

The Economic Impact of Shenandoah University on Winchester-Frederick County, Virginia



SHENANDOAH™
U N I V E R S I T Y

Prepared for
Shenandoah University

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TischlerBise
FISCAL | ECONOMIC | PLANNING

4701 Sangamore Road, Suite S240
Bethesda, MD 20816
www.tischlerbise.com

THE ECONOMIC IMPACT OF SHENANDOAH UNIVERSITY

Winchester-Frederick County, Virginia

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EXECUTIVE SUMMARY

TischlerBise has been retained by Shenandoah University to conduct an economic impact analysis of the University on the regional economy. TischlerBise is a fiscal, economic, and planning firm specializing in fiscal/economic impact analysis, impact fees, infrastructure financing studies, cost allocation plans, user fees, utility rate studies, and related revenue strategies. We have been providing consulting services nationally and in Virginia for over 30 years. TischlerBise conducted the University's last economic impact analyses in 2010 and 2016.

Overview of Shenandoah University

Shenandoah University is a private, coeducational university offering undergraduate and graduate degree programs. It is based in the City of Winchester, Virginia, with a main campus and facilities in downtown Winchester and at the Winchester Medical Center. Enrollment for the 2022-2023 school year was 4,260, with approximately 60 percent undergraduates and 40 percent graduate students. Programs are available in the following six schools and two divisions:

- College of Arts & Sciences
- School of Business
- Eleanor Wade Custer School of Nursing
- Shenandoah Conservatory
- Bernard J. Dunn School of Pharmacy
- School of Health Professions
- Division of Education & Leadership
- Division of Applied Technology

Region of Study

Shenandoah University is located in the City of Winchester, Virginia, at the northern tip of the Commonwealth of Virginia, about 70 miles from Washington, DC. The City of Winchester is part of a regional economy that includes Frederick County as well as a larger Metropolitan Statistical Area that includes other parts of Virginia and West Virginia. To show local impact of the University, the region of analysis is **Winchester-Frederick County**.

Overview of Economic Impact Analysis

Economic impact analysis is a process to evaluate a change in the economy or an entity's effect on the economy of a defined geographic location. It identifies direct impacts, that is, the actual number of employees of the entity as well as the jobs supported by the spending of the entity itself, as well as other related activity, such as student and visitor spending. An economic impact analysis also evaluates the "spin-off" or "multiplier" effects that direct spending has on the location in terms of jobs, labor income, and total economic output or activity through what is referred to as indirect and induced effects. That is, the income received by suppliers of goods and services is then used to buy goods and services from other local companies (indirect effects) and household income is used in part to buy goods and services, which creates other economic benefits (induced effects).

The economic impact analysis for Shenandoah University measures the direct, indirect, and induced effects from the following economic activities:

- University employment
- Spending by the University for goods and services as well as capital investment
- Student spending
- Visitor spending

The Impact of University Employment

Shenandoah University currently employs 966 faculty and staff, excluding student employees.¹ Employment at the University represents 1.5 percent of the total employment in the City-County region and *over 18 percent of the educational services jobs in the area*. In the City of Winchester alone, the University ranks as the tenth largest employer.²

Economic impacts are generated by the spending of University employees as well as by the University itself through purchases of goods and services and construction. Our analysis found that:

- Total University budget for employee compensation (salaries and benefits) in FY 2023 is \$65 million, up from \$52.5 million in FY 2016.

¹ Student employees are excluded from of the analysis on the impact of University employment.

² Virginia Employment Commission, Virginia Employment Commission, 2023 Q1, accessed at <https://www.yesfrederickva.com/why-frederick-co/business-portfolio>.

- Gross average compensation for all positions is approximately \$68,000, up from \$58,000 in 2016. This exceeds the average wage estimate in the Winchester-Frederick County region of \$56,000.³
- 57 percent of University faculty and staff live in the City of Winchester and Frederick County, a decrease from 2016, likely a byproduct of Covid-19 effects of telecommuting and hybrid work opportunities.
- As a result of University jobs held by residents of Winchester-Frederick County, the region benefits from an additional **45 jobs** with an economic benefit of **\$7.5 million, of which \$2.2 million is employee compensation.**

The Impact of University Finances and Spending

- **The University brings in almost \$104 million (93 percent of its revenue) from outside the region due to enrollment that is drawn from outside Winchester-Frederick County.** (This figure is up from \$77 million in FY 2016.) This money has the potential to be spent and re-circulated in the local economy.
- The University's purchase of goods and services in FY 2023 totaled \$46 million, of which almost 20 percent (\$8.6 million) was spent in Winchester-Frederick County.
- As a result of University purchase of goods and services locally, **85 jobs** are created with a **total output of \$14 million**, due to direct, indirect, and induced effects. This is an increase in economic activity over 2016 of approximately \$1.5 million.
- Capital expenditures—both construction and purchases of capital goods—create additional economic impacts. Over the past five years combined, the University has spent \$47 million on capital projects.
- It is estimated that the University's construction projects and capital expenditures over the past five years generated **508 jobs** in the City and County with a **direct economic activity of \$51.3 million, of which over \$19 million was employee compensation.** This activity in turn generated **145 jobs** from indirect and induced effects, with an **economic activity of \$34 million.**

³ Bureau of Labor Statistics, 2022 Annual Averages, Quarterly Census of Employment and Wages, Winchester, VA-WV MSA.

Impact of Students and Visitors

Additional impacts are generated to the local economy through spending by students and visitors. An analysis of students and visitors was conducted to determine the estimated net new impact to the City and County that would not necessarily occur without the University finding that:

- Approximately **90 percent of students are from outside Winchester-Frederick County**, which brings new money into the local economy that can be spent locally. This figure is higher than the 88 percent in 2016. Thus, the University is bringing a larger percentage of student dollars from outside of Winchester-Frederick County than it was in 2016. In addition, student enrollment has grown since 2016, magnifying these results.
- Annual student spending directly generates **approximately 240 jobs with a total output of \$50 million**.
- The University draws visitors to the campus primarily due to the Conservatory's performances throughout the school year and for the Summer Music Theatre as well as athletic events. Using Conservatory and athletic event ticket sales data, we determined that 40 percent of Conservatory ticket sales were made to patrons from outside Winchester-Frederick County, thus bringing new money into the region. **Spending by visitors contribute to an economic impact of 42 jobs and a total output of over \$4.7 million**

Fiscal Factors and Tax Implications

- The University is a tax-exempt institution. However, revenue is generated to the City and County through property and sales taxes from the households and jobs created as a result of direct, indirect, and induced economic impacts as described throughout this report.
- While it is true that the presence of students and visitors as well as employees at the University produce costs to the City (and County), the nature of Shenandoah University is that typical costs experienced by University communities—such as for police and fire services—are not experienced to the same degree as other colleges.

Qualitative Factors

- Universities are important elements of economic development in a community. Not only are they **major employers**, but they also provide opportunities to develop **human capital**. This is particularly important in the 21st century economy where advanced degrees and ongoing professional and executive education are becoming essential in advancing one's career.
- Universities are part of the fabric of a community and are difficult to relocate, unlike a manufacturing plant or office headquarters.
- Research has shown that expansion of higher education in a region brings new income into the region and raises all residents' earnings.
- The programs offered at universities—both for students and the community—support the development of what has been labeled the “creative class,” namely knowledge-based workers and those working in the creative arts.
- Development of this type of human capital and community has been identified as essential in the development of “quality of place” to attract and retain businesses and workers.

Summary of Overall Economic Impact

- University spending by employees and the University itself leads to approximately 1,232 jobs with an economic benefit of almost \$104 million. This represents a similar finding from 2016.
- Student and visitor spending generates a total economic benefit of almost \$54 million and 279 jobs. This represents an increase from 2016.
- **Combined, the economic impact of the University is estimated at approximately \$157 million with 1,512 jobs supported by the presence of the University (an increase of \$12 million in economic benefit from 2016).**

A summary is provided in the figure below.

Figure 1. Summary of Total Economic Impact of Shenandoah University on Winchester-Frederick County, VA

	2023	
	Economic Benefit (\$)	Employment (Jobs)
UNIVERSITY SPENDING		
Subtotal University Spending Impacts ¹	\$103,510,949	1,232
STUDENT AND VISITOR SPENDING		
Subtotal Student and Visitor Impacts	\$53,813,216	279
GRAND TOTAL IMPACTS	\$157,324,165	1,512

¹ Annual impacts

INTRODUCTION

TischlerBise has been retained by Shenandoah University to update the Economic Impact Analysis of the University. TischlerBise conducted the University's last economic impact analysis in 2016. An economic impact analysis is a process to evaluate an entity's economic benefit on a defined geographic location. This report includes the following sections:

- An overview of the University and economic impact analysis in general terms.
- A summary of trends in the regional economy.
- An analysis of University employment and the effects on the regional economy.
- An analysis of University finances, including the University's purchase of goods and services and construction activity, and the effects on the regional economy.
- The economic impact of student and visitor spending.
- A discussion of fiscal factors and qualitative items.

Overview of Shenandoah University

Shenandoah University is a private, coeducational university offering undergraduate and graduate degree programs. It is based in the City of Winchester, Virginia, with a main campus and facilities in downtown Winchester. The University was founded in 1875 and moved to Winchester in 1960. The University has additional Virginia locations in Leesburg, , Bluemont, and Fairfax and Shanghai, China.

The University offers certificate and degree programs at the associate, bachelor, master, and doctoral levels with a focus on arts and sciences, business, health professions, and the performing arts. The University is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC). Programs are available in the following six schools and two divisions:

- College of Arts & Sciences
- School of Business
- Eleanor Wade Custer School of Nursing
- Shenandoah Conservatory
- Bernard J. Dunn School of Pharmacy
- School of Health Professions
- Division of Education & Leadership
- Division of Applied Technology

Enrollment in school year 2022-2023 was 4,260, with approximately 60 percent undergraduates and 40 percent graduate students.

Overview of Economic Impact Analysis and Approach for the Study

Economic impact analysis is a process to evaluate an entity's economic benefit on a defined geographic location. It identifies direct impacts, that is, the actual number of employees of the entity as well as the jobs supported by the spending of the entity itself. In addition, direct impacts are generated through student and visitor spending. An economic impact analysis also evaluates the "spin-off" or "multiplier" effects that direct spending has on the location in terms of jobs, labor income, and total economic output or activity through what is referred to as indirect and induced effects. That is, income received by suppliers of goods and services is then used to buy goods and services from other local companies (indirect effect). Additionally, household income is used in part to buy goods and services within the local region, which creates other economic benefits (induced effect). In summary, the total effects are the result of direct impacts as well as the recirculation of income throughout the local economy.

An economic impact analysis is place specific. That is, the results will vary depending on the region being evaluated. For this analysis, the region under study is the City of Winchester and the County of Frederick, Virginia. In some instances where data is available, we identify where the University has an economic benefit for a larger geographic area in other parts of Virginia, West Virginia, and Maryland.

The general approach and methodology employed for this study is:

- TischlerBise conducted interviews and collected data from the University and other sources as well as conducted primary and secondary research.
- This information was synthesized and analyzed to reveal trends and direct economic impacts on the Winchester-Frederick County region.
- The direct economic impacts were then used to determine indirect and induced impacts both in dollars and jobs in the study area.
- The analysis of some direct effects and the indirect and induced impacts was conducted using the IMPLAN model. The IMPLAN model is an input-output model, which tracks the interdependence among various producing and consuming sectors of an economy. The IMPLAN model is one of several commercial models used for economic impact analysis (others include REMI and RIMS II).

WINCHESTER-FREDERICK COUNTY REGIONAL ECONOMY

Shenandoah University is located in the City of Winchester, Virginia, at the northern tip of the Commonwealth of Virginia. It is about 70 miles from Washington, DC, and 135 miles from Richmond. Winchester is part of a regional economy that includes Frederick County as well as a larger Metropolitan Statistical Area that includes other parts of Virginia and West Virginia. For purposes of this analysis to show local impact of the University, the region for the analysis is Winchester-Frederick County.

The region currently has an estimated total population of approximately 123,000 with an employment base of over 60,000 jobs. Population has grown since 2015 by approximately 1,700 people per year. Employment has grown at an annual rate of approximately 900 jobs. Average household income is over \$98,000 and the region's gross regional product⁴ is over \$8.2 billion.

Figure 2. Winchester-Frederick County, Virginia, Demographic and Economic Profile

	2009 ¹	2015 ¹	2022
Population ²	101,294	111,023	123,288
Jobs ³	48,307	54,172	60,099
Average Household Income ⁴	\$75,048	\$78,360	\$98,000
Gross Regional Product (\$ millions) ⁵	\$4,101	\$4,822	\$8,208

¹ From previous Shenandoah University Economic Impact Studies

² University of Virginia Weldon Cooper Center, Demographics Research Group. (2023). Virginia Population Estimates. Retrieved from <https://demographics.coopercenter.org/virginia-population-estimates>

³ Virginia Employment Commission

⁴ Derived from 2021 American Community Survey 5-Year Estimates

⁵ Woods and Poole for 2009 and 2015; IMPLAN for 2022.

In addition to Shenandoah University, the Lord Fairfax Community College is also located in the area. However, Shenandoah is the only four-year university in the Winchester-Frederick County area.

⁴ A good measure of economic activity is Gross Regional Product (GRP), which measures the overall size of an area's economy.

THE IMPACT OF UNIVERSITY EMPLOYMENT

Shenandoah University Employment Trends

Shenandoah University currently employs 966 faculty and staff, excluding student employees. Employment at the University represents 1.6 percent of the total employment in the City-County region and *over 18 percent of the educational services jobs in the area*. In the City of Winchester alone, the University ranks as the tenth largest employer.⁵

Figure 3. University Jobs in Region

	2009 ¹	2015 ¹	2023
Number of Jobs in Winchester-Frederick Co.	48,307	54,172	60,099
Number of Educ. Services Jobs in Winchester-Frederick Co.	5,128	4,742	5,283
Shenandoah University Jobs ²	845	904	966
Shenandoah University % of Regional Total	1.7%	1.7%	1.6%
Shenandoah University % of Regional Educational Jobs	16.5%	19.1%	18.3%

¹ From previous Shenandoah University Economic Impact Studies.

² University jobs exclude student workers.

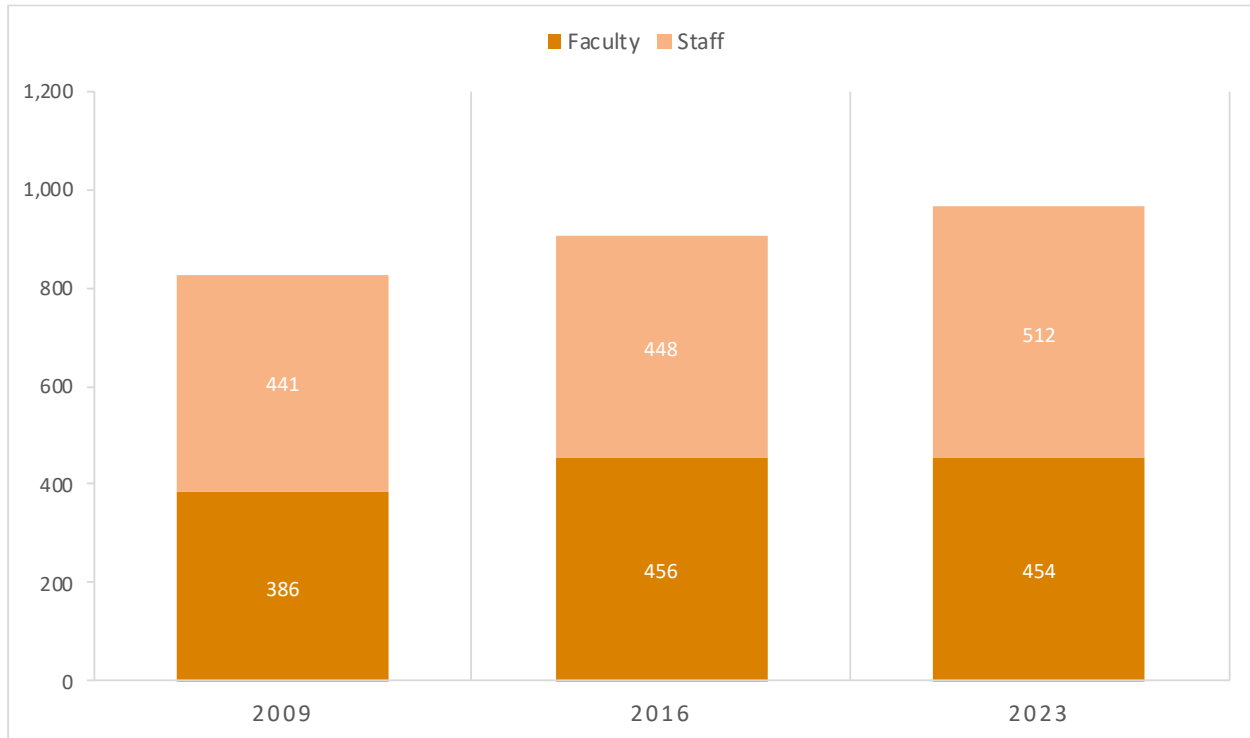
Sources: Virginia Employment Commission; Shenandoah University

The number of jobs at the University has steadily grown over time. Figure 4 shows employment trends at different points in time delineated between faculty and staff.⁶

⁵ Virginia Employment Commission, 2023 Q1, accessed at <https://www.yesfrederickva.com/why-frederick-co/business-portfolio>.

⁶ As noted elsewhere, the University has other Virginia locations, with a small number of faculty and staff working in these locations.

Figure 4. Shenandoah University Employment Trends



Source: Shenandoah University
Note: Excludes students

As shown, staff positions have generally increased over time. Positions reflect both full-time and part-time status as well as adjunct, tenured, and tenure-track faculty and all types of staff positions (except student workers, which are captured in our analysis of student enrollment). Approximately three-quarters of employees at the University are employed full-time. See Figure 5 for further detail.

Figure 5. Full-time and Part-time Status for Faculty and Staff

	2016		2023	
Faculty				
Full-Time	248	54%	265	58%
Part-Time	208	46%	189	42%
TOTAL Faculty	456	100%	454	100%
Staff				
Full-Time	378	84%	422	82%
Part-Time	70	16%	90	18%
TOTAL Staff	448	100%	512	100%
Total				
Full-Time	626	69%	687	71%
Part-Time	278	31%	279	29%
TOTAL Faculty and Staff	904	100%	966	100%

Source: Shenandoah University

Note: Excludes students.

Payroll

Total University spending on employee compensation (salaries and benefits) in FY 2022 was \$65 million (up from \$52.5 million in FY 2016). This results in a gross average salary for all positions of approximately \$68,000, representing an increase of \$10,000 over the average salary in 2016. The overall average is well above the average wage estimate for the Winchester, VA-WV MSA at approximately \$56,000.⁷ Figure 6 provides further detail on Shenandoah University compensation .

⁷ Bureau of Labor Statistics, 2022 Annual Averages, Quarterly Census of Employment and Wages, Winchester, VA-WV MSA.

Figure 6. Shenandoah University Average Compensation Trend

	2009 ¹	2015 ¹	2022
Total Salaries, Wages & Benefits ²	\$40,300,000	\$52,500,000	\$65,112,000
Number of Positions ³	845	904	966
Average \$ Per Position	\$47,692	\$58,075	\$67,404

¹ From previous Shenandoah University Economic Impact Studies.

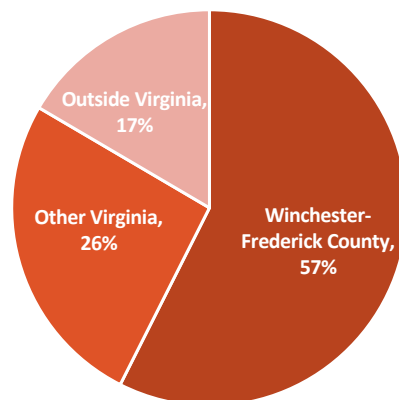
² Shenandoah University Financial Report, 2022.

³ University jobs exclude student workers.

Place of Residence

University employees live throughout the region; however, the majority of faculty and staff (57 percent) live in the City of Winchester and Frederick County. Another 26 percent live elsewhere in Virginia and the remaining 17 percent live in other states, primarily West Virginia, Pennsylvania, and Maryland. See Figure 7. This spatial distribution is somewhat consistent with the 2016 study with a greater share of employees living outside Virginia. The Covid-19 pandemic and its aftermath has affected workplace location with an increase in remote and hybrid working arrangements.

Figure 7. Shenandoah University Faculty and Staff Place of Residence, 2023

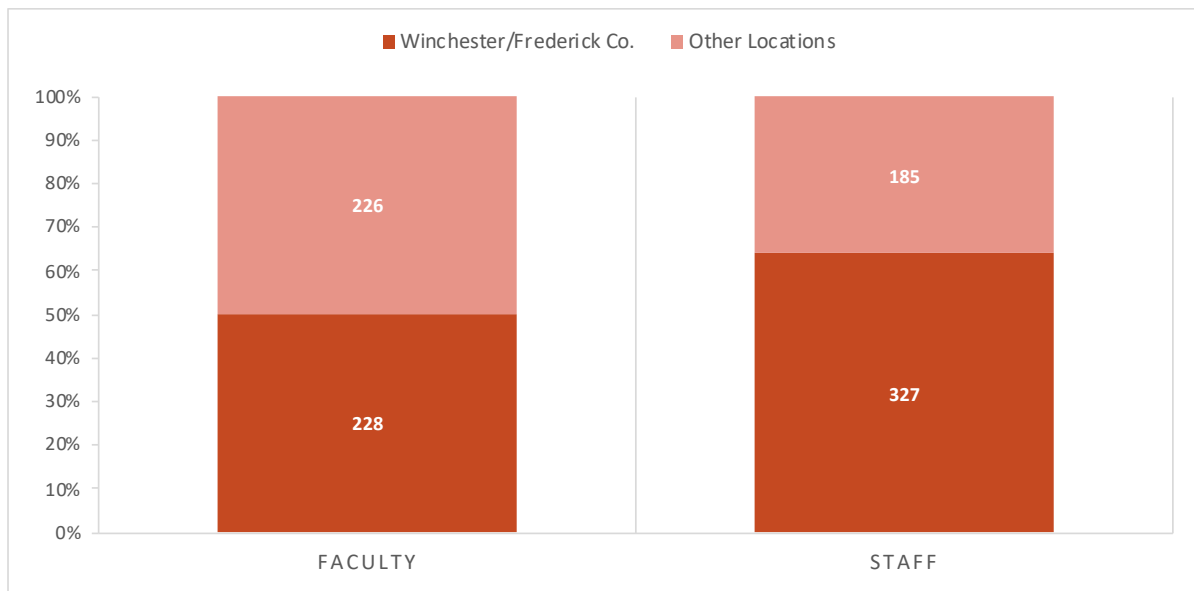


*Excludes students.

Source: Shenandoah University

Looking closer at place of residence by type of position, approximately half of faculty members and 64 percent of staff live in Winchester-Frederick County. See Figure 8.

Figure 8. Shenandoah University Type of Position by Place of Residence, 2023



*Excludes students.

Source: Shenandoah University

Spin-Off Effects

In addition to the direct employment that the University provides of 966 positions, these jobs lead to additional economic impacts. These “spin-off” effects, sometimes called multiplier effects, are the result of spending by employees of the University. This particular impact, as a result of re-spending of income, is known as an “induced effect.” This impact captures the occurrence of recirculation of money in a local economy through household spending patterns.

To measure this effect, the IMPLAN input-output model is used. As a result of University jobs held by residents of Winchester-Frederick County, the region benefits from an additional 45 jobs with an economic benefit of \$7.5 million, of which \$2.2 million is additional employee compensation in the region.⁸

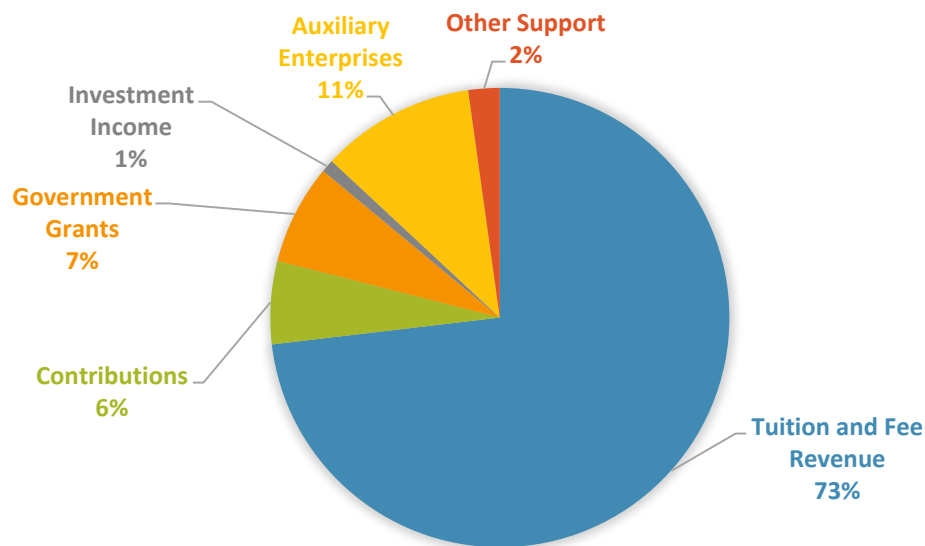
⁸ Our approach may be somewhat conservative in that we evaluate spin-off effects from the estimated University payroll of **Winchester-Frederick County residents only**. In addition, a portion of non-residents’ compensation is likely to stay locally due to

THE IMPACT OF UNIVERSITY SPENDING

Overview of University Finances

The University's budget is approximately \$111 million with 73 percent from tuition and fee revenue. Percentage shares by source of revenues for Fiscal Year 2022 are shown below in Figure 9.

Figure 9. Shenandoah University Actual Revenues, FY 2022 ¹

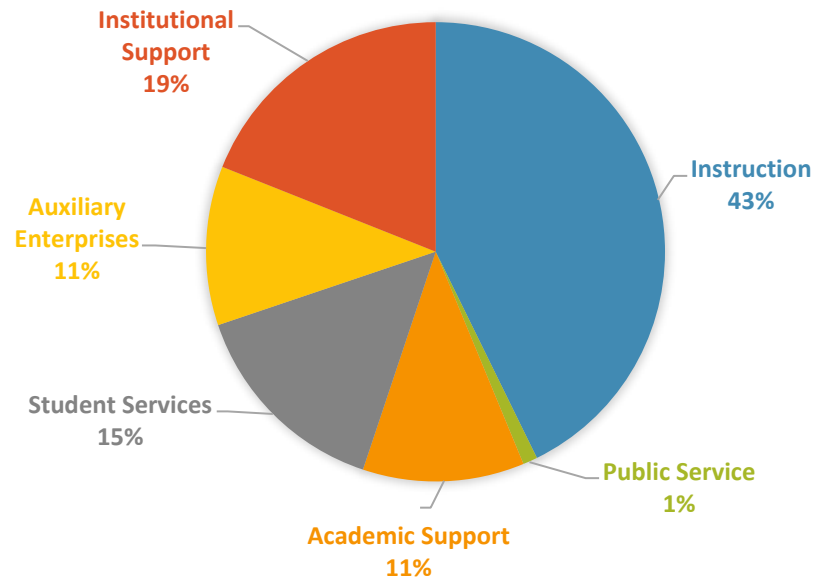


¹ Actuals; includes funding with donor restrictions; tuition is net after scholarships.
Sources: Shenandoah University; TischlerBise.

University expenditures for FY 2022 are shown in Figure 10.

expenditures made during the working hours for on-site employees. However, this is likely to add only a marginal effect and data is not readily available for this level of analysis.

Figure 10. Shenandoah University Actual Expenditures, FY 2022



Sources: Shenandoah University; TischlerBise.

On the expense side, instruction and institutional support comprise the top two categories. Combined, program expenditures (instruction, public service, academic support, student services, and auxiliary enterprises) represent 81 percent of expenses.

University revenue is primarily from non-local sources. Only 10 percent of student enrollment at the University is from Winchester-Frederick County. Therefore, 90 percent of tuition and fees are attributed to sources outside the City-County study area (up from 88 percent in 2016). By extension we assume that contributions reflect student resident patterns, assuming that alumni maintain similar places of residence after graduation. Government grants are from outside the region. Auxiliary enterprises mostly reflect contracts for housing and food service and reflect enrollment trends.

In total, it is estimated that 93 percent of the University's revenue, or almost \$104 million, is estimated to be from outside the region. (See Figure 10.) Put another way, the University is bringing in money from other locations due to enrollment drawn from outside Winchester-Frederick County, thus acting as an "export-base industry."

Figure 11. Revenues from Outside Winchester-Frederick County

Major Revenue Category	FY 2022 ¹	% Non-Local	\$ Non-Local
Tuition and Fee Revenue ²	\$83,281,736	90%	\$75,207,709
Contributions	\$6,652,791	90%	\$6,007,814
Government Grants	\$8,028,342	100%	\$8,028,342
Investment Income	\$1,022,010	90%	\$922,928
Auxiliary Enterprises	\$12,369,110	90%	\$11,169,945
Other Support	\$2,520,486	100%	\$2,520,486
Misc. [Net Gains (Net Losses)]	(\$2,567,900)	0%	\$0
Total	\$111,306,575	93%	\$103,857,223

¹ Actuals; includes funding with donor restrictions.

² Net after scholarships

Sources: Shenandoah University; TischlerBise

University Spending on Goods and Services

The University is not only a major employer in the region, but a purchaser of goods and services, a portion of which are made in the region. This provides additional economic benefits in the form of direct benefits (i.e., jobs at those industries and services from which the University makes purchases) as well as indirect and induced impacts. Both operating and capital expenditures are discussed in this section.

Spending on operations in FY 2023 was \$46 million. To identify local spending, the University provided TischlerBise with a database of expenditures by fiscal year with locations. In FY 2023, almost 20 percent (approximately \$8.6 million) was spent in Winchester-Frederick County. This represents a slight decrease from 2016, likely brought about by supply-chain challenges due to the pandemic. University spending in other parts of Virginia as well as West Virginia and Maryland have increased by \$3 million from FY 2015.

Figure 12. Goods and Services: Place of Purchase

	FY 2010		FY 2015		FY 2023	
	Goods and Services Expenditures	% of Total	Goods and Services Expenditures	% of Total	Goods and Services Expenditures	% of Total
Winchester-Frederick Co.	\$4,724,248	21%	\$9,280,366	24%	\$8,585,548	19%
Other VA, MD, & WV	\$3,114,583	14%	\$8,320,715	21%	\$11,308,713	25%
All Other	\$14,250,398	65%	\$21,117,518	55%	\$26,148,916	57%
Total	\$22,089,229	100%	\$38,718,599	100%	\$46,043,178	100%

Source: Shenandoah University

Top categories of University purchases within Winchester-Frederick County are shown below in Figure 13. As shown, construction companies reflect the top expense at \$2.9 million annually, representing almost 34 percent of the University's local expenditures.

Figure 13. Top University Purchases within Winchester-Frederick County

	FY 2023	
	Amount	% of Local Expenditures
Construction Companies	\$2,892,654	33.7%
Contractors-Special Trade	\$1,257,917	14.7%
Utilities-Electric, Gas, Water	\$774,215	9.0%
Printing	\$645,527	7.5%
Other General Services	\$640,954	7.5%
Facility Rental	\$513,937	6.0%
Contractors-General Contractor	\$355,868	4.1%
Contractors-Electrical	\$297,483	3.5%
Travel-Lodging	\$255,096	3.0%
Architectural & Engineering	\$123,263	1.4%

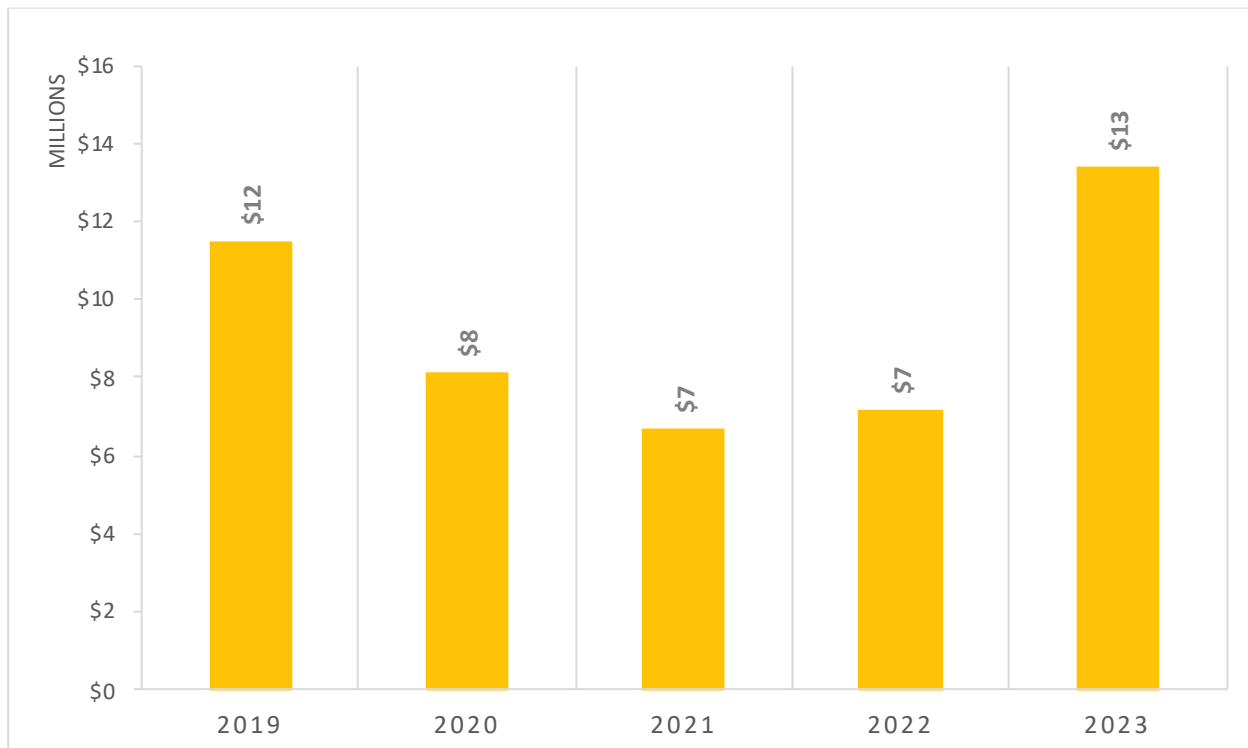
Source: Shenandoah University

The University's purchase of goods and services leads to direct impacts—jobs and output that are attributable to the University's purchases—as well as indirect and induced effects. To estimate this impact, the IMPLAN model was used. As a result of University purchases of goods and services locally, 85 jobs are supported with a total output of approximately \$14 million, due to direct, indirect, and induced effects. This represents an increase of \$1.5 million from 2016.

University Spending on Capital Improvements

Over the past five years, the University has spent approximately \$47 million in construction and capital expenditures with a range of annual spending from \$7 to \$13 million (shown in current dollars). It is not unusual for capital investments to exhibit cyclical patterns as institutions start and finish capital campaigns. Shenandoah University is no different, and capital purchases will continue to fluctuate. Total capital expenditures by the University over the past five years are shown below in Figure 14.

Figure 14. University Construction and Capital Expenditures, FY 2019- FY 2023



The University has invested in several capital projects in recent years and plans to continue to build and renovate facilities through direct investment, partnerships, and donations:

- The Wilkins Athletics & Events Center, completed in 2018, is a 77,000 square foot facility serving the university and local community. The total cost for the center was \$25 million.
- The University is partnering with the City of Winchester to renovate the baseball and softball fields at Jim Barnett Park, a city park. The University plans to invest \$5 million in the renovation for continued use of two fields that are the home fields for the University's baseball and softball teams and will manage the fields on behalf of the city.
- The University received a \$4.5 million grant from the Commonwealth of Virginia to renovate the former National Guard Armory for the HIVE (Hub for Innovators, Veterans and Entrepreneurs), a partnership with the City of Winchester to create a veterans' center, business incubator, job training center, and community gathering space. The total cost of the renovation was \$10 million with the University funding \$5 million. It is anticipated that the HIVE will create 13 new jobs once operational and 239 full-time jobs through related programmatic activities.⁹
- A former motel that had been converted to a residence hall and dining facility was gifted to the University in late 2022 at a value of \$5 million. The Vaden Campus Commons provides residences, a restaurant, and gathering space for increased demand for on-campus living at the school.
- The University has built apartment-style residence halls to expand on-campus living options for upper class students. The Village includes five buildings with a capacity of 120 students.

University spending on capital expenditures creates other economic impacts and benefits, a portion of which benefits the City and County. Using the IMPLAN model, it is estimated that the University's construction projects over the past five years (modeled in 2023 dollars) generated **508 direct jobs with a total economic activity of \$51.3 million, of which over \$19 million is employee compensation. This activity in turn generated 170 jobs from indirect and induced effects, with an economic activity of almost \$34 million.**

In any given year, capital and construction spending will vary. However, an average of the past five years of \$10.3 million (in 2023 dollars) is a reasonable assumption for average annual capital expenditures. This figure was calculated for the purposes of quantifying economic benefit today and may fluctuate as the University plans and implements other capital projects. This level of University spending is estimated to generate a total of approximately 136 jobs and over \$17 million in economic benefit from direct, indirect, and induced impacts locally—an increase from \$12 million in 2016.

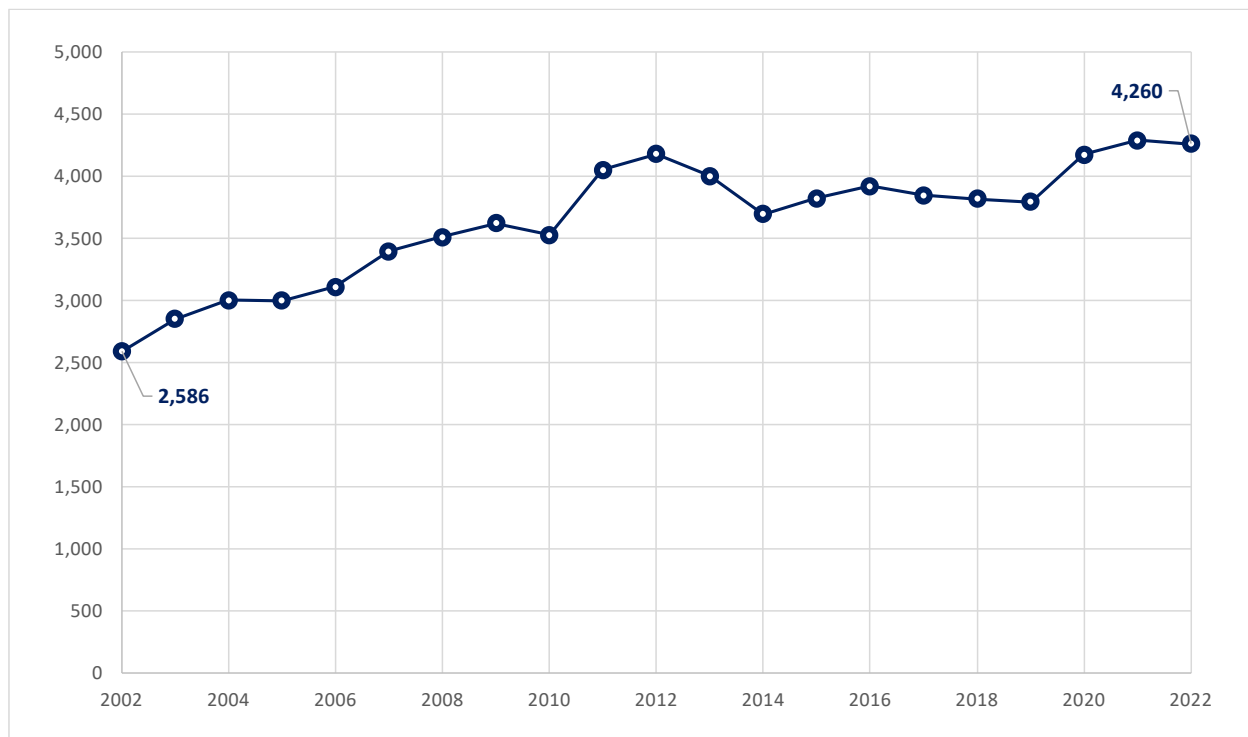
⁹ "The HIVE Receives \$4.5M Grant," *The Winchester Star*, December 28, 2022. (Accessed at this [link](#).)

IMPACT OF STUDENTS AND VISITORS

Students

Shenandoah's enrollment has increased over the years. Enrollment has grown from 2,586 in 2002 to 4,260 in 2022. Figure 15 shows enrollment trends from the past 20 years.

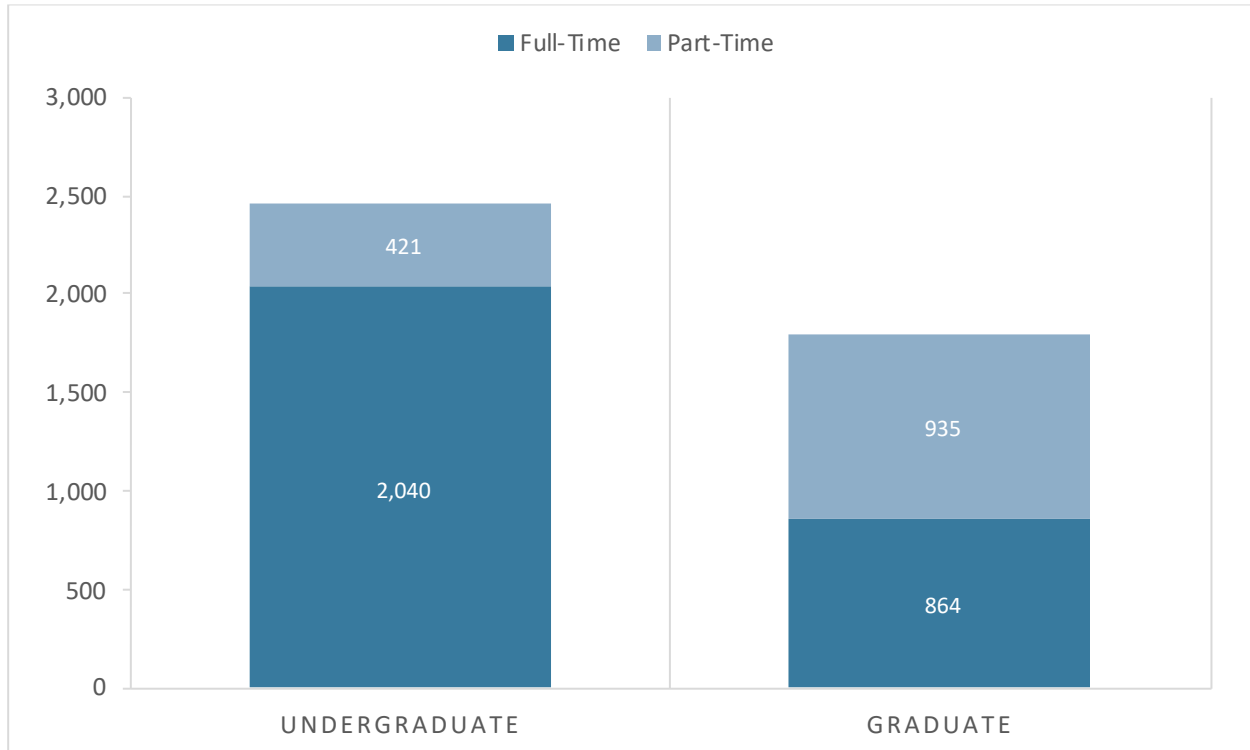
Figure 15. Student Enrollment Trends



Source: Shenandoah University
[See Shenandoah University, Fall Census Summary Report](#)

The University has six schools and two divisions of study. Current enrollment at the University is 4,260, with 2,461 undergraduate students and 1,799 graduate students. The majority of undergraduate students are full-time. Graduate students are split approximately 50 percent part-time and full-time. Figure 16 provides detail on the student body and status.

Figure 16. Current Enrollment by Level and Status, 2022-2023



Source: Shenandoah University

Students at the University spend money that impacts the local economy. To ensure that the analysis is capturing “net new” impacts and not counting economic activity that would otherwise occur in the region even if the University were not there, the University provided anonymous student data by zip code that was analyzed to determine non-local attendees by residence during the school year and status. Using the results from this analysis, local spending was estimated and the IMPLAN model was used to determine economic impact.

Place of permanent residence for the 2022-23 student body is shown in Figure 17. As shown, 90 percent of students are from outside Winchester-Frederick County, a small increase of 2 percent from 2016.

Figure 17. Student Profile, Location of Permanent Residence

	Total	Winchester-Frederick Co.	% Winchester-Frederick Co.	% From Outside Region
Undergraduate	2,461	234	10%	90%
Graduate	1,799	179	10%	90%
Total	4,260	413	10%	90%

Source: Shenandoah University, Fall 2022

In addition, we evaluated location of student residence during the school year, by level. Results are shown in Figure 18.

Figure 18. Student Profile, Location of Residence during School Year

	On-Campus	Off-Campus	Total
Undergraduate	1,131	1,330	2,461
Graduate	42	1,757	1,799
Total	1,173	3,087	4,260

Source: Shenandoah University, Fall 2022

To estimate student spending, non-local, full-time students by place of residence were identified. We assume that all undergraduate on-campus residents have full-time status and are from outside the Winchester-Frederick County region (1,131 students, up from 925 in 2015). The estimate for undergraduate students that live off-campus reflects full-time students from outside the Winchester-Frederick County area (724 students, down from 829 in 2015). The assumption is that undergraduate students with a Winchester-Frederick County zip code likely reside at home and their expenditures in the community would likely occur if the University were not there. See Figure 19.

For graduate students, we also assume that on-campus residents are full-time and are from outside Winchester-Frederick County (42 students, up from 22 in 2015). The estimate for graduate students living off-campus reflects only full-time students but includes all addresses (822 students, down from 1,090 in 2015). The assumption is that a full-time graduate student is likely in the area specifically for the University, as opposed to a part-time student who would likely be in the area anyway. The percentage of

graduate students that may reside at home is likely minimal and would not have a material effect on the economic impact. See Figure 19.

Figure 19. Student Estimates by Status and Location of Residence for Spending Analysis

	Location of Residence		TOTAL
	On-Campus	Off-Campus	
Undergraduate			
Total Undergraduate Students	1,131	1,330	2,461
Less Part-Time Undergraduate		419	
Less Full-Time from Winchester-Fred. Co.		187	
Total Undergraduates	1,131	724	1,855
Graduate			
Total Graduate Students	42	1,757	1,799
Less Part-Time Graduate Students		935	
Total Graduates	42	822	864

Source: Shenandoah University; TischlerBise

Average student spending is from Shenandoah University's "cost of attendance and room and board options." We estimated average spending by type and place of residence—on-campus versus off-campus. Average annual student spending is shown in Figure 20. Expenditures reflect only those purchases outside the University. For example, books and supplies are assumed to be made at the University bookstore and are not included in the average amount.

Figure 20. Annual Student Spending Estimates

	Location of Residence		TOTAL
	On-Campus	Off-Campus	
Undergraduate			
Total Undergraduate Students ¹	1,131	724	1,855
Annual Per Student Spending ²	\$7,600	\$16,600	\$11,113
Total Undergraduate Annual Spending	\$8,595,600	\$12,018,400	\$20,614,000
Graduate			
Total Graduate Students ³	42	822	864
Annual Per Student Spending ²	\$7,600	\$16,600	\$16,163
Total Graduate Annual Spending	\$319,200	\$13,645,200	\$13,964,400
Total Estimated Annual Spending	\$8,914,800	\$25,663,600	\$34,578,400

¹ Assumes all on-campus students are full-time; off-campus reflects full-time, non-local students. (See Figure 19.)

² Spending figures based on Shenandoah University cost of attendance estimates and Room and Board Options.

³ Assumes all on-campus students are full-time; off-campus reflects full-time students. (See Figure 19.)

Source: Shenandoah University; TischlerBise

These expenditures provide additional economic benefit in the City-County region. Using the IMPLAN model, we estimate that annual student spending supports a total of approximately 240 jobs with employee compensation of \$9.2 million and total output of \$50 million.

Visitors

The main source of visitors to Shenandoah University is due to the Shenandoah Conservatory, a premier music, theater, and dance institute. The Conservatory emphasizes performance in its curriculum and offers performances throughout the school year and summer. In FY 2023, \$960,000 in ticket sales occurred, 40 percent of which were made by patrons from outside Winchester-Frederick County.¹⁰ To estimate non-local attendees at *non-ticketed events*, 50 percent of the average tickets per performance was assumed (390 average tickets per performance x 50% x 168 non-ticketed performances = 32,760 estimated attendees). See Figure 21. It is assumed that these patrons may not have visited the community but for the performance at the University. It is spending by this group that contributes to the economic impact of the University.

Figure 21. Conservatory Performances

	Number of Performances	Tickets Distributed ^{1,2}	Average Tickets per Performance	Box Office Revenue
Ticketed	132	51,423	390	\$961,020
Non-Ticketed	168	32,760		
Total	300	84,183		

¹ Shenandoah University; ticketed performances only, FY 2023.

² Non-ticketed performance distribution estimated by TischlerBise based on average tickets per performance and adjusted downward by 50% to reflect the type of event.

To estimate economic impact, we assume that non-local attendees will at a minimum dine out as part of an outing to a Conservatory performance. While some visitors might stay overnight, the percentage from outside driving distance is minimal. Therefore, we are somewhat conservative in our estimates and assume only spending on dining and incidentals per person. We assume an average expenditure of \$60 per person for dining and incidentals, which is an inflation-adjusted figure from the previous study. This figure is applied to the number of tickets from outside Winchester-Frederick County to arrive at \$2 million per year. This calculation is shown in Figure 22. In addition, it is possible that attendees from Winchester-Frederick County may take the opportunity to dine out on an evening of a Conservatory performance. However, the analysis does not assume this additional spending.

¹⁰ Performances and gatherings were affected by the Covid-19 pandemic with a return in 2022-23 to pre-pandemic activity.

Figure 22. Estimated Visitor Spending from Conservatory Performances

	Total	Winchester/Frederick County Patrons	Non-Local	Unknown
Tickets Distributed ¹	51,423	17,447	21,183	12,793
%	100%	34%	41%	25%
Non-Ticketed Events (Estd) ²	32,760		13,495	
Total Visitors			34,678	
Estimated Visitors	34,678			
Avg. Est. Local Spending per Person ³	\$60			
Total Estimated Spending	\$2,080,682			

¹ Shenandoah University; ticketed performances only, FY23

² TischlerBise estimate; see Figure 20.

³ Average cost per person for meals and incidentals assumed to occur locally.

The University also hosts approximately 120 athletic events each year, drawing attendees to the campus. Over 23,000 tickets were sold in 2022-23 with ticket sales of over \$105,000. It is estimated that average per person spending locally is approximately \$20 for food, incidentals, and gas. This too generates additional economic impacts in the community.

Figure 23. Estimated Visitor Spending from Athletic Events

	Athletic Events
Number of Tickets Sold ¹	23,386
Ticket Revenue Generated ¹	\$105,132
Avg. Est. Local Spending per Person ²	\$20
Total Estimated Spending	\$467,720

¹ Shenandoah University; FY23.

² Average spending assumed to occur locally.

This spending contributes to economic impacts in the region. Using the IMPLAN model, we estimate that the above spending by visitors to the University results in a total of 42 full-time equivalent jobs and a total output of over \$4.7 million.

SUMMARY OF ECONOMIC IMPACT

All of these direct, indirect, and induced impacts combined provide a bottom line economic impact of Shenandoah University. University spending by employees and the University itself leads to approximately 1,232 jobs with an economic benefit of \$104 million. Student and visitor spending generates a total economic benefit of \$54 million and 279 jobs. Combined, the economic impact of the University is estimated at approximately \$157 million with 1,512 jobs supported by the presence of the University. Figure 24 provides further detail.

Figure 24. Summary of Total Economic Impact

	2023	
	Economic Benefit (\$)	Employment (Jobs)
UNIVERSITY EMPLOYEES		
Direct Impact from University Employment	\$65,112,000	966
Indirect and Induced Impact from Spending by Local Univ. Employees	\$7,510,330	45
UNIVERSITY SPENDING		
Direct Impact from Local Purchase of Goods, Services & Spending on Capital Improvements ¹	\$18,885,548	159
Indirect and Induced Impact from Local Spending by Vendors/Contractors	\$12,003,070	62
Subtotal University Spending Impacts	\$103,510,949	1,232
STUDENT SPENDING		
Direct Impact from Student Spending	\$34,578,400	148
Indirect and Induced Impact from Student Spending	\$14,837,543	89
VISITOR SPENDING		
Direct Impact from Visitor Spending	\$2,661,322	32
Indirect and Induced Impact from Visitor Spending	\$1,735,950	10
Subtotal Student and Visitor Impacts	\$53,813,216	279
GRAND TOTAL IMPACTS	\$157,324,165	1,512

¹ Annual impacts

FISCAL IMPACTS

Shenandoah University is a tax-exempt institution. It does not pay taxes on property it owns on the main campus. However, it does pay rent to private landlords, who do pay taxes in some cases.

The direct impacts both from the University's purchases and employee purchasing create the demand for other industries and jobs, which generate tax revenue to the City and County, through property and sales tax.

While it is true that the presence of students and visitors as well as employees at the University produce costs to the City (and County for some services), the nature of Shenandoah University is such that the typical costs experienced by University towns—such as police and fire services—are not experienced to the level at Shenandoah as they are at other colleges. The focus on professional education and the high percentage of graduate students decreases the occurrences of typical “college town” issues.

QUALITATIVE BENEFITS & HUMAN CAPITAL

Universities are essential elements of economic development in a community. Not only are they major employers, but they also provide an opportunity to develop human capital. The development of human capital—skills, experience, and knowledge that are then used productively to create economic value—is particularly important in the 21st century economy where advanced degrees and ongoing professional and executive education are becoming essential in advancing one’s career.

Shenandoah University contributes in the above ways through its more than 90 programs in its six schools and two divisions as well as in its community programs such as the Shenandoah Conservatory Arts Academy, offering professional instruction in fine arts in private and group lessons and the “Center for Lifelong Learning,” providing continuing education for students of all ages.

The programs offered at the University support the development of what has been labeled the “creative class.”¹¹ In particular, one segment of the creative class is knowledge-based workers, which include the healthcare, business and finance, and education fields. These professions require higher education degrees. In addition, those in the performing arts—cultivated in Winchester through the Shenandoah Conservatory—are included in the creative class not only for the creation of new content but by contributing to “quality of place,” which is another element increasingly being identified as essential for a successful regional economy to attract and retain businesses and workers.

¹¹ The term, “Creative Class,” was coined by Richard Florida in his 2003 book, *The Rise of the Creative Class*, and subsequently explored in other works including *Cities and the Creative Class* (2004), and *The Flight of the Creative Class* (2007).

APPENDIX

IMPLAN Definitions

This section provides definitions for IMPLAN modeling terms, as provided by IMPLAN Corporation.

Direct Effect

The set of expenditures applied to the predictive model (i.e., I/O multipliers) for impact analysis. It is a series (or single) of production changes or expenditures made by producers/consumers as a result of an activity or policy. These initial changes are determined by an analyst to be a result of this activity or policy. Applying these initial changes to the multipliers in an IMPLAN model will then display how the region will respond, economically to these initial changes.

Indirect Effect

The impact of local industries buying goods and services from other local industries. The cycle of spending works its way backward through the supply chain until all money leaks from the local economy, either through imports or by payments to value added. The impacts are calculated by applying Direct Effects to the Type I Multipliers.

Induced Effect

The response by an economy to an initial change (direct effect) that occurs through re-spending of income received by a component of value added. IMPLAN's default multiplier recognizes that labor income (employee compensation and proprietor income components of value added) is not a leakage to the regional economy. This money is recirculated through the household spending patterns causing further local economic activity.

Input- Output (I/O) Analysis

A type of applied economic analysis that tracks the interdependence among various producing and consuming sectors of an economy. More particularly, it measures the relationship between a given set of demands for final goods and services and the inputs required to satisfy those demands. (Bureau of Economic Analysis)

Labor Income

All forms of employment income, including Employee Compensation (wages and benefits) and Proprietor Income.

Output

Output represents the value of industry production. In IMPLAN these are annual production estimates for the year of the data set and are in producer prices. For manufacturers this would be sales plus/minus change in inventory. For service sectors production = sales. For Retail and wholesale trade, output = gross margin and not gross sales.

Value Added

The difference between an industry's or an establishment's total output and the cost of its intermediate inputs. It equals gross output (sales or receipts and other operating income, plus inventory change) minus intermediate inputs (consumption of goods and services purchased from other industries or imported). Value added consists of compensation of employees, taxes on production and imports less subsidies (formerly indirect business taxes and nontax payments), and gross operating surplus (formerly "other value added"). (BEA); Gross value added is the value of output less the value of intermediate consumption; it is a measure of the contribution to GDP made by an individual producer, industry or sector; gross value added is the source from which the primary incomes of the SNA are generated and is therefore carried forward into the primary distribution of income account. (SNA)