

# The Economic Value to Virginia of William & Mary



**W**ILLIAM & MARY (W&M) creates value in many ways. The university plays a key role in helping students increase their employability and achieve their individual potential. The university facilitates new research developments and draws visitors and students to the state, generating new dollars and opportunities for Virginia. W&M's student and employee volunteers support the state economy through the output and employment generated by state businesses and organizations. W&M provides students with the education, training, and skills they need to have fulfilling and prosperous careers. Furthermore, W&M is a place for students to meet new people, increase their self-confidence, and promote their overall health and well-being.

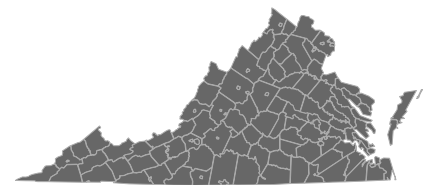
W&M influences both the lives of its students and the state economy. The university supports a variety of industries in Virginia, serves state businesses, and benefits society as a whole in Virginia from an expanded economy and improved quality of life. Additionally, the benefits created by W&M extend to the state and local government through increased tax revenues and public sector savings.

This study measures the net economic impact created by W&M on the business community and the benefits the university generates in return for the investments made by its key stakeholder groups—students, taxpayers, and society. The following two analyses are presented:

 **Economic impact analysis**

 **Investment analysis**

All results reflect employee, student, and financial data, provided by the university, for fiscal year 2019–20, thereafter FY2020. Impacts on the Virginia economy are reported under the economic impact analysis and are measured in terms of added income. The returns on investment to students, taxpayers, and society in Virginia are reported under the investment analysis.



VIRGINIA

W&M influences both the **lives of its students** and the **state economy**.



W&M promotes economic growth in Virginia through its direct expenditures and the resulting expenditures of visitors, students, and state businesses. The university serves as an employer and buyer of goods and services for its day-to-day, construction, and research operations. The university's reputation and activities attract visitors and students from outside Virginia, whose expenditures benefit state vendors. W&M encourages its students and employees to volunteer in the community, helping businesses and organizations grow. In addition, W&M is a large source of higher education to Virginia residents and a supplier of trained workers to state industries, enhancing overall productivity in the state workforce.

## Operations spending net impact



W&M adds economic value to Virginia as an employer of state residents and a large-scale buyer of goods and services. In FY2020, the university employed 2,609 full-time and part-time faculty and staff (excluding research employees), 94% of whom lived in Virginia. Total payroll at W&M was \$236.5 million (excluding payroll from research employees), much of which was spent in the state for groceries, mortgage and rent payments, dining out, and other household expenses. In addition, the university spent \$122.5 million on day-to-day expenses related to facilities, supplies, and professional services (excluding research expenditures).

W&M's day-to-day operations spending added \$259.8 million in income to the state during the analysis year. This figure represents the university's payroll, the multiplier effects generated by the in-state spending of the university and its employees, and a downward adjustment to account for funding that the university received from state sources. The \$259.8 million in added income is equivalent to supporting 2,706 jobs in the state.

## Research spending net impact



Research activities impact the economy by employing people and requiring the purchase of equipment and other supplies and services. In FY2020, W&M spent \$26.2 million on payroll to support research activities. This, along with \$40.6 million in other research spending, created a net total of \$59.5 million in added income for the state economy. This added income is equivalent to supporting 673 jobs.



## Construction spending net impact



W&M invests in construction each year to maintain its facilities, create additional capacities, and meet its growing educational demands. While the amount varies from year to year, these quick infusions of income and jobs have a substantial impact on the state economy. In FY2020, W&M's construction spending generated \$14.5 million in added income, which is equivalent to supporting 207 jobs.

## Visitor spending net impact



Tens of thousands of visitors from outside the state were attracted to W&M during the analysis year to attend various sports and academic events and entertainment activities sponsored by the university. While in the state, visitors spent money for lodging, food, transportation, and other personal expenses. The off-campus expenditures of the university's out-of-state visitors generated a net impact of \$16.2 million in added income for the state economy in FY2020. This \$16.2 million in added income is equivalent to supporting 332 jobs.

## Student spending net impact



Around 42% of students, both undergraduate and graduate, attending W&M originated from outside the state in FY2020, and most of these students relocated to Virginia to attend W&M. These students may not have come to the state if the university did not exist. In addition, some in-state students, referred to as retained students, would have left Virginia if not for the existence of W&M. While attending the university, these relocated and retained students spent money on groceries, accommodation, transportation, and other household expenses. This spending generated \$26.8 million in added income for the state economy in FY2020, which supported 542 jobs in Virginia.

## Volunteerism impact



W&M encourages its students and employees to volunteer in Virginia, where they can work with businesses and organizations to help meet their goals. The work of these student and employee volunteers allows businesses and organizations to grow, increasing their output and impacting the economy at large. Using the value per volunteer hour for Virginia,<sup>1</sup> the work of W&M's student and employee volunteers is equivalent to \$2.1 million in earnings. In terms of actual impact to the Virginia economy, W&M volunteers generated an impact of \$4.4 million in added income for the state in FY2020, equivalent to supporting 161 jobs.

## Alumni impact



The education and training W&M provides for state residents has the greatest impact. Since the establishment of the university, students have studied at

<sup>1</sup> By state value per volunteer hour was provided by Independent Sector (see [https://independentsector.org/resource/vovt\\_details/](https://independentsector.org/resource/vovt_details/)).

### Impacts created by W&M in FY2020



Operations spending net impact

**\$259.8 million**

+



Research spending net impact

**\$59.5 million**

+



Construction spending net impact

**\$14.5 million**

+



Visitor spending net impact

**\$16.2 million**

+



Student spending net impact

**\$26.8 million**

+



Volunteerism impact

**\$4.4 million**

+



Alumni impact

**\$688.5 million**



Total net impact

**\$1.1 billion**

OR

Jobs supported

**12,842**



W&M and entered the state workforce with greater knowledge and new skills. Today, thousands of former W&M students are employed in Virginia. As a result of their education from W&M, the students receive higher earnings and increase the productivity of the businesses that employ them. In FY2020, W&M alumni generated \$688.5 million in added income for the state economy, which is equivalent to supporting 8,221 jobs.

## Total net impact

W&M added \$1.1 billion in income to the Virginia economy during the analysis year, equal to the sum of the operations, research, and construction spending net impacts; the visitor and student net spending impacts; the volunteerism impact; and the alumni impact.

W&M's total net impact can be expressed in terms of jobs supported. The \$1.1 billion net impact supported 12,842 state jobs, using the jobs-to-sales ratios specific to each industry in the state. In addition, the \$1.1 billion, or 12,842 supported jobs, stemmed from different industry sectors. For instance, among non-education industry sectors, activities of W&M and its alumni in the Professional & Technical Services industry sector supported 1,458 jobs in FY2020. If the university did not exist, these impacts would not have been generated in Virginia.

### W&M impacts by industry (jobs supported)



# Investment analysis



An investment analysis evaluates the costs associated with a proposed venture against its expected benefits. If the benefits outweigh the costs, then the investment is financially worthwhile. The analysis presented here evaluates W&M as an investment from the perspectives of students, taxpayers, and society in Virginia.

## Student perspective



In FY2020, W&M served 9,025 degree-seeking and 179 non-degree-seeking students. In order to attend the university, the students paid for tuition, fees, books, and supplies. They also took out loans and will incur interest on those loans. Additionally, students gave up money they would have otherwise earned had they been working instead of attending college. The total investment made by W&M's students in FY2020 amounted to a present value of \$292.1 million, equal to \$186.4 million in out-of-pocket expenses (including future principal and interest on student loans) and \$105.7 million in forgone time and money.

In return for their investment, W&M's students will receive a stream of higher future earnings that will continue to grow throughout their working lives. For example, the average W&M bachelor's degree graduate from FY2020 will see annual earnings projected to be \$33,700 higher than a person with a high school diploma or equivalent working in Virginia. Over a working lifetime, the projected benefits of the bachelor's degree over a high school diploma will amount to an undiscounted value of \$1.5 million in higher earnings per graduate. The present value of the cumulative higher future projected earnings that W&M's FY2020 students will receive over their working careers is \$1 billion.

The students' benefit-cost ratio is 3.4. In other words, for every dollar students invest in W&M in the form of out-of-pocket expenses and forgone time and money, they will receive a cumulative value of \$3.40 in higher future earnings. Annually, the students' investment in W&M has an average annual internal rate of return of 12.9%, which is impressive compared to the U.S. stock market's 30-year average rate of return of 10.6%.

### Students see a high rate of return for their investment in W&M



Average annual return for W&M students  
**12.9%**



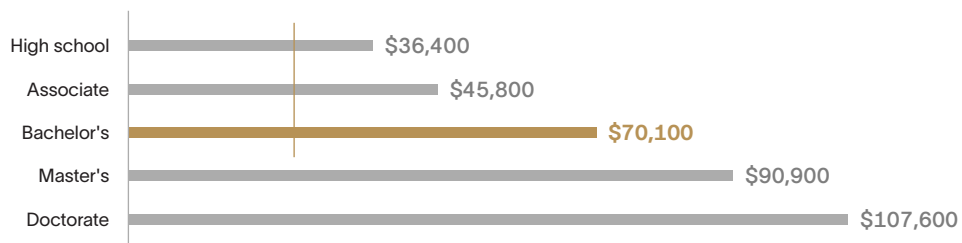
Stock market 30-year average annual return  
10.6%



Interest earned on savings account (National Rate Cap)  
0.8%

Source: Forbes' S&P 500, 1992-2021. FDIC.gov, 2-2022.

The average bachelor's degree graduate from W&M will see an increase in projected earnings of **\$33,700** each year compared to a person with a high school diploma or equivalent working in Virginia.



Source: Lightcast employment data.

## Taxpayer perspective



W&M generates more in tax revenue than it takes. These benefits to taxpayers consist primarily of taxes that the state and local government will collect from the added revenue created in the state. As W&M students will earn more, they will make higher tax payments throughout their working lives. Students' employers will also make higher tax payments as they increase their output and purchases of goods and services. By the end of the FY2020 students' working lives, the state and local government will have collected a present value of \$193 million in added taxes.

Benefits to taxpayers will also consist of savings generated by the improved lifestyles of W&M students and the corresponding reduced government services. Education is statistically correlated with a variety of lifestyle changes. The educations that W&M students receive will generate savings in three main categories: 1) healthcare, 2) justice system, and 3) income assistance. Improved health will lower students' demand for national health care services. In addition, costs related to the justice system will decrease. W&M students will be more employable, so their reduced demand for income assistance such as welfare and unemployment benefits will benefit taxpayers. For a list of study references, contact the university for a copy of the main report. Altogether, the present value of the benefits associated with an education from W&M will generate \$36.8 million in savings to state and local taxpayers.

Total taxpayer benefits amount to \$229.8 million, the present value sum of the added taxes and public sector savings. Taxpayer costs are \$86.6 million, equal to the amount of state and local government funding W&M received in FY2020. These benefits and costs yield a benefit-cost ratio of 2.7. This means that for every dollar of public money invested in W&M in FY2020, taxpayers will receive a cumulative present value of \$2.70 over the course of the students' working lives. The average annual internal rate of return for taxpayers is 8.5%, which compares favorably to other long-term investments in the public and private sectors.

For every dollar of public money invested in W&M, taxpayers will receive a cumulative value of **\$2.70** over the course of the students' working lives.

## Social perspective



Society as a whole in Virginia benefits from the presence of W&M in two major ways. Primarily, society benefits from an increased economic base in the state. This is attributed to the added income from students' increased lifetime earnings (added student income) and increased business output (added business income), which raise economic prosperity in Virginia.

Benefits to society also consist of the savings generated by the improved lifestyles of W&M students. As discussed in the previous section, education is statistically correlated with a variety of lifestyle changes that generate social savings. Note that these costs are avoided by the consumers but are distinct from the costs avoided by the taxpayers

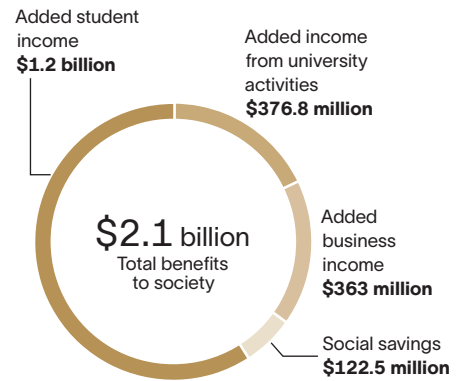


outlined above. Healthcare savings include avoided medical costs associated with smoking, alcohol dependence, obesity, drug abuse, and depression. Justice system savings include avoided costs to the government and society due to less judicial activity. Income assistance savings include reduced welfare and unemployment claims. For a list of study references, contact the university for a copy of the main report.

Altogether, the social benefits of W&M equal a present value of \$2.1 billion. These benefits include \$1.2 billion in added student income, \$363.0 million in added business income, \$376.8 million in added income from university activities, as well as \$122.5 million in social savings related to health, crime, and income assistance in Virginia. People in Virginia invested a present value total of \$582.8 million in W&M in FY2020. The cost includes all the university and student costs.

The benefit-cost ratio for society is 3.6, equal to the \$2.1 billion in benefits divided by the \$582.8 million in costs. In other words, for every dollar invested in W&M, people in Virginia will receive a cumulative value of \$3.60 in benefits. The benefits of this investment will occur for as long as W&M's FY2020 students remain employed in the state workforce.

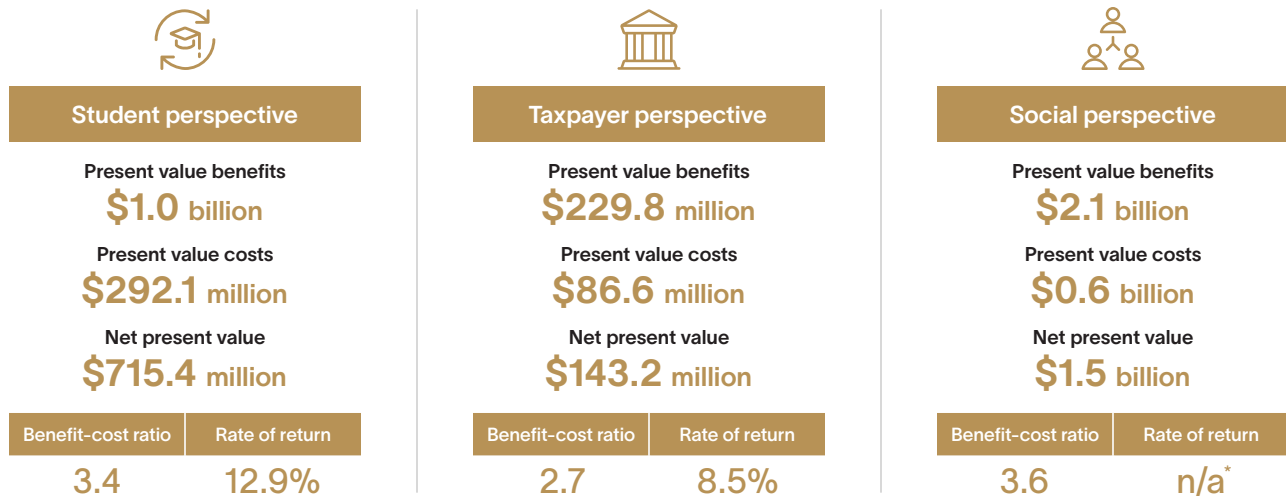
### Social benefits in Virginia from W&M



Source: Lightcast impact model.

## Summary of investment analysis results

The results of the analysis demonstrate that W&M is a strong investment for all three major stakeholder groups—students, taxpayers, and society. As shown, students receive a great return for their investments in an education from W&M. At the same time, taxpayers' investment in W&M returns more to government budgets than it costs and creates a wide range of social benefits throughout Virginia.

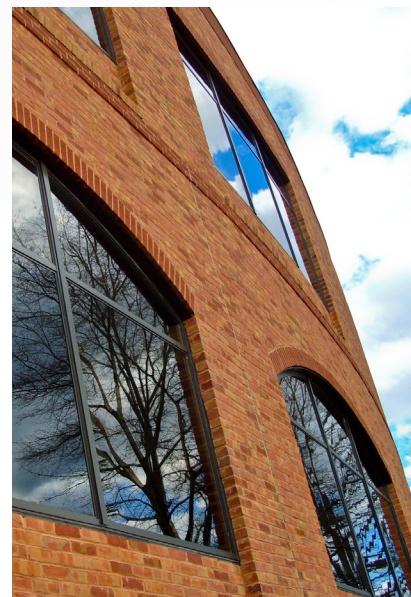


\* The rate of return is not reported for the social perspective because the beneficiaries of the investment are not necessarily the same as the original investors.



# Conclusion

The results of this study demonstrate that W&M creates value from multiple perspectives. The university benefits state businesses by increasing consumer spending in the state and supplying a steady flow of qualified, trained workers to the workforce. W&M enriches the lives of students by raising their lifetime earnings and helping them achieve their individual potential. The university benefits state and local taxpayers through increased tax receipts and a reduced demand for government-supported social services. Finally, W&M benefits society as a whole in Virginia by creating a more prosperous economy and generating a variety of savings through the improved lifestyles of students.



## About the study

Data and assumptions used in the study are based on several sources, including the FY2020 academic and financial reports from W&M, industry and employment data from the U.S. Bureau of Labor Statistics and U.S. Census Bureau, outputs of Lightcast's Multi-Regional Social Accounting Matrix model, and a variety of studies and surveys relating education to social behavior. The study applies a conservative methodology and follows standard practice using only the most recognized indicators of economic impact and investment effectiveness. For a full description of the data and approach used in the study, please contact the university for a copy of the main report.

The results of this study demonstrate that W&M creates value from **multiple perspectives.**



Lightcast provides colleges and universities with labor market data that help create better outcomes for students, businesses, and communities. Our data, which cover more than 99% of the U.S. workforce, are compiled from a wide variety of government sources, job postings, and online profiles and résumés. Hundreds of institutions use Lightcast to align programs with regional needs, drive enrollment, connect students with in-demand careers, track their alumni's employment outcomes, and demonstrate their institution's economic impact on their region. Visit [economicmodeling.com/higher-education](https://economicmodeling.com/higher-education) to learn more or connect with us.

