

CICV'S PRIVATE COLLEGES AND UNIVERSITIES CONTRIBUTION TO VIRGINIA'S HUMAN CAPITAL



Prepared for

Virginia
**Private
Colleges**

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MANGUM 
economics®

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About Mangum Economics, LLC

Mangum Economics is a Glen Allen, Virginia based firm that was founded in 2003. Since then, we have become known as a leader in industry analysis, economic impact assessment, policy and program evaluation, and economic and workforce strategy development. The Mangum Team specializes in producing objective and actionable quantitative economic research that our clients use for strategic decision making in a variety of industries and environments. We know that our clients are unique, and that one size does not fit all. As a result, we have a well-earned reputation for tailoring our analyses to meet the specific needs of specific clients, with a specific audience.

Most of our research falls into four general categories:

- **Economic Development and Special Projects:** The Mangum Team has performed hundreds of analyses of proposed economic development projects. One recent example was an analysis of the proposed \$2.3 billion Green City “net-zero eco district.” The Mangum Team has also authored multiple economic development plans, including identifying industry recruitment opportunities created by the high-speed MAREA and BRUSA sub-sea cable landings in Virginia Beach.
- **Energy:** The Mangum Team has produced analyses of the economic and fiscal impact of over 28 GW of proposed solar, wind, battery, and hydro projects spanning at twenty-five states. Among those projects was Dominion Energy’s 2.6 GW Coastal Virginia Offshore Wind project off of Virginia Beach. In addition, the Mangum Team has also performed economic and fiscal impact analyses for the natural gas, nuclear, oil, and pipeline industries.
- **Advanced Applied Technology:** The Mangum Team specializes in analyzing how advanced technology developments (like data centers, fiber networks, and advanced manufacturing plants) contribute to the state and local economies. We have worked with local governments, trade associations, developers, and operating firms across the country to show how investments in advanced critical infrastructure transform local economies across the country.
- **Policy Analysis:** The Mangum Team also has extensive experience in identifying and quantifying the intended and unintended economic consequences of proposed legislative and regulatory initiatives.

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Executive Summary

The primary economic contribution of Virginia's private nonprofit colleges and universities lies in their role in developing human capital, aligning educational programs with workforce needs, and retaining skilled graduates who participate in and strengthen the state's economy. This report examines how the 28 private, nonprofit, independent institutions that make up the Council of Independent Colleges in Virginia (CICV) contribute to Virginia's labor market by equipping students with relevant knowledge, skills, and experiences. Through academic offerings and partnerships with employers and communities, these institutions play a significant role in supporting the Commonwealth's talent pipeline and overall economic competitiveness.

The principal findings from that assessment are as follows:

1. CICV's private colleges and universities are geographically diverse:

- CICV's membership spans the length and breadth of Virginia.
- Many of CICV's private colleges and universities are located in areas of Virginia, such as Southwest and Southern Virginia, where Virginia's public four-year colleges and universities have a limited presence.

2. In academic year 2023-24, CICV's 28 private colleges and universities conferred a total of 39,871 degrees and awards:

- The largest number of those graduates were at the Bachelor's level (17,664), followed closely by Master's (12,403), then Certificates (3,060), Doctor's – Research/Scholarship (3,356), Doctor's – Professional Practice (3,260), and Associate's (1,270).
- From a program perspective, the largest number of graduates that year were in *Business, Management, Marketing, and Related Support Services* (6,919), *Health Professions and Related Programs* (5,356), *Education* (5,205), *Psychology* (4,311), and *Theology and Religious Vocations* (2,853).

3. CICV's private colleges and universities make a significant contribution to growing Virginia's human capital:

- We estimate that the economic value of the enhanced labor productivity, or increased human capital, that graduates from CICV's member institutions in academic year 2023-24 carried with them into Virginia's workforce was approximately \$161.6 million.
- Moreover, the discounted present value of the stream of economic benefits that enhanced productivity will generate over the entire time that those graduates are likely to be active in the workforce is approximately \$2.3 billion.

4. Across many in-demand occupations, CICV's private colleges and universities are meeting a substantial portion of Virginia's critical workforce needs:

- Graduates from CICV member institutions in academic year 2023-24 were sufficient to meet more than half of Virginia's annual occupation-driven demand in the following "high-demand" occupations:
 - Social Science Research Assistants
 - Education Administrators
 - Music Directors and Composers
 - Secondary School Teachers, Except Special and Career/Technical Education
 - Natural Sciences Managers
 - Education and Childcare Administrators, Preschool and Daycare
 - Writers and Authors
 - Biological Technicians
 - Health Education Specialists
 - Biological Scientists, All Other
 - Medical and Health Services Managers

5. In short, in addition to providing access to populations that are not readily served by the state's public four-year colleges and universities, CICV's private colleges and universities perform a valuable role in developing the human capital and qualified workforce that Virginia needs to fuel its future economic growth.

Introduction

The most significant contribution that any educational institution makes to the economy is the human capital embodied in its most important product – its graduates. This report focuses on the role that the 28 private, non-profit, colleges and universities that comprise the Council of Independent Colleges of Virginia (CICV) play in developing that human capital and the impact it has on Virginia's economy.

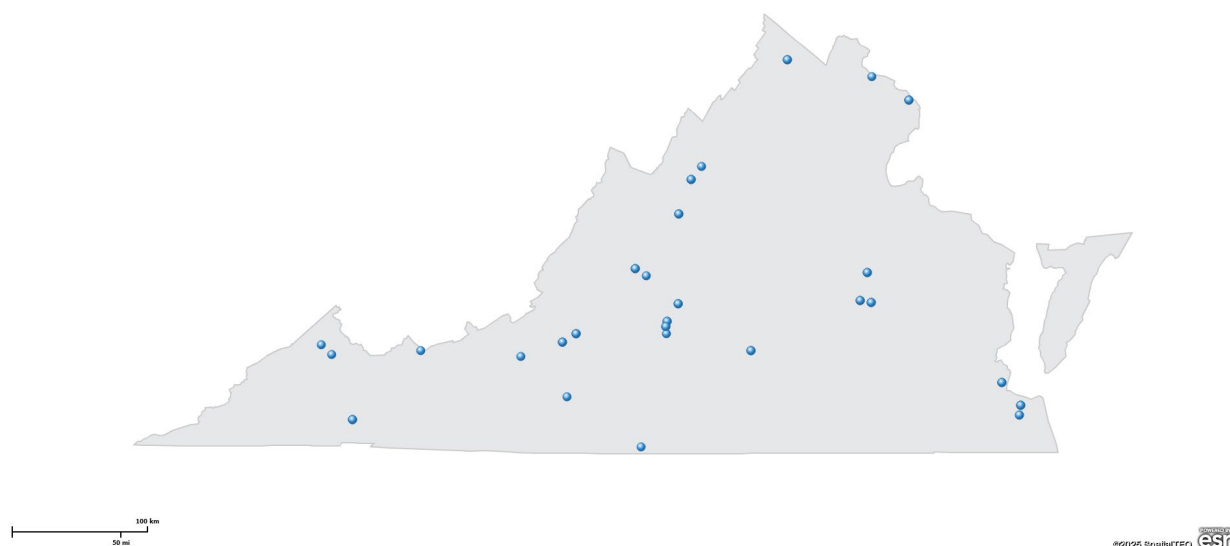
CICV Colleges and Universities

CICV was founded in 1971 to serve as a voice for private colleges and universities in Virginia. CICV represents 28 independent colleges and universities in Virginia, a list that includes some of the most historic institutions of higher education in the state.¹ CICV assists those institutions through government relations; identifying and coordinating collaborative initiatives across its membership; working with the State Council of Higher Education for Virginia, the National Association of Independent Colleges and Universities, and others to facilitate data collection and analysis to support the mission of Virginia's private colleges and universities; and working with the media to better inform the public about the value that private colleges and universities provide to their students and to their communities.

Figure 1 displays the geographic location of CICV's 28 member institutions. As this map demonstrates, CICV's membership spans the length and breadth of Virginia. One key advantage of that geographic diversity is that many of CICV's private colleges and universities are located in areas of Virginia, such as Southwest and Southern Virginia, where Virginia's public four-year colleges and universities have a limited presence. That means CICV's members provide convenient access to populations that would otherwise be somewhat distant from the nearest four-year college or university.

¹ CICV's membership includes: Appalachian College of Pharmacy, Appalachian School of Law, Averett University, Bluefield University, Bridgewater College, Eastern Mennonite University, Edward Via College of Osteopathic Medicine (VCOM), Emory and Henry University, Ferrum College, George Washington University, Hampden-Sydney College, Hampton University, Hollins University, Liberty University, Mary Baldwin University, Marymount University, Randolph College, Randolph-Macon College, Regent University, Roanoke College, Shenandoah University, Southern Virginia University, Sweet Briar College, University of Lynchburg, University of Richmond, Virginia Union University, Virginia Wesleyan University, and Washington and Lee University.

Figure 1: Geographic Distribution of CICV Colleges and Universities



CICV Institutions' Graduate Profile

To establish a context for the analysis to follow, in this section we provide details on the number and types of graduates that completed degree or award programs in CICV's 28 member institutions in academic year 2023-24. As shown in Figure 1, in 2023-24 CICV institutions conferred a total of 39,871 degrees and awards.² The largest number of those graduates were at the Bachelor's level³ (17,664), followed closely by Master's⁴ (12,403), then Certificates⁵ (3,060), Doctor's – Research/Scholarship⁶ (3,023), Doctor's – Professional Practice⁷ (2,451), and Associate⁸ (1,270).

² Data Source: U.S. Department of Education, National Center for Education Statistics. These data exclude graduates from George Washington University's Virginia Science and Technology campus in Ashburn, Virginia because those data are not reported separately by the National Center for Education Statistics.

³ An undergraduate degree awarded by colleges and universities upon completion of a course of study lasting three to six years.

⁴ A postgraduate academic degree awarded by universities or colleges upon completion of a course of study demonstrating mastery or a high-order overview of a specific field of study or area of professional practice.

⁵ An official document that verifies a specific fact, such as completion of a course or program.

⁶ A Doctor of Philosophy (Ph.D.).

⁷ For example, Doctor of Dental Surgery (D.D.S.), Medical Doctor (M.D.), Doctor of Pharmacy (Pharm.D.), or Juris Doctor (J.D.) degree.

⁸ An undergraduate degree awarded after a course of post-secondary study lasting two to three years.

Figure 1: CICV Graduates by Degree Level in Academic Year 2023-24⁹

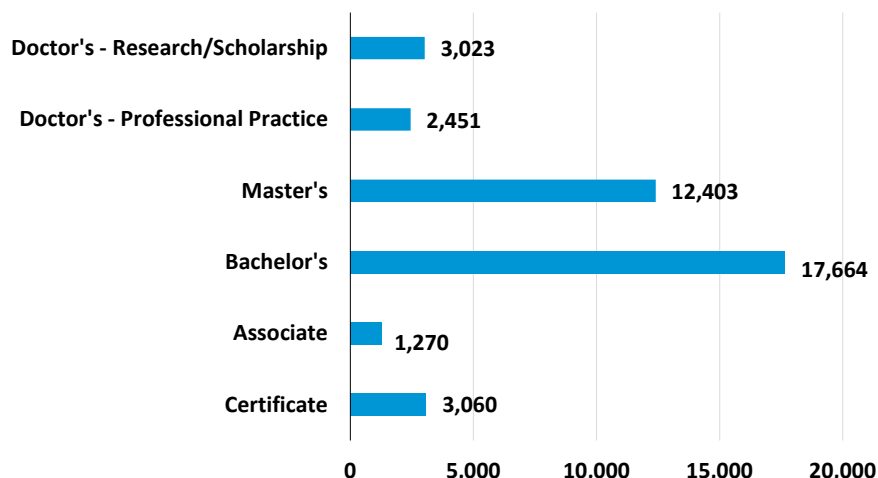
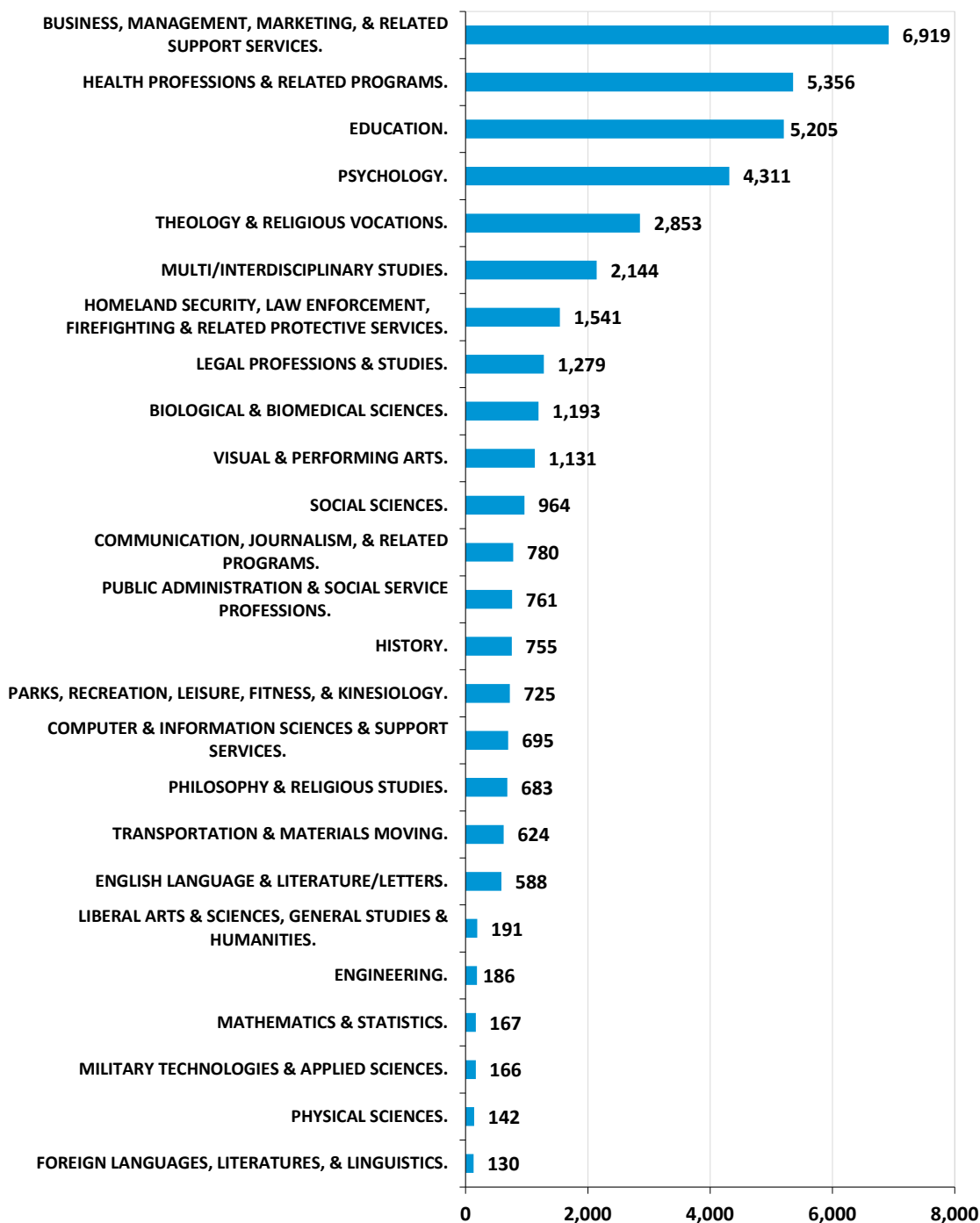


Figure 2 provides additional detail on the top twenty-five academic programs by total number of graduates across CICV's 28 member institutions in academic year 2023-24. As these data indicate, the largest number of graduates that year were in *Business, Management, Marketing, and Related Support Services* (6,919), *Health Professions and Related Programs* (5,356), *Education* (5,205), *Psychology* (4,311), and *Theology and Religious Vocations* (2,853).

⁹ Data Source: U.S. Department of Education, National Center for Education Statistics. These data exclude graduates from George Washington University's Virginia Science and Technology campus in Ashburn, Virginia because those data are not reported separately by the National Center for Education Statistics.

Figure 2: CICV Graduates by Academic Program in Academic Year 2023-24¹⁰



¹⁰ Data Source: U.S. Department of Education, National Center for Education Statistics. These data exclude graduates from George Washington University's Virginia Science and Technology campus in Ashburn, Virginia because those data are not reported separately by the National Center for Education Statistics.

CICV's Institutions' Contribution to Virginia's Human Capital

In this section, we look at the economic contribution that CICV's 28 member institutions made to Virginia in academic year 2023-24 from the perspective of the human capital that was created via their graduates.

Value Added

A significant and unique characteristic of higher education is that it generates externalities, or spillover benefits, that exceed the private benefits to individuals. As a result, it is generally recognized that it is in the public interest to encourage higher levels of educational attainment. Some of these spillover effects take the form of greater civic responsibility, improved health, and reduced crime. From a purely economic perspective though, the largest spillover effect has to do with increased economic productivity.

As individuals increase their human capital through higher levels of educational attainment, not only do they become more productive, they also increase the productivity of the resources around them. A good example of this would be the difference between what someone who is trained to use the Excel spreadsheet program can accomplish with that software, compared to what someone who is not trained to use the software could accomplish – same resource, very different result. Moreover, this difference in results has significant economic implications in the aggregate. Greater productivity translates into increased economic activity and higher incomes.

However, to measure the effect that CICV's 28 member institutions' educational services have on economic productivity and, therefore, Virginia's economy, we must first be able to quantify the relationship between educational attainment and productivity. One of the early leaders in this area of economics was Gary Becker, who was awarded a Nobel Prize in 1992 for his work in the economics of human capital development. One of Becker's key insights was that, because education produces work skills that are valuable to all employers, in a competitive market employers will be forced to compensate workers for the full value of those skills, or otherwise risk losing those workers to other employers. A critical implication of this insight is that differences in wages provide a reasonable estimate of the economic value attributable to differences in educational attainment and skills training.

Table 1 presents data on average annual wages in Virginia by educational attainment level for those occupations that typically require a certain level of education as a prerequisite for employment. In the first row of this table, we provide estimates of average annual wages across all Virginia occupations.¹¹ In the second row of the table, we restrict our analysis to reflect only the average annual wages of those occupations that the 2023-24 graduates from CICV's 28 member institutions were likely to enter, based on their program of study.¹²

Table 1: Virginia Median Annual Wages in 2024 by Degree Level

	High School	Associates	Bachelors	Masters	Doctoral or Professional
Average Annual Virginia Wage: All Occupations	\$54,199	\$73,527	\$100,447	\$101,777	\$132,286
Average Annual Virginia Wage: CICV Specific Occupations	N/A	\$71,148	\$104,020	\$106,442	\$106,648

Table 2 takes data provided in Figure 1 on graduates from CICV's 28 member institutions in academic year 2023-24 by degree level and further distills those data to show the number of graduates who were in-state residents of Virginia.

Table 2: CICV Graduates by Degree Level in Academic Year 2023-24¹³

	Associates	Bachelors	Masters	Doctoral or Professional
All Graduates	1,270	17,664	12,403	5,474
In-State Graduates	356	4,946	3,473	1,533

¹¹ Data Source: Derived using 2024 occupational wage data from the Virginia Department of Workforce Development and Advancement and data on the typical education level required for entry into specific occupations from the U.S. Bureau of Labor Statistics.

¹² Derived using a crosswalk developed by Bureau of Labor Statistics and the National Center for Education Statistics that identifies the prerequisite instructional programs (classified according to the National Center for Educational Statistics' 2020 Classification of Instructional Program, or CIP, code) necessary for employment in specific occupations (classified according to the Bureau of Labor Statistics' 2018 Standard Occupational Classification, or SOC, code).

¹³ Data Source: U.S. Department of Education, National Center for Education Statistics and the Virginia Council of Higher Education for Virginia.

Based on these data, Table 3 presents our analysis of the economic value that was created through the increased labor productivity embodied in the 2023-24 graduates from CICV's 28 member institutions. The first three rows of Table 3, compare likely average wages for CICV member institution graduates against the benchmark wage across all Virginia occupations for that degree level, and compute the difference (*i.e.*, comparing average wages for CICV member institution Associate and Bachelor degree graduates to the average wage for high school graduates, and comparing average wages for CICV member institution Master's and Doctor's (Professional Practice and Research/Scholarship) degree graduates to the average wage for Bachelor's graduates). Based on Becker's research, this differential represents the "value added," in terms of increased labor productivity, associated with CICV member institution degrees.

This value added differential is then multiplied by the number of in-state graduates from CICV's 28 member institutions in academic year 2023-24 to determine the "Total Annual Value of Increased Labor Productivity."¹⁴ We then further adjust that figure to account for: 1) average labor force participation rates by degree level,¹⁵ and 2) selectivity bias, or the fact that individuals who pursue education tend to have higher than average innate abilities to start with,¹⁶ to derive an adjusted final estimate. As shown in the "Adjusted Total Annual Value of Increased Labor Productivity" row of Table 3, across all graduate levels that estimate of the economic value of the additional human capital embodied in 2023-24 graduates from CICV's 28 member institutions is approximately \$161.6 million.

Finally, it is important to realize that these estimates of the value of increased labor productivity are not one-time benefits. Rather, they are part of a stream of economic activity that continues over the entire time that graduates from CICV's 28 member institutions are active in the workforce. Based on analysis of the typical "work-life" of American adults,¹⁷ we estimate that time horizon to be approximately 26 years for graduates from Associate and Bachelor programs and 21 years for graduates from Master's and Doctor's (Professional Practice and Research/Scholarship) programs.

¹⁴ Data Source: State Council of Higher Education for Virginia. Although it is likely, if not probable, that some out-of-state graduates will live and work in Virginia after graduation, we use in-state graduates only because of the difficulty of accurately estimating the number of out-of-state graduates who will remain and to ensure that we are providing a conservative estimate.

¹⁵ Data Source: U.S. Department of Labor. Data are average labor force participation rates by educational attainment level in 2024.

¹⁶ There is a substantial body of literature that indicates that not all of the difference in annual income between different educational attainment levels is attributable to educational attainment alone. The reason for this has to do with what is called selectivity bias – the tendency for those with greater innate abilities to go on to pursue higher levels of educational attainment. Although estimates differ, a frequently cited study by Larry L. Leslie and Paul Brinkman found that only about 79 percent of the difference in income between high school graduates and individuals with an undergraduate education is attributable to education alone. See, Larry L. Leslie and Paul Brinkman, *The Economic Value of Higher Education* (Phoenix: American Council of Education and the Oryx Press), 1993.

¹⁷ See James Cieccka, Seth Epstein, and Jerry Goldman, "Work Life Estimates at Millennium's End: Changes Over the Last Eighteen Years," *Illinois Labor Market Review*, vol.6, no.2, Summer, 2000.

Table 3: Median Annual Wages in Virginia by Degree Level

	Associates	Bachelors	Masters	Doctoral or Professional	Total
Average Annual Virginia Wage: CICV Occupations	\$71,148	\$104,020	\$106,442	\$106,648	
Benchmark Average Virginia Wage – All Occupations	\$54,199	\$54,199	\$100,447	\$100,447	
Differential	\$16,949	\$49,821	\$5,995	\$6,201	
Estimated CICV In-State 2021-22 Graduates	356	4,946	3,473	1,533	
Total Annual Value of Increased Labor Productivity	\$6,027,064	\$246,410,680	\$20,819,676	\$9,504,397	\$282,761,817
Labor Force Participation	65.9%	72.4%	73.0%	73.0%	
Selectivity Bias	79.0%	79.0%	79.0%	79.0%	
Adjusted Total Annual Value of Increased Labor Productivity	\$3,137,750	\$140,937,053	\$12,006,707	\$5,481,186	\$161,562,695
Typical Work-life	26	26	21	21	
Discounted Present Value	\$44,034,474	\$1,977,878,732	\$153,230,112	\$69,951,126	\$2,245,094,445

Using these figures, we can determine the present value, or value in today's dollars, of the stream of economic activity generated by the increased labor productivity embodied in the 2023-24 graduates from CICV's 28 member institutions. As shown in the bottom row of Table 3, that present value is estimated to be approximately \$2.2 billion.¹⁸

¹⁸ The discount rate used for this calculation was 2.4 percent and is a rounded approximation of the United States Treasury's Long-Term Real Rate Average.

Statewide Economic Impact

In this portion of the section, we use the IMPLAN model to quantify the economic and fiscal impact attributable to the \$161.6 million increase in human capital associated with the 2023-24 graduates from CICV's 28 member institutions. It is important to note that these estimates focus exclusively on the additional economic activity that is generated as CICV member institution graduates turn the income they earn as a result of their enhanced skills and increased labor productivity into household consumption expenditures. As a result, they reflect the economic impact that comes from the second-round ripple effects generated by the "Adjusted Total Annual Value of Increased Labor Productivity" presented in Table 3.

As shown in Table 4, second round effects from the income that 2023-24 CICV member institution graduates earn as a result of their enhanced skills and increased labor productivity are estimated to support approximately: 1) 665 additional jobs, 2) \$40.4 million in additional labor income, and 3) \$126.0 million in additional economic output annually in Virginia (in 2025 dollars). For a total annual economic and fiscal impact of approximately: 1) 665 jobs, 2) \$202.0 million in labor income, 3) \$287.5 million in economic output, and 4) \$18.8 million in total government tax revenue (\$9.0 million of which was state and local).

Table 4: Estimated Annual Economic and Fiscal Impact from the Increased Labor Productivity Associated with 2023-24 Graduates from CICV Member Institutions (2025 Dollars)

Economic Impact	Employment	Labor Income	Output
1st Round Direct Economic Activity	0	\$161,562,695	\$161,562,695
2nd Round Indirect and Induced Economic Activity	665	\$40,414,192	\$125,979,164
Total Economic Activity*	665	\$201,976,887	\$287,541,859
Fiscal Impact	State and Local	Federal	Total*
Tax Revenue	\$8,955,732	\$9,861,879	\$18,817,612

**Totals may not sum due to rounding.*

CICV Institutions' Contribution to Meeting Virginia's Workforce Development Needs

In this section, we quantify the contribution that CICV's 28 member institutions make to ensuring that Virginia is developing the qualified workforce it will need to be economically successful in the future. The method used to accomplish this analysis is not new and has been successfully employed in earlier studies conducted in several states.¹⁹

Demand for Graduates

To project the occupation-driven demand for graduates we start with projections of occupational employment. According to the most recent occupational employment projection for Virginia, between 2020 and 2030 the state will experience approximately 492,017 job openings each year.²⁰ As shown in Figure 3, breaking this number down according to major occupational group shows that the largest numbers of annual openings are projected to occur in Food Preparation and Serving Occupations (60,686 per year), Sales and Related Occupations (52,422 per year), Office and Administrative Support Occupations (51,368), Transportation and Material Moving Occupations (46,960), and Business and Financial Operations Occupations (32,725).

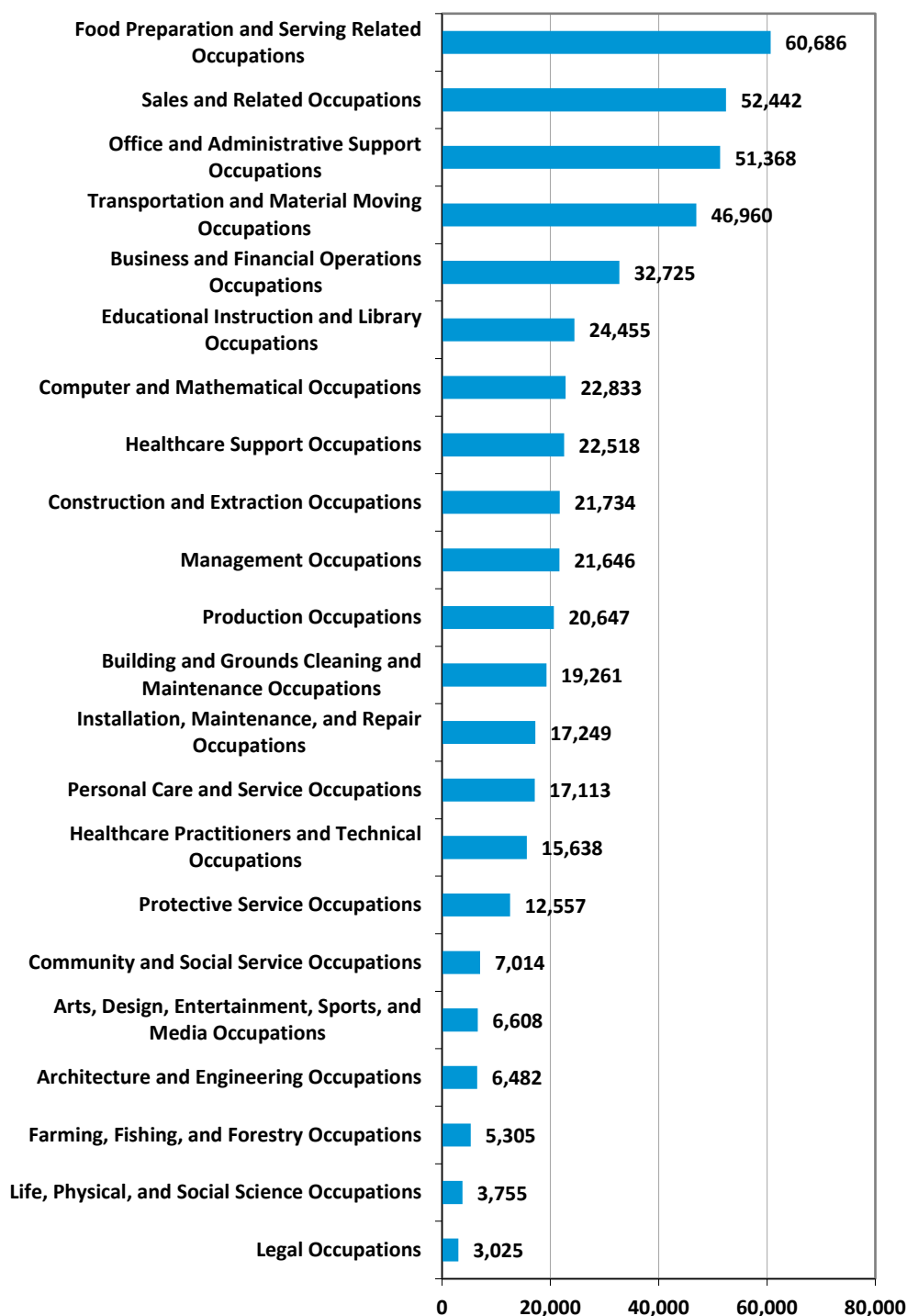
In the next step of the analysis, we use the same crosswalk employed in Table 1 to “map” these average annual opening by occupation into the prerequisite education and training program(s) necessary for entry into each occupation.²¹ Through this process, we are able to use the 2020 to 2030 occupational projection for Virginia to estimate the state's occupation-driven demand for graduates.

¹⁹ Similar methods are used in at least seven states (California, Georgia, Idaho, Illinois, New Jersey, Utah, and Virginia) to project anticipated education and training demands. For an excellent exposition of this method see, William J. Drummond and Jan L. Youtie, “Occupational Employment, Demand for College Graduates, and Migration: A Statewide View,” a report to the Board of Regents, University System of Georgia, 1999. For an example of how this method has been used previously in Virginia see, A. Fletcher Mangum, “System-Wide Needs Assessment for Virginia Education,” State Council of Higher Education for Virginia, March 28, 2002, p.90.

²⁰ Data Source: Virginia Department of Workforce Development and Advancement, 2020 to 2030 Occupational Projections.

²¹ Derived using a crosswalk developed by Bureau of Labor Statistics and the National Center for Education Statistics that identifies the prerequisite instructional programs (classified according to the National Center for Educational Statistics' 2020 Classification of Instructional Program, or CIP, code) necessary for employment in specific occupations (classified according to the Bureau of Labor Statistics' 2018 Standard Occupational Classification, or SOC, code).

Figure 3: Projected Average Annual Openings in Virginia – 2020 to 2030²²



²² Data Source: Virginia Department of Workforce Development and Advancement, 2020 to 2030 Occupational Projections.

Supply of Graduates

To estimate the likely supply of graduates provided by CICV's 28 member institutions within those education and training programs identified in the demand analysis, we employ the same data on graduates from CICV's 28 member institutions in academic year 2023-24 that were summarized earlier in Figures 1 and 2.²³

Percentage of Virginia's Occupation-Driven Demand for Graduates Met by CICV member Institutions

Table 5 details the results obtained from a comparison of the occupation-driven demand for graduates in Virginia and the supply of qualified graduates produced by the 28 private colleges and universities represented by CICV for occupations defined as "high demand" by the Virginia Office of Education Economics.²⁴ As these data demonstrate, across many areas such as business, education, healthcare, human resources, psychology, transportation, and other in-demand fields, these institutions are meeting a very substantial portion of Virginia's most critical workforce needs.

Table 5: Percentage of Virginia's Annual Occupation-Driven Demand for Graduates met by CICV Institutions in Academic Year 2023-24 (top 20 high demand occupations)

Occupation	Typical Education Attainment Level Required	Estimated Average Annual Openings: 2016-2026	Estimated Annual Supply of Associated CICV Graduates	Percentage of Need Met
Social Science Research Assistants	Bachelor's degree	97	652	672%
Education Administrators, All Other	Bachelor's degree	107	256	239%
Music Directors and Composers	Bachelor's degree	33	38	116%
Secondary School Teachers, Except Special and Career/Technical Education	Bachelor's degree	1937	2,174	112%
Natural Sciences Managers	Bachelor's degree	101	110	109%
Education and Childcare Administrators, Preschool and Daycare	Bachelor's degree	99	84	85%

²³ Data Source: U.S. Department of Education, National Center for Education Statistics. These data exclude graduates from George Washington University's Virginia Science and Technology campus in Ashburn, Virginia because those data are not reported separately by the National Center for Education Statistics.

²⁴ Data Source: Virginia Office of Education Statistics, Virginia 2024 High Demand Occupations Dashboard.

Table 5: Percentage of Virginia's Annual Occupation-Driven Demand for Graduates met by CICV Institutions in Academic Year 2023-24 (top 20 high demand occupations)

Occupation	Typical Education Attainment Level Required	Estimated Average Annual Openings: 2016-2026	Estimated Annual Supply of Associated CICV Graduates	Percentage of Need Met
Writers and Authors	Bachelor's degree	359	301	84%
Biological Technicians	Bachelor's degree	216	153	71%
Health Education Specialists	Bachelor's degree	155	100	64%
Biological Scientists, All Other	Bachelor's degree	72	45	62%
Medical and Health Services Managers	Bachelor's degree	966	490	51%
Social and Community Service Managers	Bachelor's degree	281	121	43%
Special Education Teachers, Middle School	Bachelor's degree	206	88	43%
Special Education Teachers, All Other	Bachelor's degree	187	80	43%
Special Education Teachers, Secondary School	Bachelor's degree	419	179	43%
Producers and Directors	Bachelor's degree	165	67	40%
Training and Development Managers	Bachelor's degree	124	46	37%
Human Resources Managers	Bachelor's degree	400	149	37%
Public Relations Specialists	Bachelor's degree	813	262	32%
Human Resources Specialists	Bachelor's degree	2689	846	31%

Some of the Faces and Stories Behind the CICV Institutions' Contribution to Virginia's Human Capital²⁵

Zion Kendall Purvis-Allen '24 – Virginia Wesleyan University



For Zion Purvis-Allen success has been built on perseverance, determination, and the strength of the Marlin community. As a first-generation college student from Chesapeake, Virginia, Zion faced early challenges adjusting to college life and balancing the demands of full-time work. When financial setbacks forced him to step away from his studies, he remained determined to return. That resilience paid off: after a year and a half, Zion re-enrolled at Virginia Wesleyan, ready to embrace new opportunities and make the most of his experience. He graduated with a degree in Comprehensive Liberal Studies and now serves as a First-Year Enrollment Counselor at VWU, continuing to guide students through the same transformative journey that shaped his own.

During his time on campus, Zion became a leader and a vibrant presence in the community. He served as a Resident Advisor, Wesleyan Ambassador, mailroom staff, and front-desk assistant in the Learning Center, where his warm personality and positive outlook made him a recognizable face for students, faculty, and visitors alike. Juggling a job and serving as a Resident Assistant, Zion became a master of time management and was able to enjoy the full campus experience which included plenty of intramural sports and volunteering with Marlin Ministries, building relationships across campus and inspiring others with his story of perseverance.

Eli Bank '22 and Grace Mittl '22 – University of Richmond

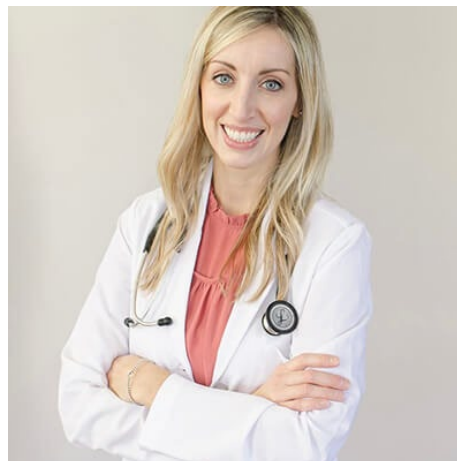
Eli Bank and Grace Mittl, are the founders of Absurd Snacks, a business they created during their senior year in University of Richmond's Bench Top Innovations course. Both business administration majors, after graduation they chose to continue building the company from their home base in Richmond. Absurd Snacks are a line of nut-free snack mixes, created to be safe for most individuals with food allergies and sensitivities. They are currently available at many major grocery chains throughout the mid-Atlantic, including Whole Foods, Publix, and Kroger.

Last year, Bank and Mittl returned to University of Richmond as the Start-up in Residence at the Robins School of Business, mentoring current students on entrepreneurialism.

²⁵ All student information and photos are courtesy of their college or university.

Kelly Walsh Botta '09 – Shenandoah University

Kelly Walsh Botta graduated from Shenandoah University with a Master of Science in Physician Assistant Studies in 2009. Since then, she has built an extensive career with clinical experience in internal medicine, urgent care, and emergency medicine within the state of Virginia. Botta has been a clinical co-lead for Population Health, and has maintained ties to Shenandoah's PA program as a guest lecturer and preceptor.



In 2020, she founded Smartypants Medicine in Winchester, Virginia — where Shenandoah University's main campus is located — in her pursuit to offer a more personalized and accessible model of health care. Through a monthly membership, Smartypants Medicine provides patients with unlimited access to a health care provider via text, phone, email, telehealth, and home visits. This direct-care model, which Botta likens to a "Netflix for primary care," aims to make quality health care both affordable and readily available, regardless of insurance status. Smartypants opened its first physical location in Winchester in April 2025.

Gerardo Escalera Cardoso '24 – Mary Baldwin University

Gerardo Escalera Cardoso's Mary Baldwin University journey is a testament to the transformative power of access and opportunity in higher education. A first-generation college student from Harrisonburg, Virginia, Cardoso embraced the challenge of balancing rigorous academics with leadership and service roles across campus. At MBU, he cultivated his passion for business and entrepreneurship, leveraging faculty mentorship and hands-on learning experiences to prepare for a career in law and community advocacy.

While still an undergraduate, Cardoso co-authored an academic research paper that was published in the *Pi Sigma Alpha Undergraduate Journal of Politics*. Graduating with a dual major in Economics and Political Science, Cardoso spoke to his fellow graduates at MBU's undergraduate commencement ceremony. His parting message, [delivered in Spanish with a moving turn to the audience](#), invited graduates to celebrate the sacrifices of family, friends, and mentors who paved the way for their educational success. Now a juris doctor candidate at the University of Richmond Law School, Cardoso plans to continue his mission for advocacy for the underrepresented, be that criminal representation or immigration law. Regardless of the field, he plans to pursue it in his home state of Virginia.

Camryn Carter '23 – University of Richmond

Camryn Carter, from North Chesterfield, Virginia, recently received a prestigious and competitive National Science Foundation Graduate Research Fellowship, highlighting her potential to become a high-achieving scientist. Carter, who majored in chemistry and computer science, is currently a second-year chemistry Ph.D. student at MIT where she is studying RuBisCO, an enzyme involved in photosynthesis.

This research is exploring improving photosynthesis in plants related to the long-term increase crop yields.



Kaleb Elswick '25 – Emory and Henry University

Kaleb Elswick's business, Elswick Outfitters LLC, began as a class project at Emory & Henry University. Elswick provides a one-stop-shop for those wanting to explore Southwest Virginia.

"I am excited to provide friendly service to all types of customers," Kaleb said, "from the extreme outdoorsman just wanting someone to guide them around the Appalachian Mountains to someone who has never touched a fishing rod."

Elswick's class project won a small business challenge at the university, and with his prize money, Elswick can reach more customers. He will continue his education at Emory & Henry, seeking an MBA this fall.

Urooj Fatima '25 – Marymount University

Urooj Fatima '25 is a trailblazer in STEM at Marymount University, becoming the institution's first-ever Biomedical Engineering graduate. After immigrating to the U.S. from Pakistan, Fatima and her family settled in Springfield, Va. She originally enrolled at Marymount as a Biochemistry major but pivoted to Biomedical Engineering in 2022 after being inspired by coursework on 3D-printed prosthetics. The new program's hands-on,



research-driven approach for combining medicine and engineering immediately resonated with her goals of creating real-world impact through science. From that point forward, she immersed herself in undergraduate research, tackling projects in bioinformatics, skeletal muscle regeneration, prototype development, and molecular biology. She now works as a patent examiner in biomedical engineering at the United States Patent and Trademark Office in Alexandria, Va. and is preparing to return to school to earn a Ph.D.

Holly Huffman '20 – Eastern Mennonite University



Originally from Franklin, West Virginia, Holly Huffman is the first in her family to attend college. After her nine-year-old son was diagnosed with Type 1 diabetes, Hoffman was determined to use her experiences to help others with the disease. She began her education at Blue Ridge Community College and later earned her BSN in nursing from EMU. Shortly after graduating, she became a certified diabetes care and education specialist at Sentara RMH Medical Center in Harrisonburg.

Huffman now lives in Dayton, Virginia and works with patients across the Shenandoah Valley, helping them learn to manage diabetes through diet, insulin therapy, and lifestyle changes. Many of her patients face economic hardship, and Huffman is committed to ensuring they receive the care they need. This year, she was named a distinguished recipient of the *Daily News-Record's* 15 Under 50 honor.

Botta credited the supportive environment, strong academic foundation, and camaraderie among her peers at Shenandoah University with preparing her for a successful career as a certified physician assistant.

Amiyah McCoy '25 – Mary Baldwin University

Mary Baldwin University provided Amiyah McCoy with the platform to transform her passion for helping others into a lifelong calling. A Lexington native, Amiyah started at MBU as a teenager in the early-college Program for the Exceptionally Gifted (PEG) with a major in Biology, focusing on Biomedical Science. As a student, McCoy was selected for a fellowship with the Algernon Sydney Sullivan Foundation, and received the annual Algernon Sydney Sullivan Award at MBU's 183rd Commencement. Amiyah's commitment to local impact extended far beyond campus. While balancing a full-time student workload and volunteering at the Lexington YMCA, McCoy logged more than 1,000 hours as an Emergency Medical Technician in Augusta County. McCoy's time as an EMT served as direct preparation for her career in medicine. Now, since graduating with her bachelor's degree, McCoy has continued to graduate school in the Physician Assistant program at MBU's Murphy Deming College of Health Sciences.

Andre McLaughlin '09 – Randolph-Macon College



Andre McLaughlin has gained notice in the fashion world as owner and designer at Andre' Julius Custom Suits, a bespoke suit brand with showrooms in both Richmond and Williamsburg. His suits have been worn by numerous athletes, including former Super Bowl champion Ryan Clark (now an ESPN commentator), who serves as a brand ambassador, and Nate Burleson, who wore one of Dre's design while hosting the Met Gala.

Self-taught in fashion, McLaughlin started the business because of his own frustration with the way suits fit his athletic build. A former football player at Randolph-Macon College in Ashland, he balanced many interests– and always had a heart for suits.

McLaughlin has engaged in numerous entrepreneurial ventures since graduation from Randolph-Macon. Today, in addition to Andre' Julius Custom Suits, he currently owns Elevate Marketing Group.

Ernest Park '27 and Austin Graves '27 – Regent University

Ernest Park and Austin Graves are currently enrolled at Regent University in a five-year program with the Hampton Roads Naval Reserve Officer Training Corps.

The two men collected relief supplies and donations from Regent students in the wake of Hurricane Helene as part of “Operation Shipmate Support.” They used personal funds to rent a plane to deliver aid to North Carolina.

“This was a huge group effort,” Graves said. “Everybody really did their part. We were just the ‘sky bus’ drivers who carried it over there.”



Katherine Haley Vaughan '24 – Roanoke College

Katherine Haley Vaughan, of Salem, Virginia, graduated from Roanoke College with a bachelor’s degree in business administration, a minor in economics and a concentration in global business. She currently works as an analyst with the Federal Reserve Bank in Richmond, Virginia.

Vaughan’s incredible involvement at Roanoke included being a member of the Honors Program, serving as both social coordinator and president throughout her time in the program. She was a founding member and president of Women in Economics, in addition to having been a member of the Academic Integrity Council, ECONLab research group, Undergraduate Economics Reading Group and Collegiate Entrepreneurs Organization. She even found time to work as a subject tutor and be part of multiple honors societies.

She expanded her global perspective with a May Term studying in Ireland and England, and completed three internships—one with Carilion Clinic, one with a public relations firm in D.C. and one with the Lutheran College Washington Consortium.

Conclusion

The most significant contribution that any educational institution makes to the economy is the human capital embodied in its most important product – its graduates. The principal findings from the analysis presented in this report are that, in addition to providing access to populations that are not readily served by the state’s public four-year colleges and universities, CICV’s private colleges and universities perform a valuable and demonstrable role in creating the human capital and qualified workforce that Virginia needs to fuel its future economic growth.