, AND DEFERRED INFLOWS/OUTFLOWS OF RESOURCES

At June 30, 2018, Virginia Tech reported the following net liabilities (assets) for its proportionate share of these programs:

PMRH	$	108,278,000
VSDP	$	(7,790,000)
GLI	$	43,235,000
HIC	$	74,567,000
LODA	$	663,000

These liabilities were measured as of June 30, 2017 and the total OPEB liability used to calculate each net liability was determined by an actuarial valuation as of that date. Virginia Tech's proportion of the PMRH OPEB liability was based on its healthcare premium contributions as a percentage of the total employer's healthcare premium contributions for all participating employers. For VSDP, GLI, HIC and LODA programs, Virginia Tech's proportionate share of each liability was based on Tech's actuarially determined employer contributions to each plan for the year ended June 30, 2017 relative to the total of the actuarially determined employer contributions for all participating employers.

At June 30, 2017, Tech's proportionate share was:

PMRH	8.34% as compared to 8.24% at June 30, 2016.
VSDP	3.79% as compared to 3.82% at June 30, 2016.
GLI	2.87% as compared to 2.86% at June 30, 2016.
HIC	8.19% as compared to 8.16% at June 30, 2016.
LODA	.253% as compared to .239% at June 30, 2016.

For the year ended June 30, 2018, Virginia Tech recognized the following expenses for these programs:

PMRH	$	8,883,000
VSDP	$	659,000
GLI	$	524,000
HIC	$	6,526,000
LODA	$	62,000

Since there was a change in proportionate share between measurement dates, a portion of these expenses was related to deferred amounts from changes in proportion.

At June 30, 2018, Virginia Tech reported deferred outflows/inflows of resources related to these programs from the following sources (all dollars in thousands):

Program	Source	Deferred Outflow	Deferred Inflow
PMRH	Difference between expected and actual experience	$ 0	$ 4,355
	Change in assumptions	0	22,955
	Changes in proportion	1,675	351
	Amounts associated with transactions subsequent to measurement date	2,871	
	Total	$ 4,547	$ 27,661
VSDP	Difference between expected and actual experience	$ 0	$ 0
	Net difference between projected and actual earnings on investments	0	611
	Change in assumptions	0	584
	Changes in proportion	35	0
	VT contributions subsequent to measurement date	977	
	Total	$ 1,012	$ 1,195
GLI	Difference between expected and actual experience	$ 0	$ 958
	Net difference between projected and actual earnings on investments	0	1,627
	Change in assumptions	0	2,227
	Changes in proportion	215	6
	VT contributions subsequent to measurement date	2,880	
	Total	$ 3,095	$ 4,818
HIC	Difference between expected and actual experience	$ 0	$ 0
	Net difference between projected and actual earnings on investments	0	183
	Change in assumptions	0	839
	Changes in proportion	259	9
	VT contributions subsequent to measurement date	6,653	
	Total	$ 6,912	$ 1,031
LODA	Difference between expected and actual experience	$ 0	$ 0
	Net difference between projected and actual earnings on investments	0	1
	Change in assumptions	0	69
	Changes in proportion	33	0
	VT contributions subsequent to measurement date	25	
	Total	$ 58	$ 70

The following amounts reported as deferred outflows of resources related to each program, resulting from Virginia Tech's contributions subsequent to the measurement date, will be recognized as a reduction of each program's net liability (asset) in the fiscal year ending June 30, 2019 *(all dollars in thousands)*:

PMRH	$	2,871
VSDP	$	977
GLI	$	2,880
HIC	$	6,653
LODA	$	25

Other amounts reported as deferred outflows/inflows of resources related to the OPEB programs will be recognized in each program's expense in future reporting periods as follows *(all dollars in thousands)*:

Year ended June 30:	PMRH	VSDP	GLI	HIC	LODA
2019	$ (4,786)	$ (228)	$ (952)	$ (159)	$ (5)
2020	$ (4,786)	$ (228)	$ (952)	$ (159)	$ (5)
2021	$ (4,786)	$ (228)	$ (952)	$ (159)	$ (5)
2022	$ (4,786)	$ (228)	$ (952)	$ (159)	$ (5)
2023	$ (4,786)	$ (75)	$ (546)	$ (112)	$ (4)
Thereafter	$ (2,085)	$ (173)	$ (249)	$ (24)	$ (13)

ACTUARIAL ASSUMPTIONS (PMRH)

The total Pre-Medicare Retiree Healthcare OPEB liability was based on an actuarial valuation with a valuation date of June 30, 2017. The Department of Human Resource Management selected the economic, demographic and healthcare claim cost assumptions. The actuary provided guidance with respect to these assumptions. Initial health-care costs trend rates used were 8.62 percent for medical and pharmacy and 4.0 percent for dental. The ultimate trend rates used were 5.0 percent for medical and pharmacy and 4.0 percent for dental.

Valuation Date	Actuarially determined contribution rates are calculated as of June 30, one year prior to the end of the fiscal year in which contributions are reported.
Measurement Date	June 30, 2017 (one year prior to the end of the fiscal year)
Actuarial Cost Method	Entry Age Normal
Amortization Method	Level dollar, Closed
Effective Amortization Period	6.43 years
Discount Rate	3.58%
Projected Salary Increases	4.0%
Medical Trend Under 65	Medical and Rx: 8.62% to 5.00% Dental: 4.00% Before reflecting Excise tax
Year of Ultimate Trend	2025

Mortality Rates

Pre-Retirement:	RP-2014 Employee Rates to age 80, Healthy Annuitant Rates at ages 81 and older projected with Scale BB to 2020; males setback 1 year, 85% of rates; females setback 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 setback 1 year with 1.5% increase compounded from ages 70 to 85
Post-Disablement:	RP-2014 Disabled Mortality Rates projected with Scale BB to 2020; males 115% of rates; females 130% of rates

Changes of Assumptions

The following assumptions were updated since the July 1, 2016 valuation based on the results of a Virginia Retirement System actuarial experience study performed for the period of July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

- Mortality rates -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 through 9 years of service

ACTUARIAL ASSUMPTIONS (VSDP, GLI, HIC, LODA)

The total liability for these programs was based on an actuarial valuation as of June 30, 2016, 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, 2017.

Inflation	2.50 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
Medical cost trend rates assumption (LODA only) –	
Under age 65	7.75 percent – 5.00 percent
Ages 65 and older	5.75 percent – 5.00 percent
Investment rate of return (VSDP, GLI, HIC)	7.00 percent, net of OPEB plan investment expenses, including inflation*
Investment rate of return (LODA)	3.56 percent, net of OPEB 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 7.00% (3.56% LODA). However, since the difference was minimal, a more conservative 7.00% (3.56% LODA) investment return assumption has been used. Since LODA is funded on a current-disbursement basis, the assumed annual rate of return of 3.56% was used since it approximates the risk-free rate of return.

Mortality rates – General State Employees (VSDP, GLI, HIC, LODA)

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, 2016 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	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 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 – Teachers (GLI)

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, 2016 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	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 through 9 years of service
Disability Rates	Adjusted rates to better match experience
Salary Scale	No change

Mortality rates – SPORS Employees (VSDP, GLI, HIC, LODA)

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, 2016 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	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 (VSDP, LGI, HIC, LODA)

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, 2016 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	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 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 (GLI, HIC)

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, 2016 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	Updated 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 (GLI)

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, 2016 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	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 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 (GLI)

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, 2016 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	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 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 (GLI, LODA)

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, 2016 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	Updated 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 (GLI, LODA)

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, 2016 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	Updated 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%

CHANGES TO THE LODA PROGRAM ASSOCIATED WITH HB 1345 (2016) AND HB 2243 (2017)

The following changes were made to the LODA Program as a result of legislation in 2016 and 2017, but were specifically not considered in the June 30, 2016 actuarial valuation results which were rolled forward to the measurement date of June 30, 2017. There was no current actuarial experience on which to base the adjustments and the combined impact of the changes was not considered to be material to the final results. These changes will be factored into future actuarial valuations for the LODA Program.

- The discontinuance of spouse health care coverage, if a covered spouse divorces a disabled employee or a covered surviving spouse remarries.
- The potential for VRS's periodic review of the disability status of a disabled employee.
- For those beneficiaries who become eligible for health care benefits as the result of a disability occurring after June 30, 2017, the suspension of health care benefits in years when VRS certifies current income exceeds salary at the time of the disability, indexed for inflation.
- The extension of health care benefits for dependent children to age 26.
- The expansion of the definition of presumption of death or disability to include infectious diseases.

NET OPEB LIABILITY

The net OPEB liability (NOL) for VSDP, GLI, HIC and LODA represents each program's total OPEB liability determined in accordance with GASB Statement 74, less the associated fiduciary net position. As of June 30, 2017, NOL amounts for each program are as follows *(amounts expressed in thousands):*

	VSDP	GLI	HIC	LODA
Total OPEB Liability	$ 237,013	$ 2,942,426	$ 990,028	$ 266,252
Plan Fiduciary Net Position	442,334	1,437,586	79,516	3,461
Employers' Net OPEB Liability (Asset)	$ (205,321)	$ 1,504,840	$ 910,512	$ 262,791
Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	186.63%	48.86%	8.03%	1.30%

The total 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 OPEB liability is disclosed in accordance with the requirements of GASB Statement 74 in the VRS notes to the financial statements and required supplementary information.

LONG-TERM EXPECTED RATE OF RETURN (VSDP, GLI, HIC)

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 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:

Asset Class (Strategy)	Target Allocation	Arithmetic Long-term Expected Rate of Return	Weighted Average Long-term Expected Rate of Return
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	100.00%		4.80%
Inflation			2.50%
Expected arithmetic nominal return*			7.30%

* 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%.

LONG-TERM EXPECTED RATE OF RETURN (LODA)

The long-term expected rate of return on LODA OPEB Program's investments was set at 3.56% for this valuation. Since LODA is funded on a current-disbursement basis, the assumed annual rate of return of 3.56% was used since it approximates the risk-free rate of return.

DISCOUNT RATE (PMRH)

The discount rate was increased from 2.85% to 3.58% based on the Bond Buyers GO 20 Municipal Bond Index as of the measurement date of June 30, 2017. Spousal coverage was reduced from 70% to 50% based on a blend of recent spousal coverage election rates and the prior year assumption. Based on the 2017 census, new retirees since 1/1/2015 have chosen to cover their spouses approximately 20% of the time. However, active employees cover their spouses at a rate close to 53%.

DISCOUNT RATE (VSDP, GLI, HIC, LODA)

The discount rate used to measure the total OPEB liability was 7.00% for VSDP, GLI, and HIC; 3.56% for LODA. 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, 2019, the rate contributed by Virginia Tech for each of these programs will be subject to the portion of the VRS Board-certified rates that are funded by the Virginia General Assembly. From July 1, 2019 on, employers are assumed to contribute 100% of the actuarially determined contribution rates. Based on those assumptions, the OPEB fiduciary net position for these programs 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 OPEB liability for each of these programs.

SENSITIVITY OF VIRGINIA TECH'S PROPORTIONATE SHARE OF THE NET OPEB LIABILITY TO CHANGES IN THE DISCOUNT RATE

The following presents Virginia Tech's proportionate share of the net OPEB liability for PMRH using the discount rate of 3.58%; VSDP, GLI, and HIC using the discount rate of 7.00%; and LODA using the discount rate of 3.56%. As well, Virginia Tech's proportionate share of the net OPEB liability is presented as it would be if it were calculated using a discount rate that is one percentage point lower or one percentage point higher than the current rate:

Virginia Tech's Proportionate Share of Net OPEB Liability (Asset)

	1.00% Decrease	Current Discount Rate	1.00% Increase
	2.58%	3.58%	4.58%
PMRH	$ 115,990	$ 108,278	$ 100,889
	6.00%	7.00%	8.00%
VSDP	$ (7,415)	$ (7,790)	$ (8,442)
GLI	$ 55,920	$ 43,235	$ 32,952
HIC	$ 82,452	$ 44,567	$ 67,786
	2.56%	3.56%	4.56%
LODA	$ 752	$ 663	$ 589

SENSITIVITY OF VIRGINIA TECH'S PROPORTIONATE SHARE OF THE NET PMRH OPEB AND LODA OPEB LIABILITIES TO CHANGES IN THE HEALTH CARE TREND RATE

Because the Pre-Medicare Retiree Healthcare and Line of Duty Act programs contain provisions for the payment of health insurance premiums, the liabilities are also impacted by the health care trend rates. The following presents Virginia Tech's proportionate share of the net OPEB liability for these programs using health care trend rate of 8.62% decreasing to 5% for PMRH and 7.75% decreasing to 5.00% for LODA. As well, Virginia Tech's proportionate share of the net OPEB liability is presented as it would be if it were calculated using a health care trend rate that is one percentage point lower or one percentage point higher than the current rate:

Virginia Tech's Proportionate Share of Net OPEB Liability

	1.00% Decrease	Current Health Care Trend Rate	1.00% Increase
PMRH	7.62% decreasing to 4.00%	8.62% decreasing to 5.00%	9.62% decreasing to 6.00%
	$ 96,340	$ 108,278	$ 122,273
LODA	6.75% decreasing to 4.00%	7.75% decreasing to 5.00%	8.75% decreasing to 6.00%
	$ 563	$ 663	$ 788

FIDUCIARY NET POSITION

Detailed information about Fiduciary Net Position for each of these programs is available in the separately issued VRS 2017 Comprehensive Annual Financial Report (CAFR). A copy of the 2017 VRS CAFR may be downloaded from the VRS website at http://www.varetire.org/Pdf/Publications/2017-annual-report.pdf, or by writing to the System's Chief Financial Officer at P.O. Box 2500, Richmond, VA, 23218-2500.

PAYABLES TO THE VSDP, GLI, AND HIC OPEB PROGRAMS

The amount payable outstanding at June 30, 2018 to each of these OPEB programs was as follows:

VSDP	$ 5,000
GLI	$ 180,000
HIC	$ 404,000

Note 21

Grants, Contracts, and Other Contingencies

The university has received federal grants for specific purposes that are subject to review and audit by the grantor agencies. Claims against these resources are generally conditional upon compliance with the terms and conditions of grant agreements and applicable federal regulations, including the outlay of resources for allowable purposes. Any disallowance resulting from a federal audit may become a liability of the university.

In addition, the university is required to comply with various federal regulations issued by the Office of Management and Budget. Failure to comply with certain system requirements of these regulations may result in questions concerning the allowance of related direct and indirect charges pursuant to such agreements. As of June 30, 2018, the university estimates that no material liabilities will result from such audits or questions.

Note 22

Appropriations

The Appropriation Act specifies that unexpended general fund appropriations remaining on the last day of the current year, ending on June 30, 2018, shall be reappropriated for expenditure in the first month of the next year, beginning on July 1, 2018, except as may be specifically provided otherwise by the Virginia General Assembly. The governor may, at his discretion, unallot funds from the reappropriated balances that relate to unexpended appropriations for payments to individuals, aid to localities, or any pass-through grants.

Adjustments made to the university's original appropriation during this fiscal year are as follows *(all dollars in thousands)*:

Original legislative appropriation
(per Chapter 806)

Education and general programs	$ 224,470
Student financial assistance	20,983
Commonwealth research initiative	5,389
Unique military activities	2,284
Total appropriation	253,126

Adjustments

Central appropriation	8,496
Commonwealth Research Initiative and Federal Action Contingency Trust	1,068
Student financial assistance	408
Other adjustments	29
Total adjustments	10,001
Adjusted appropriation	$ 263,127

Note 23

Capital Appropriations

Capital project general fund appropriations were not provided to the university by the commonwealth during the year ended June 30, 2018. During the current year, the commonwealth converted general fund appropriations recognized in a prior year for on-going capital projects to debt funding. This resulted in the reversion of general funds appropriated in fiscal year 2016 as directed by Chapter 836, *2017 Acts of Assembly*, Section 2 C-52.40. The funding for the capital projects affected by the reversions and reductions to general fund appropriation were replaced by proceeds from debt financing by the commonwealth.

Capital project general fund appropriation reversions from the commonwealth were recognized by the university for the year ended June 30, 2018. These capital appropriations have been allocated to the following projects (*all dollars in thousands*):

Renovate academic buildings	$ (24,960)
Kentland facilities, phase II	(7,936)
Total capital appropriations	$ (32,896)

Note 24

Federal Direct Lending Program

The university participates in the Federal Direct Lending Program. Under this program, the university receives funds from the U.S. Department of Education for Stafford and Parent PLUS Loan Programs and disburses these funds to eligible students. The funds can be applied to outstanding student tuition and fee charges or refunded directly to the student.

These loan proceeds are treated as student payments with the university acting as a fiduciary agent for the student. Therefore, the receipt of the funds from the federal government is not reflected in the federal government grants and contracts total on the *Statement of Revenues, Expenses, and Changes in Net Position*. The activity is included in the noncapital financing section of the *Statement of Cash Flows*. For the fiscal year ended June 30, 2018, cash provided by the program totaled $138,829,000 and cash used by the program totaled $138,869,000.

Note 25

Expenses by Natural Classification within Functional Classification

The university's operating expenses by functional classification for the year ended June 30, 2018
(all dollars in thousands)

	Compensation and Benefits	Contractual Services	Supplies and Materials	Travel	Other Operating Expenses	Scholarships and Fellowships	Sponsored Program Subcontracts	Total
Instruction	$ 343,368	$ 15,543	$ 7,986	$ 6,962	$ 2,369	$ 1,147	$ 115	$ 377,490
Research	217,471	23,216	20,948	14,072	6,075	15,303	25,877	322,962
Public service	66,939	17,560	2,989	6,450	2,976	381	659	97,954
Academic support	64,617	13,269	8,174	1,645	3,209	298	7	91,219
Student services	15,442	2,674	1,225	1,176	226	96	-	20,839
Institutional support	61,814	8,931	1,845	2,534	21	741	54	75,940
Operation and maintenance of plant	30,081	10,551	14,544	240	29,390	15	-	84,821
Student financial assistance	346	-	12	31	98	17,820	-	18,307
Auxiliary enterprises	111,582	23,427	42,977	10,517	37,946	1,339	4	227,792
Subtotal before other costs	$ 911,660	$ 115,171	$ 100,700	$ 43,627	$ 82,310	$ 37,140	$ 26,716	$ 1,317,324
Depreciation and amortization expense								106,059
Loan administrative fees and collection costs								4
Total operating expenses								$ 1,423,387

Component Units

The component units' statements on the following pages, and subsequent notes, comply with the Governmental Accounting Standards Board (GASB) presentation format. Both Virginia Tech Foundation Inc. and Virginia Tech Services Inc. follow the Financial Accounting Standards Board (FASB) presentation format in their audited financial statements. Consequently, reclassifications have been made to convert their statements to the GASB format.

Consolidating Statement of Net Position

The financial position for the university's component units as of June 30, 2018
(all dollars in thousands)

	Virginia Tech Foundation	Virginia Tech Services	Total Component Units
Assets			
Current assets			
Cash and cash equivalents	$ 9,865	$ 564	$ 10,429
Short-term investments	24,257	2,103	26,360
Accounts and contributions receivable, net	56,467	174	56,641
Notes receivable, net	587	-	587
Inventories	358	4,307	4,665
Prepaid expenses	643	388	1,031
Other assets	1,218	-	1,218
Total current assets	93,395	7,536	100,931
Noncurrent assets			
Cash and cash equivalents	79,371	-	79,371
Accounts and contributions receivable, net	74,469	-	74,469
Notes and deeds of trust receivable, net	22,931	-	22,931
Net investments in direct financing leases	68,390	-	68,390
Irrevocable trusts held by others, net	8,209	-	8,209
Long-term investments	1,257,017	-	1,257,017
Depreciable capital assets, net	197,828	1,226	199,054
Nondepreciable capital assets	84,106	-	84,106
Intangible assets, net	553	-	553
Other assets	4,749	-	4,749
Total noncurrent assets	1,797,623	1,226	1,798,849
Total assets	1,891,018	8,762	1,899,780
Liabilities			
Current liabilities			
Accounts payable and accrued liabilities	8,709	2,183	10,892
Accrued compensated absences	461	332	793
Deferred revenue	3,999	674	4,673
Long-term debt payable	19,953	219	20,172
Other liabilities	1,375	575	1,950
Total current liabilities	34,497	3,983	38,480
Noncurrent liabilities			
Accrued compensated absences	180	-	180
Deferred revenue	1,393	-	1,393
Long-term debt payable	224,464	519	224,983
Liabilities under trust agreements	25,344	-	25,344
Agency deposits held in trust	301,950	-	301,950
Other liabilities	9,548	83	9,631
Total noncurrent liabilities	562,879	602	563,481
Total liabilities	597,376	4,585	601,961
Net position			
Invested in capital assets, net of related debt	132,911	1,226	134,137
Restricted, nonexpendable	567,456	-	567,456
Restricted, expendable			
Scholarships, research, instruction, and other	496,836	-	496,836
Capital projects	-	-	-
Unrestricted	96,439	2,951	99,390
Total net position	$ 1,293,642	$ 4,177	$ 1,297,819

Consolidating Statement of Revenues, Expenses, and Changes in Net Position

The university's component unit activity for the year ended June 30, 2018

(all dollars in thousands)

	Virginia Tech Foundation	Virginia Tech Services	Total Component Units
Operating revenues			
Gifts and contributions	$ 74,731	$ -	$ 74,731
Auxiliary enterprise revenue			
Hotel Roanoke	24,155	-	24,155
River Course	1,525	-	1,525
Bookstore	-	22,160	22,160
Other operating revenues			
Rental income	38,944	-	38,944
Other operating revenue	18,086	-	18,086
Total operating revenues	157,441	22,160	179,601
Operating expenses			
Instruction	6,805	-	6,805
Research	11,158	-	11,158
Public service	5,749	-	5,749
Academic support	24,118	-	24,118
Institutional support			
Other university programs	21,001	-	21,001
Fund-raising	12,281	-	12,281
Management and general	7,879	-	7,879
Operation and maintenance of plant			
Operation and maintenance of plant	7,083	-	7,083
Research cost centers	6,942	-	6,942
Student financial assistance	30,624	-	30,624
Auxiliary enterprises			
Hotel Roanoke	14,877	-	14,877
River Course	2,061	-	2,061
Bookstore	-	22,133	22,133
Depreciation expense	10,929	-	10,929
Other operating expenses	9,815	-	9,815
Total operating expenses	171,322	22,133	193,455
Operating income (loss)	(13,881)	27	(13,854)
Non-operating revenues (expenses)			
Investment income, net	13,565	-	13,565
Net gains on investments	40,013	-	40,013
Interest expense on debt related to capital assets	(8,245)	-	(8,245)
Net non-operating revenues	45,333	-	45,333
Income before other revenues, expenses, gains or losses	31,452	27	31,479
Change in valuation of split interest agreements	2,701	-	2,701
Capital grants and gifts	12,391	-	12,391
Gain on disposal of capital assets	(79)	-	(79)
Additions to permanent endowments	43,249	-	43,249
Other revenues	330	-	330
Total other revenues, expenses, gains, or losses	58,592	-	58,592
Increase in net position	90,044	27	90,071
Net position - beginning of year	1,203,598	4,150	1,207,748
Net position - end of year	$ 1,293,642	$ 4,177	$ 1,297,819

Contributions Receivable – Virginia Tech Foundation Inc.

The following summarizes unconditional promises to give at June 30, 2018 *(all dollars in thousands)*:

Current receivables		
Receivable in less than one year	$	53,142
Noncurrent receivables		
Receivable in one to five years		75,214
Receivable in more than five years		6,212
Total noncurrent receivables before allowance		81,426
Less allowance for uncollectible contributions		(9,281)
Net noncurrent contributions receivable		72,145
Total contributions receivable	$	125,287

The discount rates ranged from 2.20% to 3.35% in 2018. As of June 30, 2018, there were no conditional promises to give.

Investments – Virginia Tech Foundation Inc.

The overall investment objective of the foundation is to invest its operating funds in a prudent manner that will achieve a long-term rate of return sufficient to fund a portion of its annual operating activities, and to invest its endowed funds in a manner that maintains the purchasing power of the endowment. The foundation diversifies its investments among various asset classes incorporating multiple strategies and managers. Major investment decisions, such as asset allocation and spending, are authorized by the board's investment committee, which oversees the foundation's investment program in accordance with established guidelines.

In addition to traditional equity and fixed-income securities, the foundation may also hold shares or units in traditional institutional funds, as well as in alternative investment funds involving hedged strategies, private equity and real asset strategies. Hedged strategies involve funds whose managers have the authority to invest in various asset classes at their discretion, including the ability to invest long and short. Funds with hedged strategies generally hold securities or other financial instruments for which a ready market exists and may include stocks, bonds, put or call options, swaps, currency hedges and other instruments, and are valued accordingly. Private equity funds primarily employ buyout and venture capital strategies. Real asset funds generally hold interests in public real estate investment trusts (REITS), public natural resource equities, private commercial real estate, and private natural resources such as power plants and oil and gas companies. Private equity and real asset strategies therefore often require the estimation of fair values by the fund managers in the absence of readily determinable market values. Because of the inherent uncertainties of valuation, these estimated fair values may differ significantly from values that would have been used had a ready market existed, and the differences could be material. Such valuations are determined by fund managers and generally consider variables such as operating results, comparable public earnings multiples, projected cash flows, recent sales prices, and other pertinent information, and may reflect discounts for the illiquid nature of certain investments held. Moreover, the fair values of the foundation's interests in shares or units of these funds, because of liquidity and capital commitment terms that vary depending on the specific fund or partnership agreement, may differ from the fair value of the funds' underlying net assets.

The following tabulation summarizes changes in relationships between cost and fair value of investments *(all dollars in thousands)*:

	Fair Value	Cost	Net gains (losses)
June 30, 2018	$ 1,281,275	$ 1,097,636	$ 183,639
June 30, 2017	1,138,429	949,802	188,627
Unrealized net loss for the year, including net loss on agency deposits held in trust of $1,717			(4,988)
Realized net gain for the year, including net gain on agency deposits held in trust of $17,013			60,218
Total net gain for the year, including net gain on agency deposits held in trust of $15,296			$ 55,230

Investment management fees incurred in 2018 totaled $7,608.

As of June 30, 2018, long-term investments include investment assets held in internally managed trust funds with a carrying value totaling $49,245. At June 30, 2018, unspent bond proceeds of $8,639 invested in U.S. government treasuries are included in short-term investments. These proceeds are restricted for investment in land and building development.

The foundation is required by Maryland state law to maintain segregated assets for all annuities issued in an amount at least equal to the sum of its outstanding deferred giving arrangements liability discounted to present value. As of June 30, 2018, the foundation had recorded annuity obligations of $6,933. As of June 30, 2018, the foundation had separately invested cash reserves of $12,084, and has met its minimum reserve requirement under Maryland state law.

Fair Value Hierarchy – Virginia Tech Foundation Inc.

ASC Topic 820 established a three-tier fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and lowest priority to unobservable inputs (Level 3 measurements).

The three levels of the fair value hierarchy are as follows:

Level 1 – Inputs that utilize quoted prices (unadjusted) in active markets for identical assets or liabilities that the foundation has the ability to access.

Level 2 – Inputs that include quoted prices for similar assets and liabilities in active markets and inputs that are observable for the asset or liability, either directly or indirectly, for substantially the full term of the financial instrument. Fair values for these instruments are estimated using pricing models, quoted prices of securities with similar characteristics, or discounted cash flows.

The fair values of the foundation's corporate debt securities and state, county and municipal securities are obtained from a third-party pricing service provider. The fair values provided by the pricing service provider are estimated using pricing models, where the inputs to those models are based on observable market inputs including credit spreads and broker-dealer quotes, among other inputs. The foundation classifies the prices obtained from the pricing services within Level 2 of the fair value hierarchy because the underlying inputs are directly observable from active markets. However, the pricing models used do entail a certain amount of subjectivity and therefore differing judgments in how the underlying inputs are modeled could result in different estimates of fair value.

Level 3 – Inputs that are unobservable inputs for the asset or liability, which are typically based on an entity's own assumptions, as there is little, if any, related market activity.

In instances where the determination of fair value measurement is based on inputs from different levels of the fair value hierarchy, the level in the fair value hierarchy within which the entire fair value measurement falls is based on the lowest level input that is significant to the fair value measurement in its entirety.

The assets that are measured at fair value on a recurring basis at June 30, 2018 are presented in the first table on the next page.

The second table on the next page summarizes the foundation's investments in entities that calculate net asset value as a practical expedient to estimate fair value.

Assets Measured at Fair Value - Virginia Tech Foundation Inc.

At June 30, 2018

(all dollars in thousands)

	Total	Level 1	Level 2	Level 3	NAV*
		Fair value measurements at reporting date using			
Assets					
Contributions receivable	$ 125,287	$ -	$ -	$ 125,287	$ -
Short-term investments					
Corporate debt securities	8,478	8,478	-	-	-
U.S. government treasuries	11,154	11,154	-	-	-
U.S. government agencies	4,625	4,625	-	-	-
Total short-term investments	24,257	24,257	-	-	-
Long-term investments					
Cash and cash equivalents	96,662	96,662	-	-	-
U.S. government treasuries	8,059	8,059	-	-	-
U.S. government agencies	12,803	7,262	5,541	-	-
State, county, and municipal securities	104	-	104	-	-
Corporate debt securities	81,838	48,026	33,812	-	-
Equity securities	347,518	196,235	-	1,592	149,691
Partnerships and other joint ventures	640,390	776	-	-	639,614
Foreign securities	30,395	17,598	-	-	12,797
Real Estate	31,745	-	-	31,745	-
Other	7,504	-	-	7,504	-
Total long-term investments	1,257,018	374,618	39,457	40,841	802,102
Irrevocable trusts held by others	8,209	-	-	8,209	-
	$ 1,414,771	$ 398,875	$ 39,457	$ 174,337	$ 802,102

* Certain investments that are measured at fair value using the net asset value per share (or its equivalent) practical expedient have not been categorized in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the amounts presented in the consolidated financial statements.

Assets Measured using NAV Estimate - Virginia Tech Foundation Inc.

At June 30, 2018

(all dollars in thousands)

	Fair value	Uncalled commitments	Remaining life	Redemption frequency	Trade to settlement terms	Redemption frequency
Public equity funds (1)	$ $115,326	$ -	N/A	≤ Quarterly	5-15 days	30-60 days
Public equity funds (2)	130,863	4,226	N/A	> Quarterly	5-15 days	30-90 days
Hedge funds (3)	42,788	-	N/A	≤ Quarterly	5-15 days	30-90 days
Hedge funds (3)	243,421	-	N/A	> Quarterly	5-15 days	30-180 days
Private credit funds (4)	98,468	71,607	1-10 years	N/A	N/A	N/A
Private equity funds (5)	90,643	48,844	1-10 years	N/A	N/A	N/A
Private real assets funds (6)	80,593	31,538	1-10 years	N/A	N/A	N/A
	$ 802,102	$ 156,215				

(1) The amount represents funds that invest in publicly traded equity securities and can be liquidated at each quarter-end or more frequently. There are currently no restrictions on redemption of these investments. The managers invest directly primarily in long equity securities although at times they do opportunistically short equity securities and management seeks to achieve a return in excess of their appropriate equity benchmark such as the MSCI ACWI.

(2) The amount represents funds that invest in publicly traded equity securities and can be liquidated at times longer than quarter-end. The longest time to liquidation is 30 months. There are currently no restrictions on redemption of these investments. The managers invest directly primarily in long equity securities although at times they do opportunistically short equity securities and management seeks to achieve a return in excess of their appropriate equity benchmark such as the MSCI ACWI.

(3) The amount represents investments in funds that invest in hedge fund strategies such as long/short, event-driven and global macro. Management of the funds seeks to achieve an annualized return that is at least 7% in excess of the 91-day U.S. Treasury Bill rate. The funds invest both long and short equity and fixed income securities and there is no restriction on the types of securities and financial instruments allowed for investment.

(4) The amount represents investments in funds that invest in credit related securities and have a liquidity structure similar to private equity. These investments can never be redeemed from the funds and it is estimated that the underlying assets of the fund will be liquidated over the next 1-10 years.

(5) The amount represents investments in funds that invest in private equity in buyouts and venture capital and both domestically and internationally. The allocation to buyouts is 93% and to venture capital 7%. Uncalled commitments are approximately $33,500 to buyouts and $6,900 to venture capital. These investments can never be redeemed from the funds and it is estimated that the underlying assets of the fund will be liquidated over the next 1-10 years.

(6) The amount represents investments in funds that invest in private real assets in real estate and natural resources primarily domestically. The allocation to real estate is 8% and to natural resources 92%. Uncalled commitments are approximately $100 to real estate and $38,800 to natural resources. These investments can never be redeemed from the funds and it is estimated that the underlying assets of the fund will be liquidated over the next 1-10 years.

Land, Buildings, and Equipment - Virginia Tech Foundation Inc.

A summary of land, buildings, and equipment at cost, less accumulated depreciation for the year ending June 30, 2018 is presented as follows *(all dollars in thousands)*:

Depreciable capital assets		
Buildings	$	260,147
Equipment and other		37,382
Land improvements		23,141
Total depreciable capital assets, at cost		320,670
Less accumulated depreciation		(122,842)
Total depreciable capital assets, net of accumulated depreciation		197,828
Nondepreciable capital assets		
Land		70,901
Vintage and other collection items		5,735
Livestock		1,562
Construction in progress		5,908
Total nondepreciable capital assets		84,106
Total capital assets, net of accumulated depreciation	$	281,934

As of June 30, 2018, outstanding contractual commitments for projects under construction approximated $3,400.

Long-Term Debt Payable - Virginia Tech Foundation Inc.

Notes payable

The following is a summary of outstanding notes payable at June 30, 2018 *(all dollars in thousands)*:

Unsecured line of credit note payable due August 1, 2020, plus variable interest at LIBOR plus 0.65% (2.743% as of June 30, 2018)		5,646
Unsecured note payable upon the sale of the hotel and repayment of all debt of the hotel and the Hotel Roanoke Foundation (HRF)		1,775
Total notes payable	$	7,421

The aggregate annual maturities of notes payable for each of the five years and thereafter subsequent to June 30, 2018, are *(all dollars in thousands)*:

2020	$	5,646
Upon the sale of the Hotel and repayment of all debt of the Hotel and HRF		1,775
Total notes payable	$	7,421

During 2003, the foundation used proceeds from borrowings on notes payable totaling $13,800 to provide a loan to an unrelated party through a promissory note receivable. The unrelated party used the proceeds to purchase the University Mall building located in Blacksburg, Virginia. The promissory note receivable, which requires interest payments only until maturity, earns interest at a fixed rate of 6.18% through June 30, 2013 and 6.96% thereafter through June 30, 2023, the maturity date. The promissory note receivable is secured by a first deed of trust in the real property of the University Mall building, as well as the assignment of leases and rents, security agreements and fixture filing statements.

Bonds payable

The foundation was obligated under the Industrial Development Authority of Montgomery County, Virginia Variable Rate Revenue Bonds dated August 25, 2005 (Series 2005). Bond proceeds were used to refinance previously outstanding Series 2001A and Series 2002A bonds. The remainder was used to finance the construction of and equipment purchases for three facilities to be used in support of the university. On June 1, 2017, the Series 2005 bonds, which were to mature on June 1, 2035, were fully refunded in conjunction with the issuance of the Series 2017C bonds.

The foundation was obligated under the Industrial Development Authority of Montgomery County, Virginia Revenue Bonds (Series 2009A) and Taxable Revenue Bonds (Series 2009B) dated February 12, 2009. The Series 2009B bonds, which originally matured on February 1, 2039, were paid off on June 27, 2013, but the Series 2009A bonds remained outstanding. Bond proceeds were used to refinance the previously outstanding Series 2007 bonds, an unsecured variable rate promissory note payable, and an unsecured variable rate commercial note payable, as well as finance the construction of several facilities, primarily for the National Capital Region facility, to be used in support of the university. On June 1, 2017, the Series 2009A bonds, which were to mature on February 1, 2039, were fully refunded in conjunction with the issuance of the Series 2017A, Series 2017B, and Series 2017C bonds.

The foundation is obligated under the Economic Development Authority of Montgomery County, Virginia Revenue Refunding Bonds (Series 2010A) and Taxable Revenue Refunding Bonds (Series 2010B) dated August 3, 2010. Proceeds were used to refinance a portion of the outstanding Series 2009A, Series 2009B and Series 2005 bonds and to retire certain interest rate swaps. The original Series 2010A and 2010B bonds, which bear a weighted average fixed interest rate of 4.23% and 4.52%, respectively, had annual serial and sinking fund maturities beginning June 1. 2011 and concluding June 1, 2039 in varying amounts ranging from $1,320 to $3,400. The Series 2017A and 2017B bonds refunded portions of both the Series 2010A and 2010B bonds. The unrefunded portions of the Series 2010A and Series 2010B bonds currently have a final maturity of 2020 and 2023, respectively.

The foundation is obligated under the Economic Development Authority of Montgomery County, Virginia Revenue and Refunding Bonds (Series 2011A) and Taxable Revenue and Refunding Bonds (Series 2011B) dated November 17, 2011. Proceeds were used to refinance all or a portion of the outstanding Series 2000, Series 2005, Series 2009A and Series 2009B bonds, two notes payable, retire certain interest rate swaps, as well as finance the construction of several commercial facilities and several facilities to be used in support of the university. The original Series 2011A and Series 2011B bonds, which bear a weighted average fixed interest rate of 3.69% and 4.03%, respectively, had annual serial and sinking fund maturities beginning June 1, 2012 and concluding June 1, 2039 in varying amounts ranging from $1,505 to $5,200. The Series 2017A and Series 2017B bonds, refunded portions of the Series 2011A. The unrefunded portion of the Series 2011A bonds currently have a final maturity of 2036.

The foundation is obligated under the Economic Development Authority of Montgomery County, Virginia Tax-Exempt Revenue and Refunding Bonds (Series 2012A) and Taxable Revenue and Refunding Bonds (Series 2012B) dated December 1, 2012. Proceeds were used to refinance a portion of the outstanding Series 2009B bonds and to finance the construction of several facilities to be used in support of the university. During 2014, an additional $1,817 was borrowed on the Series 2012B bonds to finance the construction of a facility to be used in support of the university. The Series 2012A bonds, which bear a fixed interest rate of 1.99%, have monthly payments of principal and interest beginning February 1, 2013 and concluding June 1, 2022. The Series 2012B bonds, bore a variable interest rate of LIBOR plus 125 basis points (1.44% at June 30, 2013), until the final advance date of October 1, 2013, and thereafter bear a fixed interest rate of 3.05%, have monthly interest commencing on February 1, 2013 and have monthly payments of principal and interest beginning November 1, 2013 and concluding on January 1, 2033. The Series 2012B bonds are subject to mandatory tender on December 27, 2022 at the bondholder's option.

The foundation is obligated under the Economic Development Authority of Montgomery County, Virginia Revenue and Refunding Bonds (Series 2013A) and Taxable Revenue and Refunding Bonds (series 2013B) dated October 30, 2013. Proceeds were used to finance the construction of several commercial facilities and several facilities to be used in support of the university. The bonds, which bear a weighted average fixed interest rate of 3.95% and 3.87%, have annual serial and sinking fund maturities beginning June 1, 2014 and concluding June 1, 2038 in varying amounts ranging from $280 to $4,010.

The foundation is obligated under the Economic Development Authority of Montgomery County, Virginia Revenue and Refunding Bonds (Series 2017A) and Taxable Revenue and Refunding Bonds (series 2017B) dated May 17, 2017. Proceeds were or will be used to refinance all or a portion of the outstanding Series 2009A, Series 2010A, Series 2010B, and Series 2011A bonds, refinance the outstanding VTREF note payable, and renovate a facility used in support of the university. The bonds, which bear a weighted average fixed interest rate of 2.93% and 3.43%, have annual serial and sinking fund maturities beginning June 1, 2018 and concluding June 1, 2039 in varying amounts ranging from $580 to $4,670. At June 30, 2018, unspent bond proceeds of $418 are included in restricted cash and cash equivalents.

The foundation is obligated under the Economic Development Authority of Montgomery County, Virginia Revenue and Refunding Bonds (Series 2017C) dated May 17, 2017. Proceeds were used to refinance all or a portion of the outstanding Series 2005 bonds and the remaining portion of the Series 2009A bonds. The Series 2017C bonds, which bear a variable interest rate calculated as 65% of one-month LIBOR plus0.407%, have annual serial maturities beginning June 1, 2018 and concluding June 1, 2027 in varying amounts ranging from $1,340 to $3,380.

The foundation is obligated under a promissory note with Union Bank and Trust (Series 2017D), dated December 19, 2017. Proceeds were used to finance the construction of several facilities to be used in support of the university. The promissory note, which bears a fixed interest rate of 3.7%, has annual serial maturities beginning October 1, 2019 and concluding October 1, 2037 in varying amounts ranging from $115 to $825. At June 30, 2018, unspent bond proceeds of $1,241 and $8,639 are included in restricted cash and cash equivalents and short-term investments, respectively.

During fiscal year June 30, 2017, the foundation used the proceeds from the Series 2017 bond issuances to refinance all of its Series 2005 and Series 2009A bonds in the amount of $12,065 and $16,495, respectively. The foundation also partially refunded $44,190 of Series 2010A, $5,620 of its Series 2010B and $14,515 of its Series 2011A bonds as well. The foundation defeased or partially refunded these bonds payable by placing the proceeds of new bonds in an irrevocable trust to provide for future debt service payments on the old bonds. Accordingly, the trust account assets and the liability for the defeased or partially refunded bonds are not reflected in the foundation's component unit statements. In connection with the current year bond transactions, the foundation recorded a loss on early extinguishment of debt of $5,266 for the year ended June 30, 2017.

Principal amounts outstanding for these bonds as of June 30, 2018, are as follows *(all dollars in thousands)*:

Bond Series:	
Series 2010A	$ 750
Series 2010B	7,415
Series 2011A	33,365
Series 2011B	37,805
Series 2012A	1,624
Series 2012B	5,608
Series 2013A	15,140
Series 2013B	19,020
Series 2017A	37,895
Series 2017B	43,945
Series 2017C	20,785
Series 2017D	11,230
Premium on Series 2011A	719
Premium on Series 2013A	583
Premium on Series 2017A	3,036
Unamortized bond issuance cost	(1,931)
Total bonds payable	$ 236,989

The aggregate annual maturities of bonds payable for each of the five years and thereafter subsequent to June 30, 2018, are as follows *(all dollars in thousands)*:

2019	$ 16,231
2020	16,972
2021	17,539
2022	15,707
2023	13,737
Later years	158,734
Total	$ 238,920

Total interest expense incurred in the aggregate related to notes payable and bonds payable in 2018 totaled $8,293.

Interest Rate Swaps

Effective September 1, 2005, the foundation entered into an interest rate swap agreement (Swap 1) with a lending institution. This agreement was based on the principal balances of the Series 2001A and Series 2002A bond issues, which were refinanced by the Series 2005 bonds and most recently by the Series 2017C bonds. The foundation participates as a fixed rate payer, with a fixed rate of 3.265% for a 17-year term ending June 1, 2022. The lending institution participates as a floating rate payer, with a floating interest rate, which is calculated based on the weighted average of 70% of USD-LIBOR-BBA and was 1.4356% at June 30, 2018.

Effective September 1, 2006, the foundation entered into an interest rate swap agreement (Swap 2) with a lending institution. This agreement was based on the principal balances of the Series 2005 bond issue, which were refinanced by the Series 2017C bonds. The foundation participates as a fixed rate payer, with a fixed rate of 3.213% ending June 1, 2025. The lending institution participates as a floating rate payer, with a floating interest rate, which is calculated based on the weighted average of 70% of USD-LIBOR-BBA and was 1.432% at June 30, 2018.

Effective March 14, 2007, the foundation entered into an interest rate swap agreement (Swap 3) with a lending institution. This agreement was based on the principal balances of the Series 2007 bond issue, which were refinanced by the Series 2009 bonds and more recently by the 2017C bonds. The foundation participates as a fixed rate payer, with a fixed rate of 3.737% ending June 1, 2027. The lending institution participates as a floating rate payer, with a floating interest rate, which is calculated based on the weighted average of SIFMA Municipal Swap Index and was 1.268% at June 30, 2018.

The following table summarizes the fair values of the foundation's interest rate swaps and changes in the fair values of the swaps (*all dollars in thousands*):

	Fair Values	Change in Fair Value
Swap 1	$ 131	$ 180
Swap 2	304	257
Swap 3	873	528
Total	$ 1,308	$ 965

Agency Deposits Held in Trust - Virginia Tech Foundation Inc.

Under an agreement between the university and the foundation, the foundation serves as agent in connection with the investment, management, and administration of the Pratt Estate. In addition, the foundation serves as agent and maintains investments for the Virginia Tech Alumni Association Inc., Virginia Tech Services Inc., and certain other associations.

A summary of agency deposits held in trust for the year ending June 30, 2018 is presented as follows *(all dollars in thousands)*:

University—Pratt Estate	$ 47,785
University—Other	241,900
Virginia Tech Alumni Association, Inc.	5,158
Virginia Tech Services, Inc.	2,104
Other	5,003
Total agency deposits held in trust	$ 301,950

Note 27

Joint Ventures

The Hotel Roanoke Conference Center Commission was created by a joint resolution of the university and the City of Roanoke. The purpose of the commission is to establish and operate a publicly owned conference center in Roanoke adjacent to the renovated Hotel Roanoke. The powers of the commission are vested in commissioners. Each participating governing body appoints three commissioners for a total of six commissioners. The commission has the authority to issue debt, and such debt is the responsibility of the commission. The intention of the commission is to be self-supporting through its user fees. The university and the City of Roanoke equally share in any operating deficit or additional funding needed for capital expenditures. The university made contributions of $80,000 using private funds to the commission for the fiscal year ended June 30, 2018. Financial statements may be obtained from the Hotel Roanoke Conference Center Commission, 106 Shenandoah Avenue, Roanoke, Virginia, 24016

The Virginia Tech Carilion School of Medicine was established as a 501(c)(3) nonprofit organization. This joint venture receives oversight from a board of directors. Virginia Tech and Carilion Clinic (formally known as Carilion Health System) each appoint two members to the board of directors. The board then appoints six additional independent board members. The commonwealth provided the capital funds to construct a facility on land owned by Carilion Health System under a public-private partnership. This facility provides space for the Virginia Tech Carilion School of Medicine and the Virginia Tech Carilion Research Institute, a part of Virginia Tech. Approximately one-third of the facility is occupied by the school of medicine with the remaining space allocated to the research institute. The university contributed approximately $2.4 million towards the expenses for this joint venture in fiscal year 2018. Financial statements may be obtained from the administrative offices for the Virginia Tech Carilion School of Medicine, located at Riverside 2, Roanoke, Virginia, 24016.

Note 28

Jointly Governed Organizations

NRV Regional Water Authority

Created by a concurrent resolution of the university, the towns of Blacksburg and Christiansburg and joined by the county of Montgomery in fiscal year 2013, the authority operates and maintains the water supply system for the university and the other participating governing bodies. A six-member board governs the authority with one member appointed by each governing body and two at-large members appointed by the joint resolution of each of the governing bodies. The authority's indebtedness is not an obligation of the university and is payable solely from the revenues of the authority. The university paid $1,297,000 to the authority for the purchase of water for the fiscal year ended June 30, 2018.

Blacksburg-VPI Sanitation Authority

Created by a concurrent resolution of the university and the town of Blacksburg, the authority operates and maintains the wastewater treatment system for the participating governing bodies. Each participating governing body appoints one member of the five-member board of directors. Three at-large members are appointed by the joint resolution of each of the governing bodies. The authority's indebtedness is not an obligation of the university and is payable solely from the revenues of the authority. The university paid $1,022,000 to the authority for the purchase of sewer services for the fiscal year ended June 30, 2018.

Montgomery Regional Solid Waste Authority

Created by a joint resolution of the university, the towns of Blacksburg and Christiansburg, and the county of Montgomery, the authority represents its members in solid waste and recycling issues as well as operating a recycling facility. The authority is governed by its board with each participating governing body appointing one board member, and all governing bodies jointly appointing the fifth at-large member. Each governing body provides collection of solid waste and recyclables from within its jurisdiction and delivers the collected materials to the authority for disposal of the waste, and the processing and marketing of the recyclables. All indebtedness is the obligation of the authority and payable from its revenues. The university paid $223,000 to the authority for tipping fees for the fiscal year ended June 30, 2018.

Virginia Tech/Montgomery Regional Airport Authority

Created by a joint resolution of the university, the towns of Blacksburg and Christiansburg, and the county of Montgomery, this authority serves to develop a regional airport based on the mission of servicing corporate executive markets and other general aviation markets; obtaining grants, loans and other funding for airport improvements and other activities; and in promoting and assisting in regional economic development. The authority is governed by its board, which consists of five members. Each participating governing body appoints one member of the board, and jointly all governing bodies appoint the fifth member. All indebtedness is the obligation of the authority and payable from its revenues. The university's funding commitment for fiscal year 2018 was $50,000, all of which Virginia Tech paid to the authority.

New River Valley Emergency Communications Regional Authority

Created by a joint resolution of the university, towns of Blacksburg and Christiansburg, and the county of Montgomery, this authority supports the formation of a regional authority to provide 911 dispatch and emergency communication services to the people of each jurisdiction and campus. The authority is governed by its board, which consists of five members. Each participating governing body appoints one member of the board, and jointly all governing bodies appoint the fifth member

Note 29

Risk Management and Employee Health Care Plans

The university is exposed to various risks of loss related to torts; theft of, damage to, and destruction of assets; errors and omissions; nonperformance of duty; injuries to employees; and natural disasters. The university participates in insurance plans maintained by the Commonwealth of Virginia. The state employee health care and worker's compensation plans are administered by the Department of Human Resource Management and the risk management insurance plans are administered by the Department of Treasury, Division of Risk Management. Risk management insurance includes property, general liability, medical malpractice, faithful performance of duty bond, automobile, boiler and machinery, and air and watercraft plans. The university pays premiums to the Commonwealth of Virginia for the aforementioned insurance coverage. In addition, the university contracts with private insurers to provide additional fidelity bonding coverage, automobile physical damage coverage, business interruption coverage for the Equine Medical Center and overseas liability coverage. Information relating to the commonwealth's insurance plans is available in the Commonwealth of Virginia's *Comprehensive Annual Financial Report*.

Note 30

Pending Litigation

The university has been named as a defendant in a number of lawsuits. The final outcome of the lawsuits cannot be determined at this time. However, management is of the opinion that any ultimate liability to which the university may be exposed will not have a material effect upon the university's financial position.

Note 31

Subsequent Event

The Virginia Tech Carilion School of Medicine opened as a public-private partnership between the university and Carilion Clinic in 2008. On August 29, 2016, the Virginia Tech Board of Visitors affirmed its intent to acquire and integrate the Virginia Tech Carilion School of Medicine into Virginia Tech as its ninth college. On November 6, 2017, the board approved a resolution to implement the processes necessary to complete the assimilation effective July 1, 2018. In June 2018, the university received approval from the Southern Association of Colleges and Schools Commissions on Colleges (SACS-COC) and the State Council of Higher Education for Virginia (SCHEV) for the integration. On July 1, 2018, the Virginia Tech School of Medicine officially became a college within the university.

Required Supplementary Information for Pension Plans

Schedule of Virginia Tech's Share of Net Pension Liability (SERP) *
For the years ended June 30, 2018 - 2015
(all dollars in thousands)

	Proportion of net pension liability	Proportionate share of net pension liability	Covered payroll	Proportionate share of net pension liability as a percentage of covered payroll	Plan fiduciary net position as a percentage of total pension liability
2018	6.55%	$ 381,766	$ 262,376	145.50%	75.33%
2017	6.58%	$ 433,375	$ 263,416	164.52%	71.29%
2016	6.52%	$ 398,980	$ 246,888	161.60%	72.81%
2015	6.30%	$ 352,916	$ 243,099	145.17%	74.28%

Schedule of Virginia Tech's Share of Net Pension Liability (VaLORS) *
For the years ended June 30, 2018 - 2015
(all dollars in thousands)

	Proportion of net pension liability	Proportionate share of net pension liability	Covered payroll	Proportionate share of net pension liability as a percentage of covered payroll	Plan fiduciary net position as a percentage of total pension liability
2018	0.67%	$ 4,397	$ 2,315	191.67%	67.22%
2017	0.67%	$ 5,201	$ 2,328	223.41%	61.01%
2016	0.66%	$ 4,716	$ 2,247	209.88%	62.64%
2015	0.70%	$ 4,706	$ 2,461	191.22%	63.05%

** The amounts presented have a measurement date of the previous fiscal year end.*

Schedule of VirginiaTech's Pension Contributions (SERP)
For the years ended June 30, 2018 - 2015
(all dollars in thousands)

	Contractually required contribution	Contributions in relation to contractually required contribution	Contribution deficiency (excess)	Employer's covered payroll	Contributions as a percentage of covered payroll
2018	$ 36,466	$ 36,466	$ -	$ 270,309	13.49%
2017	$ 35,348	$ 35,348	$ -	$ 262,376	13.47%
2016	$ 36,931	$ 36,931	$ -	$ 263,416	14.00%
2015	$ 30,392	$ 30,392	$ -	$ 246,488	12.30%

Schedule of Virginia Tech's Pension Contributions (VaLORs)
For the years ended June 30, 2018 - 2015
(all dollars in thousands)

	Contractually required contribution	Contributions in relation to contractually required contribution	Contribution deficiency (excess)	Employer's covered payroll	Contributions as a percentage of covered payroll
2018	$ 483	$ 483	$ -	$ 2,294	21.05%
2017	$ 487	$ 487	$ -	$ 2,315	21.04%
2016	$ 439	$ 439	$ -	$ 2,328	18.86%
2015	$ 397	$ 397	$ -	$ 2,247	17.67%

The schedules above are intended to show information for 10 years. Since 2015 was the first year for this presentation, only four years are available. Additional years will be included as they become available.

Notes to Required Supplementary Information for Pension Plans

There have been no actuarially material changes to the System benefit provisions since the prior actuarial valuation. The 2014 valuation includes Hybrid Retirement Plan members for the first time. The hybrid plan applies to most new employees hired on or after January 1, 2014 and not covered by enhanced hazardous duty benefits. Because this is still a fairly new benefit and the number of participants was relatively small, the impact on the liabilities as of the measurement date of June 30, 2017 are not material. The following changes in actuarial assumptions were made for the retirement plans effective June 30, 2014 based on the most recent experience study of the System for the four-year period ending June 30, 2016:

VRS - State Employee Retirement Plan (SERP)

Mortality Rates	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 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%

VaLORS Retirement Plan

Mortality Rates	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 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%

Required Supplementary Information for Other Postemployment Benefit Plans

Schedule of Virginia Tech's Share of OPEB Liability (Asset)

For the year ended June 30, 2018
(all dollars in thousands)

	OPEB	Proportion of the collective total OPEB liability (asset)	Proportionate share of the collective total OPEB liability (asset)	Employer's covered payroll	Proportionate share of the collective total OPEB liability (asset) as a percentage of employer's covered payroll	Plan Fiduciary Net Position as a percentage of the total OPEB liability
2018*	GLI	2.87%	$ 43,235	$ 526,681	8.02%	48.86%
	HIC	8.19%	$ 74,567	$ 531,560	14.03%	8.03%
	VSDP	3.79%	$ (7,790)	$ 142,553	5.46%	186.63%

	OPEB	Proportion of the collective total OPEB liability	Proportionate share of the collective total OPEB liability	Covered-employee payroll	Proportionate share of the collective total OPEB liability as a percentage of covered-employee payroll	Plan Fiduciary Net Position as a percentage of the total OPEB liability
2018*	PMRH	8.34%	$ 108,278	$ 548,609	19.74%	N/A
	LODA	0.25%	$ 663	$ N/A**	N/A**	1.30%

** The amounts presented have a measurement date of the previous fiscal year end.*

*** The contributions for the Line of Duty Act Program (LODA) are based on the number of participants in the program using a per-capita-based contribution versus a payroll-based contribution.*

Schedule of Virginia Tech's OPEB Contributions

For the year ended June 30, 2018
(all dollars in thousands)

	OPEB	Contractually required contribution	Contributions in relation to contractually required contribution	Contribution deficiency (excess)	Employer's covered payroll	Contributions as a % of employer's covered payroll
2018	GLI	$ 2,880	$ 2,880	$ 0	$ 553,929	0.52 %
	HIC	$ 6,653	$ 6,653	$ 0	$ 558,853	1.19 %
	VSDP	$ 977	$ 977	$ 0	$ 147,739	0.66 %

	OPEB	Contractually required contribution	Contributions in relation to contractually required contribution	Contribution deficiency (excess)	Covered employee payroll	Contributions as a % of covered employee payroll
2018	LODA	$ 25	$ 25	$ 0	N/A*	N/A*

** The Line of Duty Act Program (LODA) includes full-time employees, part-time employees, and volunteers. Contributions for the program are based on the number of full-time equivalent employees in the program using a per-capita-based contribution versus a payroll-based contribution.*

The schedules above are intended to show information for 10 years. Since 2018 is the first year for this presentation, only one year is available. Additional years will be included as they become available.

Notes to Required Supplementary Information for OPEB Plans

PMRH program

There are no assets accumulated in a trust to pay related benefits.

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

Changes of assumptions – The following assumptions were updated since the July 1, 2016 valuation based on the results of a Virginia Retirement System actuarial experience study performed for the period of July 1, 2012 through June 30, 2016. Changes to the actuarial assumptions as a result of the experience study are as follows:

- Mortality rates – 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

The discount rate was increased from 2.85% to 3.58% based on the Bond Buyers GO 20 Municipal Bond Index and spousal coverage was reduced from 70% to 50% based on a blend of recent spousal coverage election rates and the prior year assumption. Based on the 2017 census, new retirees since 1/1/2015 have chosen to cover their spouses approximately 20% of the time. However, active employees cover their spouses at a rate close to 53%.

GLI, HIC, LODA, and VSDP programs

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 (GLI, HIC, LODA, VSDP)

Mortality Rates	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 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%

Teachers (GLI)

Mortality Rates	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 through 9 years of service
Disability Rates	Adjusted rates to better match experience
Salary Scale	No change

SPORS Employees (GLI, HIC, LODA, VSDP)

Mortality Rates	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%

VaLORS Employees (GLI, HIC, LODA, VSDP)

Mortality Rates	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 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 (GLI, HIC)

Mortality Rates	Updated 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 (GLI)

Mortality Rates	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 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 (GLI)

Mortality Rates	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 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 (GLI, LODA)

Mortality Rates	Updated 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 (GLI, LODA)

Mortality Rates	Updated 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%

Heywood Fralin, photographed at Virginia Tech Carilion Research Institute in Roanoke. After expansion, the research institute will provide additional state-of-the-art research laboratories organized around interactive research themes and infused with experiential learning environments.

Virginia Tech Foundation Inc.

The purpose of Virginia Tech Foundation Inc. is to receive, invest, and manage private funds given for the support of programs at Virginia Tech and to foster and promote the growth, progress, and general welfare of the university.

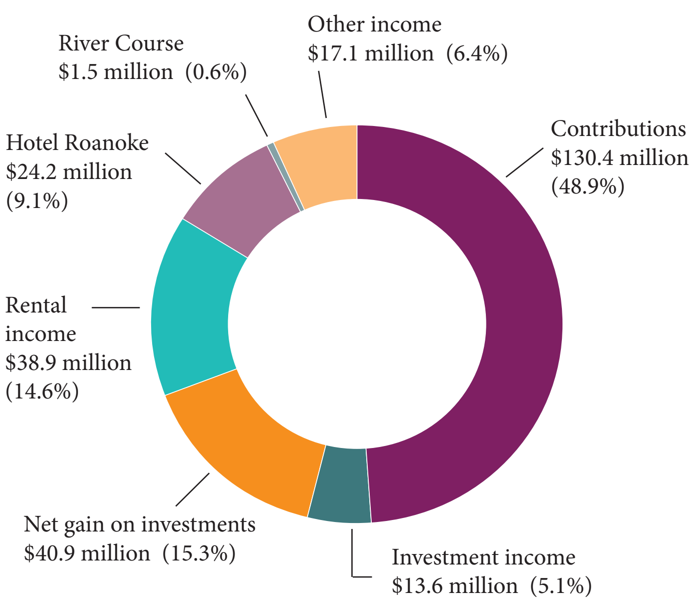
During the current fiscal year, the foundation recognized $130.4 million in contributions for support of the university. Investment income of $13.6 million, along with net gain on investments of $40.9 million, resulted in a $54.5 million net gain on investment activity. Property rental, hotel operating, and golf course income totaled $64.6 million. Other income accounted for $17.1 million.

Total income of $266.6 million was offset by $179.5 million in expenses that supported the university and its programs. Direct support to various university programs aggregated $115.0 million, which included $30.6 million in scholarship support to students and faculty and $10.6 million towards university capital projects. Additional expenses such as fund-raising, management and general, research center, hotel operating, golf course, and other costs totaled $64.5 million. Total net position increased by $90.0 million over the previous year.

The graphs below are categorized as presented in the audited financial statements for the foundation that follows the Financial Accounting Standards Board (FASB) presentation requirements.

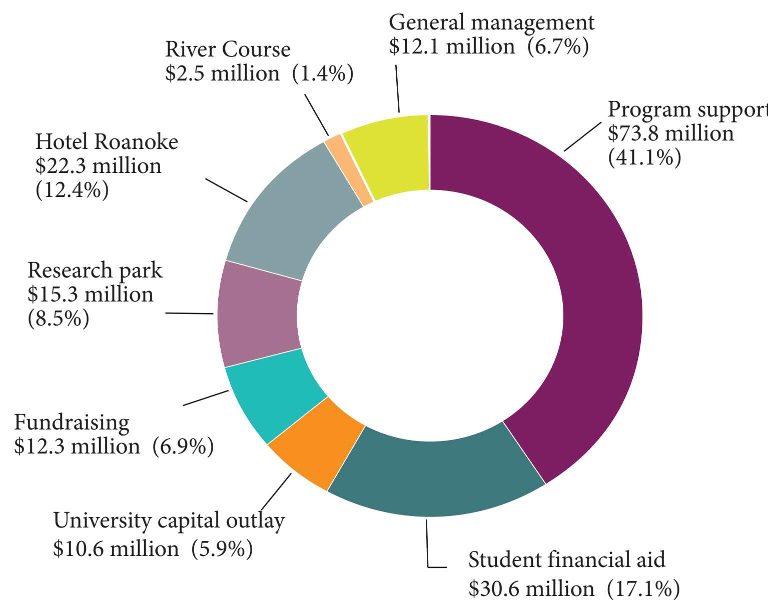
Virginia Tech Foundation Revenues and Investment Gains

For the year ended June 30, 2018
(all dollars in millions)



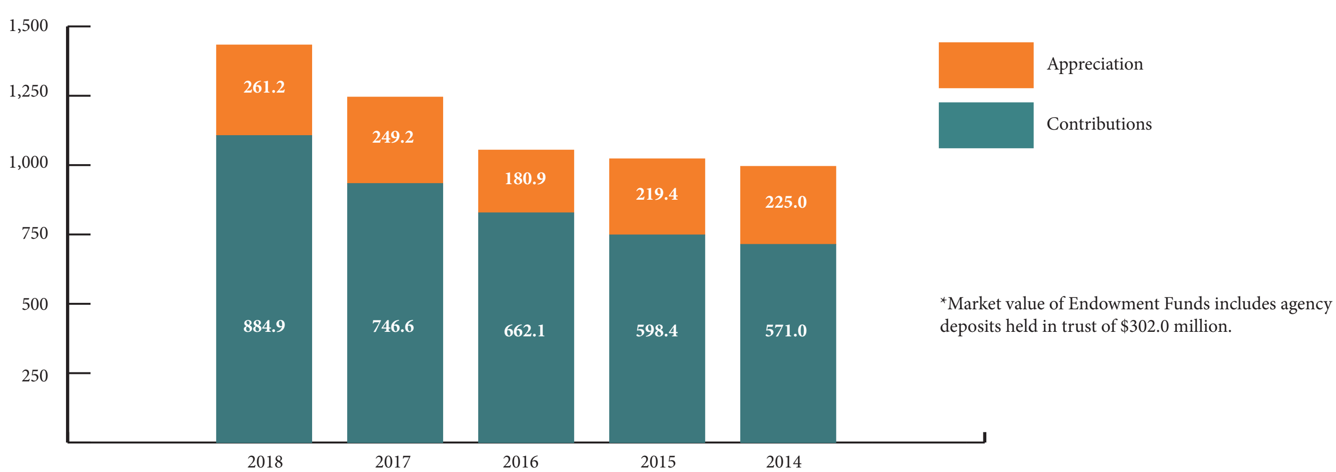
Virginia Tech Foundation Expenses

For the year ended June 30, 2018
(all dollars in millions)



Virginia Tech Foundation Endowment Market Value *

For the year ended June 30, 2018
(all dollars in millions)



*Market value of Endowment Funds includes agency deposits held in trust of $302.0 million.

Consolidating Schedule of Net Position

As of June 30, 2018

(all dollars in thousands)

	Current Funds Unrestricted	Current Funds Restricted	Loan Funds	Endowment and Similar Funds	Plant Funds	Agency Funds	Total
Assets							
Current Assets							
Cash and cash equivalents (Note 4)	$ 133,664	$ 29,088	$ 1,513	$ -	$ -	$ 16,576	$ 180,841
Short-term investments (Notes 4, 26)	-	-	-	-	-	-	-
Accounts and contributions receivable, net (Notes 1, 5, 26)	17,815	55,497	-	-	-	-	73,312
Notes receivable, net (Note 1, 6)	443	-	1,218	-	-	-	1,661
Due from Commonwealth of Virginia (Note 10)	15,424	-	-	-	-	-	15,424
Inventories	10,323	-	-	-	-	-	10,323
Prepaid expenses	16,366	150	-	-	-	-	16,516
Due to (from) other funds	1,187	7,896	(70)	(542)	(8,471)	-	-
Total current assets	195,222	92,631	2,661	(542)	(8,471)	16,576	298,077
Noncurrent assets							
Cash and cash equivalents (Note 4)	5	-	-	161	34,602	-	34,768
Short-term investments (Notes 4, 26)	-	-	-	-	544	-	544
Due from Commonwealth of Virginia (Note 10)	-	-	-	-	8,204	-	8,204
Accounts and contributions receivable, net (Notes 1, 5, 26)	-	-	-	-	13,646	-	13,646
Notes receivable, net (Notes 1, 6)	3,554	-	14,805	-	-	-	18,359
Net investments in direct financing leases	-	-	-	-	-	-	-
Irrevocable trusts held by others, net	-	-	-	-	-	-	-
Long-term investments (Notes 4, 26)	361,116	-	-	68,925	89,421	-	519,462
Depreciable capital assets, net (Notes 7, 26)	-	-	-	-	1,535,581	-	1,535,581
Nondepreciable capital assets (Notes 7, 26)	-	-	-	-	196,345	-	196,345
Intangible assets, net	-	-	-	-	-	-	-
Other assets	147	7,790	-	-	-	-	7,937
Total noncurrent assets	364,822	7,790	14,805	69,086	1,878,343	-	2,334,846
Total assets	560,044	100,421	17,466	68,544	1,869,872	16,576	2,632,923
Deferred Outflows of Resources							
Deferred loss on long-term debt defeasance (Note 14)	-	-	-	-	8,758	-	8,758
Deferred outflow for VRS pension (Note 18)	42,072	3,529	-	-	-	-	45,601
Deferred outflow for other post employment benefits (Note 20)	13,751	1,872	-	-	-	-	15,623
Total deferred outflows	55,823	5,401	-	-	8,758	-	69,982
Liabilities							
Current liabilities							
Accounts payable and accrued liabilities (Note 8)	99,395	18,088	-	-	22,098	962	140,543
Accrued compensated absences (Notes 1, 15)	20,231	4,230	-	-	-	-	24,461
Unearned revenue (Notes 1, 9)	29,310	19,646	-	-	-	-	48,956
Funds held in custody for others	2	-	-	-	-	15,614	15,616
Commercial paper (Note 11)	-	-	-	-	15,200	-	15,200
Long-term debt payable (Notes 12, 13, 26)	-	-	-	-	31,648	-	31,648
Other postemployment benefits liabilities (Note 20)	2,483	388	-	-	-	-	2,871
Other liabilities	-	-	-	-	-	-	-
Total current liabilities	151,421	42,352	-	-	68,946	16,576	279,295
Noncurrent liabilities							
Accrued compensated absences (Notes 1, 15)	17,331	3,616	-	-	-	-	20,947
Federal student loan program contributions refundable (Note 15)	-	-	12,954	-	-	-	12,954
Unearned revenue (Notes 1, 9)	-	-	-	-	-	-	-
Long-term debt payable (Notes 12, 13, 26)	-	-	-	-	452,657	-	452,657
Liabilities under trust agreements	-	-	-	-	-	-	-
Agency deposits held in trust (Note 26)	-	-	-	-	-	-	-
Pension liability (Note 18)	384,703	1,460	-	-	-	-	386,163
Other postemployment benefits liabilities (Note 20)	222,042	1,830	-	-	-	-	223,872
Other liabilities	2,527	-	-	-	-	-	2,527
Total noncurrent liabilities	626,603	6,906	12,954	-	452,657	-	1,099,120
Total liabilities	778,024	49,258	12,954	-	521,603	16,576	1,378,415
Deferred Inflows of Resources							
Deferred gain on long-term debt defeasance (Note 14)	-	-	-	-	944	-	944
Deferred inflow for VRS pension (Note 18)	29,466	-	-	-	-	-	29,466
Deferred inflow for other postemployment benefits (Note 20)	34,775	-	-	-	-	-	34,775
Total deferred outflows	64,241	-	-	-	944	-	65,185
Net Position							
Net investment in capital assets	-	-	-	-	1,273,212	-	1,273,212
Restricted, nonexpendable	-	-	-	14,414	-	-	14,414
Restricted, expendable							
Scholarships, research, instruction, and other	-	56,564	4,512	54,130	-	-	115,206
Capital projects	-	-	-	-	11,533	-	11,533
Debt service and auxiliary operations	-	-	-	-	71,338	-	71,338
Unrestricted	(226,398)	-	-	-	-	-	(226,398)
Total net position	$ (226,398)	$ 56,564	$ 4,512	$ 68,544	$ 1,356,083	$ -	$ 1,259,305

Consolidating Schedule of Revenues, Expenses, and Changes in Net Position

As of June 30, 2018

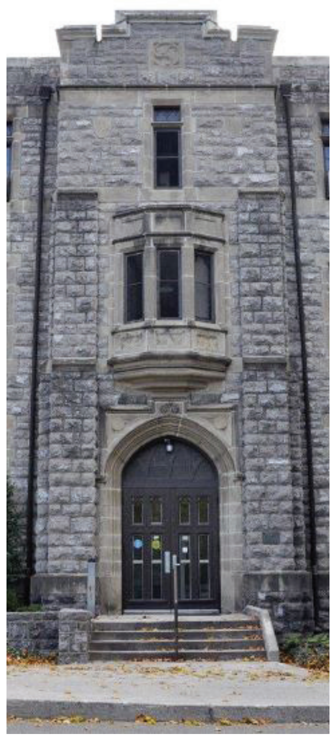
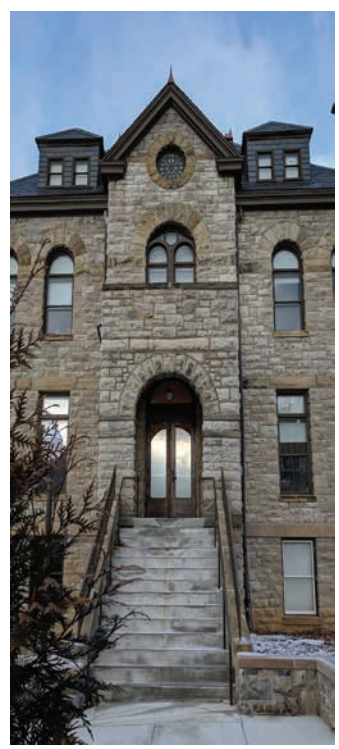
(all dollars in thousands)

	Current Funds		Loan	Endowment and	Plant	
	Unrestricted	Restricted	Funds	Similar Funds	Funds	Total
Operating revenues						
Student tuition and fees	$ 497,472	$ 2,512	$ -	$ -	$ -	$ 499,984
Federal appropriations	-	14,726	-	-	-	14,726
Federal grants and contracts	51,106	156,856	-	-	681	208,643
State grants and contracts	809	12,006	-	-	-	12,815
Local grants and contracts	354	14,182	-	-	-	14,536
Nongovernmental grants and contracts	10,923	45,050	-	-		55,972
Sales and services of educational departments	18,279	13	-	-	-	18,292
Auxiliary enterprise revenue	267,442		-	-	-	267,441
Other operating revenues	5,555	1,840	84	-	1	7,480
Total operating revenues	851,940	247,184	84	-	681	1,099,889
Operating expenses						
Instruction	370,154	7,336	-	-	-	377,490
Research	123,498	199,464	-	-	-	322,962
Public service	55,354	42,600	-	-	-	97,954
Academic support	88,268	2,951	-	-	-	91,219
Student services	19,644	1,195	-	-	-	20,839
Institutional support	67,130	8,810	-	-	-	75,940
Operation and maintenance of plant	77,764	6	-	-	7,051	84,821
Student financial assistance	5,309	12,998	-	-	-	18,307
Auxiliary enterprises	227,792	-	-	-	-	227,792
Depreciation and amortization	-	-	-	-	106,059	106,059
Other operating expenses	-	-	4	-	-	4
Total operating expenses	1,034,913	275,360	4	-	113,110	1,423,387
Operating loss	(182,973)	(28,176)	80	-	(112,429)	(323,498)
Non-operating revenues (expenses)						
State appropriations	232,994	30,133	-	-	-	263,127
Gifts	21,688	49,750	94	-	-	71,532
Non-operating grants and contracts	-	806	-	-	-	806
Federal student financial aid (Pell)	-	19,826	-	-	-	19,826
Investment income, net of investment expense	9,688	(1,057)	-	4,667	3,026	16,324
Other additions	(15,941)	(6,542)	-	-	30,376	7,893
Nongeneral fund reversion	-	-	-	-	-	-
Interest expense on debt related to capital assets	-	-	-	-	(16,004)	(16,004)
Net non-operating revenues (expenses)	248,429	92,916	94	4,667	17,398	363,504
Income (loss) before other revenues, expenses, gains, or losses	65,456	64,740	174	4,667	(95,031)	40,006
Capital appropriations	-	-	-	-	(32,896)	(32,896)
Capital grants and gifts	15,350	2,078	-	-	67,660	85,088
Loss on disposal of capital assets	-	-	-	-	(369)	(369)
Total other revenues, expenses, gains, and losses	15,350	2,078	-	-	34,395	51,823
Increase in net position	80,806	66,818	174	4,667	(60,636)	91,829
Mandatory transfers	(58,991)	(686)	-	-	59,677	-
Nonmandatory transfers	(11,421)	9,336	(169)	(3,018)	5,272	-
Equipment and library book transfers	(35,950)	(5,803)	-	-	41,753	-
Scholarship allowance transfer	64,167	(64,167)	-	-	-	-
Total transfers	(42,195)	(61,320)	(169)	(3,018)	106,702	-
Increase in net position after transfers	38,611	5,498	5	1,649	46,066	91,829
Net position - beginning of year (as restated)	(265,009)	51,066	4,507	66,895	1,310,017	1,167,476
Net position - end of year	$ (226,398)	$ 56,564	$ 4,512	$ 68,544	$ 1,356,083	$ 1,259,305

Affiliated Corporations Financial Highlights

For the years ended June 30, 2018-2014
(all dollars in thousands)

	2018	2017	2016	2015	2014
Assets					
Virginia Tech Foundation Inc.	$ 1,891,019	$ 1,723,910	$ 1,510,647	$ 1,507,958	$ 1,488,766
Virginia Tech Innovation Corporation	11,646	11,956	12,645	-	-
Virginia Tech Services Inc.	8,762	10,595	11,334	12,786	10,513
Virginia Tech Applied Research Corporation	4,414	3,696	3,357	4,318	5,128
Virginia Tech Intellectual Properties Inc.	1,063	933	1,405	1,384	1,894
Total Assets	$ 1,916,904	$ 1,751,090	$ 1,539,388	$ 1,526,446	$ 1,506,301
Revenues					
Virginia Tech Foundation Inc.	$ 266,582	$ 318,291	$ 172,130	$ 212,851	$ 273,176
Virginia Tech Innovation Corporation	5,564	5,401	4,348	-	-
Virginia Tech Services Inc.	22,160	22,187	24,398	22,791	23,481
Virginia Tech Applied Research Corporation	12,038	9,233	6,284	6,785	8,184
Virginia Tech Intellectual Properties Inc.	1,932	2,016	2,366	2,190	2,280
Total Revenues	$ 308,276	$ 357,128	$ 209,526	$ 244,617	$ 307,121
Expenses					
Virginia Tech Foundation Inc.	$ 179,567	$ 164,310	$ 184,904	$ 166,523	$ 155,857
Virginia Tech Innovation Corporation	5,600	4,993	4,321	-	-
Virginia Tech Services Inc.	22,133	22,480	24,383	22,790	23,451
Virginia Tech Applied Research Corporation	10,985	8,640	7,919	8,856	10,187
Virginia Tech Intellectual Properties Inc.	1,727	2,235	2,389	2,481	2,169
Total Expenses	$ 220,012	$ 202,658	$ 223,916	$ 200,650	$ 191,664

A $35 million capital initiative, ongoing in FY 2018, focused on Davidson Hall (left), Sandy Hall (center), and the Liberal Arts Building (right), three historic buildings on the VT Drillfield. Collectively, these renovations increase the functionality of the three underutilized buildings, address several deferred maintenance issues, and expand capacity for learning and engagement. Enhancements include renovated classrooms, expanded audio-visual capabilities, energy-efficient HVAC systems and windows, and ADA-accessible public areas. All three renovations will be accomplished in alignment with the Virginia Tech Climate Action Commitment to achieve a minimum LEED rating of silver for all major renovations and new construction..


SPEED
LIMIT
25

INTERNAL CONTROL AND COMPLIANCE FINDINGS AND RECOMMENDATIONS

Improve Reporting to National Student Loan Data System
Type: Internal Control and Compliance
Severity: Significant Deficiency
Repeat: No

The University did not report enrollment data to the National Student Loan Data System (NSLDS) accurately and timely. We tested thirty students with an enrollment status of either "Graduated" or "Withdrawn." For the thirty students tested, we noted the enrollment status was incorrectly reported for three students (10%).

In accordance with Code of Federal Regulations 34 CFR 685.309 and further outlined in the NSLDS Enrollment Guide, enrollment changes must be reported to NSLDS within 30 days when attendance changes, unless a roster file will be submitted within 60 days. By not submitting timely and accurate data to the NSLDS, the University can affect the reliance placed by the Department of Education for monitoring purposes and other higher education institutions when making aid decisions. Noncompliance may also have implications on an institution's participation in Title IV programs.

The University should consider implementing additional controls to monitor the submission of enrollment batches and ensure the accuracy of reporting at both the campus and program levels in the NSLDS.

Commonwealth of Virginia

Auditor of Public Accounts

Martha S. Mavredes, CPA
Auditor of Public Accounts

P.O. Box 1295
Richmond, Virginia 23218

November 28, 2018

The Honorable Ralph S. Northam, Governor of Virginia

The Honorable Thomas K. Norment, Jr., Chairman, Joint Legislative Audit and Review Commission

Board of Visitors, Virginia Polytechnic Institute and State University

INDEPENDENT AUDITOR'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS

We have audited, in accordance with the 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 business-type activities and aggregate discretely presented component units of **Virginia Polytechnic Institute and State University** as of and for the year ended June 30, 2018, and the related notes to the financial statements, which collectively comprise the University's basic financial statements and have issued our report thereon dated November 28, 2018. Our report includes a reference to other auditors. We did not consider internal controls over financial reporting or test compliance with certain provisions of laws, regulations, contracts, and grant agreements for the financial statements of the component units of the University, which were audited by other auditors in accordance with auditing standards generally accepted in the United States of America, but not in accordance with Government Auditing Standards.

Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered the University's internal control over financial reporting 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 University's internal control over financial reporting. Accordingly, we do not express an opinion on the effectiveness of the University's internal control over financial reporting.

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 over financial reporting was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control over financial reporting that might be material weaknesses or significant deficiencies and therefore, material weaknesses or significant deficiencies may exist that were not identified. Given these limitations, during our audit we did not identify any deficiencies in internal control over financial reporting that we consider to be material weaknesses. We did identify a deficiency in internal control over financial reporting entitled "Improve Reporting to National Student Loan Data System," which is described in the section titled "Internal Control and Compliance Findings and Recommendations," that we consider to be a significant deficiency.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether the University's financial statements are free of 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 an instance of noncompliance or other matter that is required to be reported under Government Auditing Standards and which is described in the section titled "Internal Control and Compliance Findings and Recommendations" in the finding entitled "Improve Reporting to National Student Loan Data System."

The University's Response to Findings

We discussed this report with management at an exit conference held on December 11, 2018. The University's response to the finding identified in our audit is described in the accompanying section titled "University Response." The University's response was not subjected to the auditing procedures applied in the audit of the financial statements and, accordingly, we express no opinion on it.

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.

AUDITOR OF PUBLIC ACCOUNTS

JMR/vks

VIRGINIA TECH

University Controller (MC 0312)
Virginia Tech
North End Center, Suite 3300
300 Turner Street NW
Blacksburg, Virginia 24061
P: (540) 231-6418 F: (540) 231-7221
www.controller.vt.edu

December 16, 2018

Martha Mavredes, CPA
Auditor of Public Accounts
P. O. Box 1295
Richmond, Virginia 23218

Dear Ms. Mavredes:

We have reviewed the audit finding and recommendation resulting from the fiscal year 2018 audit by the Auditor of Public Accounts (APA) and Virginia Tech concurs with the audit finding. The following contains the APA's finding and management's response to the finding.

Finding of the APA:

Improve Reporting to National Student Loan Data System

The University did not report enrollment data to the National Student Loan Data System (NSLDS) accurately and timely. We tested thirty students with an enrollment status of either "Graduated" or "Withdrawn". For the thirty students tested, we noted the enrollment status was incorrectly reported for three students (10%).

In accordance with Code of Federal Regulations 34 CFR 685.309 and further outlined in the Enrollment Guide, enrollment changes must be reported to NSLDS within 30 days when attendance changes, unless a roster file will be submitted within 60 days. By not submitting timely and accurate data to the NSLDS, the University can affect the reliance placed by the Department of Education for monitoring purposes and other higher education institutions when making aid decisions. Noncompliance may also have implications on an institution's participation in Title IV programs.

The University should consider implementing additional controls to monitor the submission of enrollment batches and ensure the accuracy of reporting at both the campus and program levels in the NSLDS.

University Response:

The identified enrollment reporting issue is not affecting all students who are reported Graduated (G) to NSLDS. Virginia Tech provides electronic updates to the National Student Clearinghouse and thus NSLDS every 21 days. Our study of the records identified that updates of enrollment status were not reported to NSLDS in instances where Virginia Tech's subsequent submissions to National Student Clearinghouse were not applied to individual students. We have learned that participation in the Clearinghouse's degree verify (DV) program creates conflicting results, in some instances, on which "Graduated" statuses are applied from the file submissions. Specifically, the G to DV process that the National Student Clearinghouse uses to report graduates from subsequent enrollment files omits students who have a graduation record without a corresponding enrollment entry. Virginia Tech has met with the National Student Clearinghouse and will begin providing a separate graduation file to the Clearinghouse to ensure all G records are reported to NSLDS. The production of this file, testing with the National Student Clearinghouse, and creation of an auditing process will be completed by March 31, 2019.

Responsible Person: Rick A. Sparks Jr.
Associate Vice Provost for Learning Systems Innovation and Effectiveness and University Registrar

Completion Date: March 31, 2019

Sincerely,

Kenneth Miller
AVP for Finance & University Controller
Virginia Tech

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY
An equal opportunity, affirmative action institution

University Administrative Officers as of June 30, 2018

Virginia Tech Board of Visitors

Dennis H. Treacy, *Rector*
Horacio A. Valeiras, *Vice Rector*
Greta J. Harris
Charles T. Hill
Anna L. James
Mehmood Kazmi
Letitia A. Long
Robert J. Mills Jr
L. Chris Petersen
Deborah L. Petrine
Michael J. Quillen
Wayne H. Robinson
Mehul P. Sanghani
Jeffrey E. Veatch

Financial and Business Officers

John J. Cusimano
University Treasurer and Associate Vice President for Finance - VT Foundation

Christopher H. Kiwus
Chief Facilities Officer

Kenneth E. Miller
Assistant Vice President for Finance and University Controller

Sharon M. Kurek
Executive Director of Audit, Risk, and Compliance

Senior Officers

Timothy D. Sands
President

Cyril R. Clarke, *interim*
Executive Vice President and Provost

M. Dwight Shelton Jr, *interim*
Senior Vice President for Operations & Administration

M. Dwight Shelton Jr
Vice President for Finance and CFO

Sherwood G. Wilson
Vice President for Operations

Kim T. O'Rourke
Vice President for Policy and Governance

Lisa J. Wilkes, *interim*
Vice President for Human Resources

Theresa S. Mayer
Vice President for Research & Innovation

Menah Pratt-Clarke
Vice President for Strategic Affairs

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Michael J. Friedlander
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Deans

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College of Agriculture and Life Sciences

Richard J. Blythe
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Julia M. Ross
College of Engineering

Paul Knox
Honors College

Rosemary Blieszner
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College of Natural Resources and Environment

Robert T. Sumichrast
Pamplin College of Business

Sally C. Morton
College of Science

Gregory B. Daniel, *interim*
Virginia-Maryland College of Veterinary Medicine

Tyler O. Walters
University Libraries

Prepared by the Virginia Tech Office of the University Controller, Blacksburg, VA 24061.
Published January 2019.
This report and reports from prior years are available at
www.controller.vt.edu/resources/financialreporting.html
For more information, contact the Financial Reporting department at 540.231.6418.

Virginia Tech
Office of the University Controller
North End Center, Suite 3300
300 Turner Street NW
Blacksburg, VA 24061