

Pennsylvania's  
**STATE SYSTEM**  
of Higher Education



# Pennsylvania's State System of Higher Education

**ECONOMIC AND EMPLOYMENT IMPACT STUDY ON THE COMMONWEALTH OF PENNSYLVANIA**

June 30, 2021

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## Introduction

Pennsylvania's State System of Higher Education ("State System") contracted with Baker Tilly US, LLP ("Baker Tilly") to update its 2015 economic and employment impact study of the State System and its universities on the Commonwealth of Pennsylvania ("Commonwealth"). In addition to estimating the current economic impact of the State System, this study evaluates the projected impact of the System Redesign at several key intervals.

## Pennsylvania's State System of Higher Education

Pennsylvania's State System of Higher Education (the State System) was established on July 1, 1983, comprising of 14 universities. The mission of the System is as relevant today as it was at its founding: to increase educational attainment in the Commonwealth; to prepare students at the undergraduate and graduate levels for professional and personal success in their lives; and to contribute to the economic, social, and cultural development of Pennsylvania's communities, the Commonwealth, and the nation.

The universities combine to enroll the largest number of Pennsylvania residents among all four-year colleges and universities in the Commonwealth. With more than 93,000 degree-seeking students and thousands more enrolled in certificate and other career-development programs, the State System is a vital contributor to the Pennsylvania economy. Collectively, the State System universities offer more than 2,300 degree and certificate programs in more than 530 academic areas. The universities have nearly 800,000 living alumni, the vast majority of whom reside in Pennsylvania.

The State System is currently redesigning itself to ensure the long-term sustainability of all 14 universities so that each may continue to serve students, its region and the Commonwealth.



## SYSTEM REDESIGN AND SUSTAINABILITY

In March 2017, the National Center for Higher Education Management Systems (NCHEMS) was selected as the consulting firm to assist the Board of Governors with a Strategic System Review of the 14 universities and the Office of the Chancellor (the “System Redesign”). On July 21, 2017, NCHEMS released the results of the report, which made various recommendations to increase efficiency throughout the System. The recommendations included modernizing the governance structure, leveraging System-wide and regional resources to deliver programming, and sharing administrative functions more efficiently. These recommendations were received by the Board of Governors.

In 2018, the System moved from “review” to “redesign” mode, which consists of three phases; Phase 1 was to establish strategic priorities and address immediate needs; Phase 2 was to define the visions and develop detailed implementation plans; and Phase 3 was to execute plans with continual review for improvement. The Board of Governors affirmed its commitment to the long-term stability of all 14 Universities in the System so that each may continue to serve students, its region, and the Commonwealth. A successful redesign will have a positive impact on students, promoting both affordability and long-term sustainability of the System. The System completed Phase 1 and in September 2018, the System launched Phase 2 of the redesign to develop a vision for the transformed System, including detailed implementation plans.

System Redesign is guided by three strategic priorities approved by the Board of Governors in January 2019: (1) ensuring student success, (2) leveraging University strengths, and (3) transforming the governance/leadership structure. Small, tactical groups were utilized to support each of the three strategic priorities. As part of System Redesign efforts, a variety of options were analyzed to determine the best path forward for the System for meeting its statutory objective of offering high quality affordable education and also achieving financial sustainability.

In October 2019, the Board of Governors continued its commitment to System Redesign through the passage of the “University Financial Sustainability Policy”. This policy put in place processes and procedures to further improve the financial transparency and sustainability of Universities. Universities began sustainability planning in 2020 and are currently working on their financial sustainability plans to be completed by June 30, 2022.

## INTEGRATIONS

In ongoing consideration of the acute challenges confronted by the State System and in accordance with Act 50, the Board of Governors (the BOG or the Board) directed the Chancellor in July 2020 to conduct a review of the System’s financial stability and develop a report and recommendations for potential policies and procedures by which the State System may continue fulfilling its historic mission and bolster institutional financial sustainability. Signed into law in July 2020, Act 50 allows for the Board of Governors to develop policies and procedures by which it may create, expand, consolidate, transfer, or affiliate an institution, with some exceptions.

Within the State System, the potential targeted institutions identified, implemented, and explored initiatives including the following:

### Pricing Strategy

Targeted pricing models and/or financial aid optimization strategies to increase net tuition revenue

### Physical Footprint Reduction

Identified physical assets no longer required for the combined institutions’ educational delivery

### Program Array Alignment

Focused set of program offerings in-line with combined institutional mission and the students it serves

### Student Success Improvements

Increased focus on retention and graduation rates to support student success outcomes

### Operational Alignment

Identified set of administrative and non-student facing functions for potential future consolidation

### Revenue Generation

Continued expansion of local partnerships, including rental income, parking, etc.

### Instructional Modalities

Redesigned educational delivery mechanisms (e.g., online) to improve access and affordability

### Workforce Alignment

Tailored workforce to new program array and changing administrative and operational needs

From this analysis, the Board of Governors recommended the integration of six institutions to form two new entities. Of all trajectories evaluated by the Board of Governors, this approach provides the best path to financially sustainable operations, and ensures the system can continue to provide an affordable, high-quality education at each of the System’s universities.

## Integrations

These university integrations are a bold and innovative response to demographic, funding, and other challenges confronting higher education nationally and which are particularly acute in the Commonwealth of Pennsylvania.

Ultimately, it was decided to integrate the California, Clarion and Edinboro universities in the west and Bloomsburg, Lock Haven and Mansfield universities in the northeast.

### POTENTIAL BENEFITS OF INTEGRATION

#### Increased Retention and Graduation Rates

Promote student success, enhance brand, capture lost tuition revenue

#### Stronger Operating Margin, Primary Reserve Ratios and Overall Debt Reduction

Strengthen financial viability, enhance competitive tuition pricing, reinvest in academic programming and financial aid

#### Improve Access, Affordability and Enhance Academic Opportunities

Strengthen academic program options available to students across the region, become more competitive and attractive to prospective students and promote the mission of providing access to quality higher education opportunities

### INTEGRATION GOALS

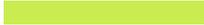
1. Emphasize student success
2. Recapture affordability advantage
3. Re-think/enhance student supports and services, use of high-impact practices, career services, etc.
4. Establish robust program pathways among universities, schools and community colleges
5. Strengthen connections to workforce with pathways, experiential learning, career services, adult learning and post-traditional learning
6. Establish a path to growth

## Economic impact of the Pennsylvania's State System of Higher Education

The intention of this report is to measure three areas. First, the economic impact of the 14 universities and the related entities of the State System on the Commonwealth during 2019-2020, the most recent completed fiscal year. Second, the report presents the projected economic impact of the State System on the Commonwealth in 2022-2023 fiscal year – after sustainability measures are fully implemented. Finally, the report also presents the projected economic impact of the two integrated universities on the Commonwealth in 2025-2026 fiscal year – after the integration measures are fully implemented.

This report applies the **same methodology** utilized in the prior study to estimate (1) the 2019-2020 economic impact of the State System, (2) the projected economic impact of the State system during fiscal year 2022-2023, and (3) the projected economic impact of the two integrated universities in 2025-2026. The economic impact during 2019-2020 relies on audited financial data for the 2019-2020 fiscal year. Budgeting and operations projections provided by the State System to Baker Tilly were utilized to estimate the economic impacts in future periods.

The State System receives funding from various sources such as: state appropriations, revenues from tuition and fees, federal and research grants, private donations and revenues provided by services that each university offers. From this funding, an impact, attributable to the purchasing of goods and services during the fiscal year 2019-2020, can be determined. In aggregate, the universities within the State System expend and consume billions of dollars during operations each year which greatly impact the counties in which each campus is located. Additionally, the impact resulting from the expenditures made by the State System's faculty and staff, and students can be measured.



## Methodology applied to the State System economic impact study

The total economic impact supported by the State System includes the direct as well as “spin-off” spending. The State System’s direct institutional spending, faculty/staff spending, student spending, and capital expenditures ripple through the Commonwealth’s economy and support additional economic activity in the form of indirect and induced spending impacts. Indirect impacts reflect economic activity resulting from the business-to-business expenditures initiated by the direct spending. Induced impacts refer to the consumer-to-business expenditures initiated by workers that spend a portion of their earnings on goods and services in the economy.

Common to many economic impact studies, the basis of methodology was rooted in the utilization of multipliers which were then applied to produce total impact numbers for each campus. This particular methodology was selected and utilized because it is considered by numerous economists to provide highly accurate and valid results.<sup>2</sup> The multipliers used were formulated from the Regional Input-Output Modeling System (“RIMS II”) of the Bureau of Economic Analysis (“BEA”).

The BEA established a method of estimating regional multipliers (RIMS II) which is a valuable tool for estimating the total economic impact of a project, or in this case, institution, on a region. This Input-Output Modeling System provides multipliers that are intended to capture the total economic impact – inclusive of the direct, indirect, and induced effects – on the defined region. Specific to this study, the multiplier is used to calculate direct, indirect, and induced economic impacts and employment impacts of each institution, as well as the impacts of faculty and staff, student, and capital expenditures. The analysis is focused on the counties in which a State System university has a presence, whether that is a main campus or satellite, and on an overall state-level.

RIMS II multipliers are updated on an annual basis and this study utilizes the most recent RIMS II multipliers available. The current multipliers incorporate the latest industry-to-industry spending patterns and latest information about the Commonwealth’s economy. These current RIMS II multipliers differ in magnitude from the vintage of RIMS II multipliers that were available for, and used in, the 2015 study. As detailed in **Appendix B**, the current multipliers specify that the total economic impact supported by the State System’s spending is less than the amount specified by the multipliers available for the prior study. This is to say, with no change in the direct spending by the State System, the total economic impact generated in the Commonwealth’s economy using the current multipliers will be less than the impact determined using the prior study’s multipliers.

<sup>2</sup> Similar economic studies include visitor spending, alumni spending, and activities associated with athletics, affiliates, student governments and other 501-C3 organizations as a factor of the total economic impact. These were excluded from the State System’s analysis based on Baker Tilly’s discretion.

## Executive summary

### ECONOMIC IMPACT OF PENNSYLVANIA'S STATE SYSTEM OF HIGHER EDUCATION DURING 2019-2020 FISCAL YEAR

- The total economic impact of the State System on the Commonwealth during the 2019-2020 fiscal year was **\$4.0 billion**.
  - The total economic impact of the State System of \$4.0 billion includes the impact of (1) institutional spending, (2) faculty/staff spending, (3) student spending, and (4) capital expenditures. Excluding the impact from capital expenditures, the economic impact of the State System is \$3.75 billion.
- Approximately **49,237 jobs** were supported by Pennsylvania's State System of Higher Education during the 2019-2020 fiscal year.
- The State System received a total of \$477.5 million in state appropriations during the 2019-2020 fiscal year. Each dollar invested by the Commonwealth to one of the universities produced an **average return of \$8.30** in economic impact.

### COMPARISON OF ECONOMIC IMPACT FROM 2013-2014 FISCAL YEAR TO 2019-2020 FISCAL YEAR

- The economic impact of the State System on the Commonwealth during 2019-2020 has decreased slightly (by 9.5 percent) compared with the economic impact for the 2013-2014 fiscal year calculated in a previous study.
- Although the total economic impact decreased by 9.5 percent from 2013-2014 to 2019-2020, the direct spending, from which the total impact is derived, increased over the period by 2.9 percent.
- As detailed in **Appendix B**, the relevant multipliers applied to the direct spending in the current analysis are lower than the multipliers utilized in the 2015 study. Therefore, even with identical direct spending (or higher in the present case), the overall economic impact will be lower. The changes in the economy and inter-industry spending patterns as reflected by the multipliers account for the differences in economic impact.
- As noted, the direct spending – inclusive of all four spending categories – increased by 2.9 percent over the period. Direct student spending, however, decreased by 6.7 percent. More than half of the decrease in the total economic impact by dollar amount can be attributed to the student spending impact decreasing by \$234 million. The decrease in student spending impact follows directly from a 14.7 percent decrease in total enrollment over the same period.
- Ultimately, despite the State System's enrollment decreasing by 14.7 percent, the economic impact only decreased by 9.5 percent.
- The difference between the multipliers used in the 2015 and the current multipliers used for this analysis also explain changes in total estimated employment.
- The relevant RIMS II employment multiplier decreased by 25 percent between the two periods. Although the spending from which this employment estimate is derived increased by 5.8 percent, it was not enough to overcome the reduction in the employment multiplier. Therefore, the Total Jobs Supported in the 2019-2020 fiscal year shows a decrease of 12,616 jobs or 20.4 percent from 2013-2014 fiscal year. If the RIMS II employment multiplier would have remained constant during this time, the Total Jobs Supported would have shown an increase of 5.8 percent.

## STUDENT ENROLLMENT TREND

- Total fall enrollment, inclusive of undergraduate and graduate students, across all 14 universities grew from 107,251 in 2005 to a peak of 119,513 in 2010. **Since 2010, total enrollment has fallen every single year to just 93,708 in 2020** – a 22 percent decrease from 2010.
- At least part of the reason for a decrease in enrollment can be attributed to overall demographic trends in Pennsylvania. Population estimates from the American Community Survey (ACS) from the U.S. Census Bureau indicate that the **Pennsylvania population age 15 to 24 decreased from 1.78 million in 2010 to 1.60 million in 2019** – a 10.3 percent decrease over the period.
- State System employment has decreased over recent years but has not followed the decrease seen in enrollment. Employment decreased by 13.4 percent from 2010 through 2020 while enrollment decreased by 22 percent over this period.

## ECONOMIC IMPACT OF PENNSYLVANIA'S STATE SYSTEM OF HIGHER EDUCATION DURING 2022-2023 FISCAL YEAR - FOLLOWING SUSTAINABILITY MANDATE

- The projected economic impact of Pennsylvania State System of Higher Education on the Commonwealth of Pennsylvania during 2022-2023 fiscal year is **\$3.8 billion**.
  - The impact for the 2022-2023 fiscal year includes the impact of (1) institutional spending, (2) faculty/staff spending, and (3) student spending. Estimates for capital expenditures are not available and, therefore, the impact from capital expenditures is not included in the 2022-2023 fiscal year impact.
- The projected economic impact of Pennsylvania State System of Higher Education on the Commonwealth of Pennsylvania during 2022-2023 is expected to increase by 2 percent compared to the 2019-2020 fiscal year impact.
- The total economic impact of Institutional Spending is projected to **increase by 7.6 percent** over the period while the economic impact of Faculty/Staff Spending and Student Spending categories are expected to decrease by 2.8 percent and 1.4 percent, respectively.
- Approximately **45,940 total jobs** are projected to be supported by Pennsylvania's State System of Higher Education during the 2022-2023 fiscal year.

## ECONOMIC IMPACT OF NORTHEAST INTEGRATION

- The total economic impact of the Northeast Integrated University is projected to be \$573.5 million during fiscal year 2025-2026. This represents a **1.9 percent increase** over the combined three-university impact projected in fiscal year 2022-2023.
- The change in economic impact by spending category from the 2022-2023 fiscal year to the 2025-2026 fiscal year is as follows:
  - Institutional Spending Impact: 0.2 percent increase
  - Faculty/Staff Spending Impact: 3.5 percent increase
  - Student Spending Impact: 3.4 percent increase
- The total model derived jobs supported by the Northeast University is projected to decrease by 250 jobs or 3.6 percent from the 2022-2023 fiscal year to the 2025-2026 fiscal year.

## ECONOMIC IMPACT OF WESTERN INTEGRATION

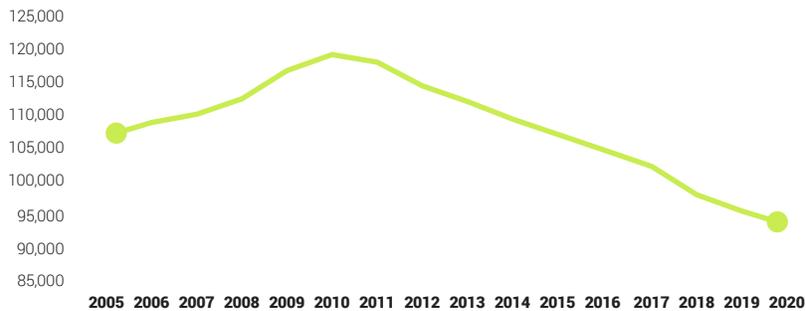
- The total economic impact of the Western Integrated University is projected to be **\$758.6 million** during fiscal year 2025-2026. This represents an **8.1 percent increase** over the combined three-university impact projected in fiscal year 2022-2023.
- The change in economic impact by spending category from the 2022-2023 fiscal year to the 2025-2026 fiscal year for the West University is as follows:
  - Institutional Spending Impact: 8.9 percent increase
  - Faculty/Staff Spending Impact: 5.4 percent increase
  - Student Spending Impact: 9.2 percent increase
- The total model derived jobs supported by the West University is projected to **increase by 194 jobs** or 2.3 percent from the 2022-2023 fiscal year to the 2025-2026 fiscal year.

## Enrollment, employment, and population trends

**In many ways, the proposed System Redesign is the State System's reaction to long-term trends in population and enrollment that have not been addressed sufficiently over the last several years.**

Total fall enrollment, inclusive of undergraduate and graduate students, at the 14 universities grew from 107,251 in 2005 to a peak of 119,513 in 2010. Since 2010, total enrollment has fallen every single year to just 93,708 in 2020. Chart 1 illustrates the rise and fall of total fall enrollment headcount. Fall enrollment in 2020 is only 78 percent of the peak enrollment in Fall 2010 – a 22 percent decrease.

Chart 1: Fall enrollment headcount 2005-2020



The decrease in total State System enrollment is observed broadly across almost all of the individual State System's universities. From the peak total enrollment in 2010 to 2020, 12 of the 14 universities report lower enrollment. Chart 2 presents the enrollment change for each university from the State System's peak enrollment in 2010 through 2020, indexed on each university's respective 2010 enrollment.

West Chester University's indexed change is 1.22 indicating that enrollment at West Chester University is 22 percent higher in 2020 compared to 2010. The enrollment at Slippery Rock University has remained constant over this period while every other university has seen an enrollment decrease. As noted earlier, the total system-wide enrollment indexed change is 0.78 – a 22 percent decrease in enrollment over the period. Enrollment at nine of the 14 universities fell by more than 22 percent as illustrated by the indexed change being less than 0.78 in the chart below.

Chart 2: Indexed enrollment change from 2010 to 2020 for all 14 universities

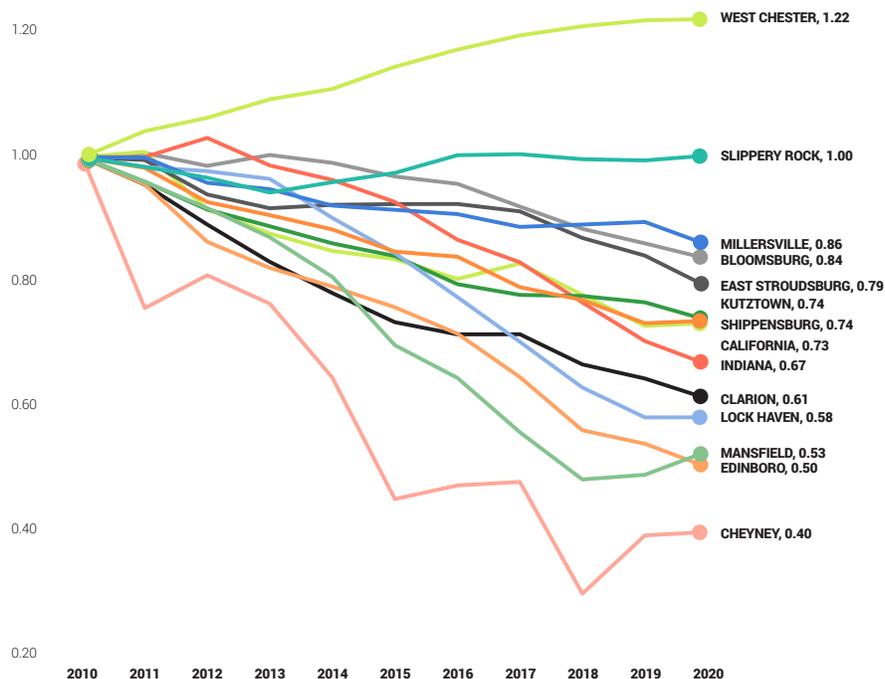


Chart 3 isolates the enrollment trend among the Northeast cohort including Bloomsburg University, Lock Haven University, and Mansfield University. The total system-wide indexed enrollment change is 0.78. While Bloomsburg University's enrollment did not decrease as much as the total enrollment system-wide, Lock Haven University and Mansfield University enrollment are only 58 and 53 percent of their respective 2010 enrollment.

Chart 3: Indexed enrollment change from 2010 to 2020 for Northeast

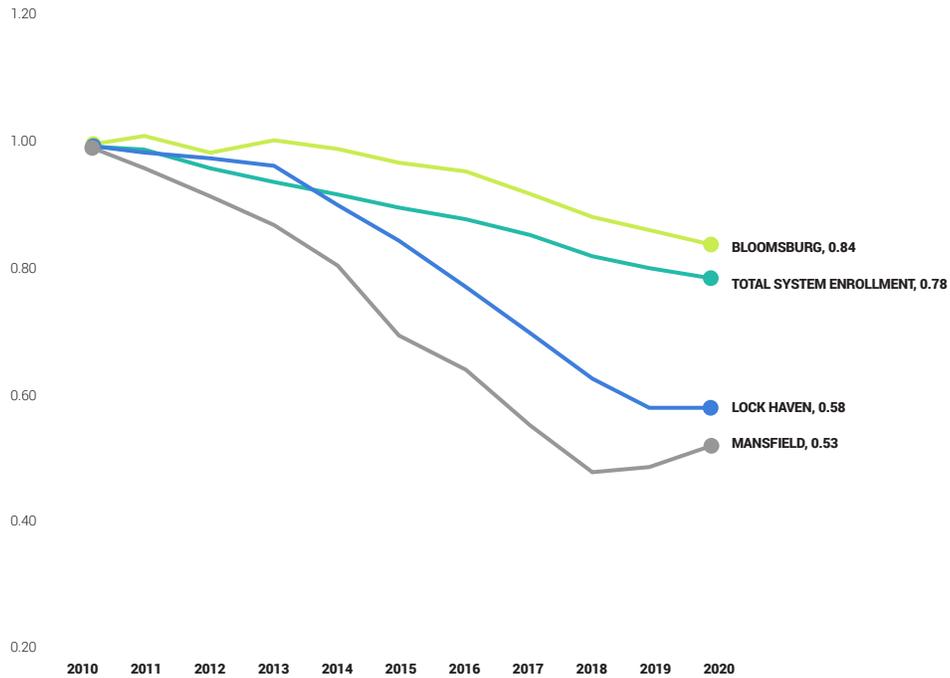


Chart 4: Indexed enrollment change from 2010 to 2020 for West

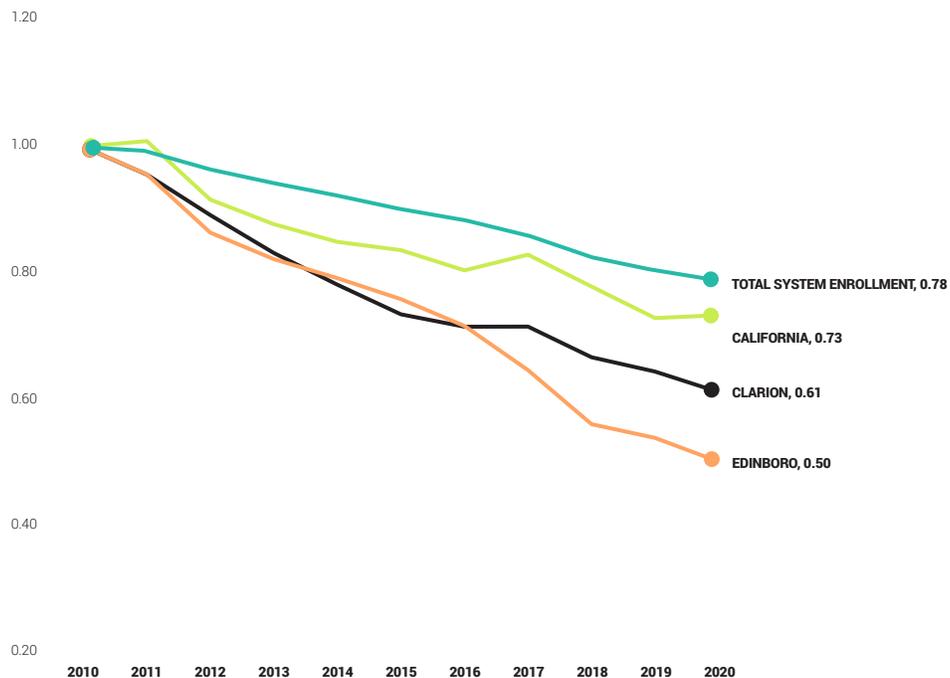
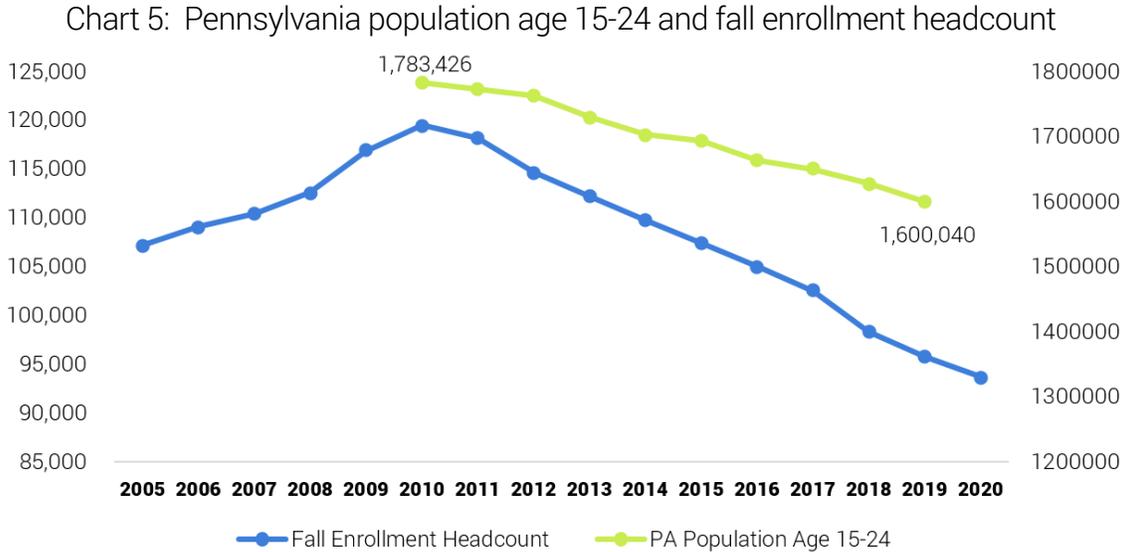


Chart 4 isolates the enrollment trend among the West cohort including California University of Pennsylvania, Clarion University, and Edinboro University. The enrollment decreases at each of these universities exceeded the enrollment decrease observed in total system-wide enrollment.

## PENNSYLVANIA DEMOGRAPHIC CHANGES

At least part of the reason for a decrease in enrollment can be attributed to overall demographic trends in Pennsylvania. Population estimates from the American Community Survey (ACS) from the U.S. Census Bureau indicate that the Pennsylvania population age 15 to 24 decreased from 1.78 million in 2010 to 1.60 million in 2019 – a 10.3 percent decrease over the period.

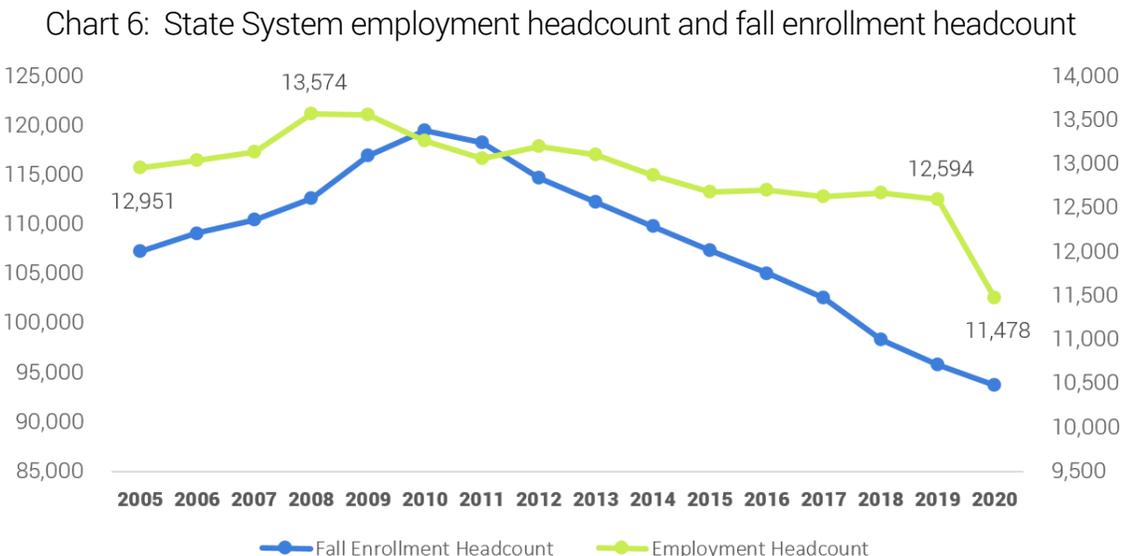
Chart 5 adds the relevant Pennsylvania population data (right axis) for the available years to the fall enrollment headcount (left axis) graph.



## STATE SYSTEM EMPLOYMENT CHANGES

State System employment has decreased over recent years but has not followed the decrease seen in enrollment. In 2005, the State System’s total employment headcount was 12,951 before increasing to a recent peak of 13,574 in 2008. From 2008 to 2019 employment fell by approximately 7 percent to 12,594. In 2020, primarily due to retirements, temporary faculty reductions and the temporary effects of COVID-19 pandemic, the 2020 employment headcount was 11,478. Through October of 2020, 1,355 employees were either separated or retired from the previous year. Of this total, 895 individuals were faculty including 195 permanent faculty and 700 temporary faculty which also included 126 faculty retirements.

Chart 6 adds the employment headcount (right axis) to the fall enrollment headcount (left axis) graph. The enrollment and employment lines in this graph generally move in the same direction. Notice, however, that beginning around 2012, the enrollment decreases at a faster pace than the employment.

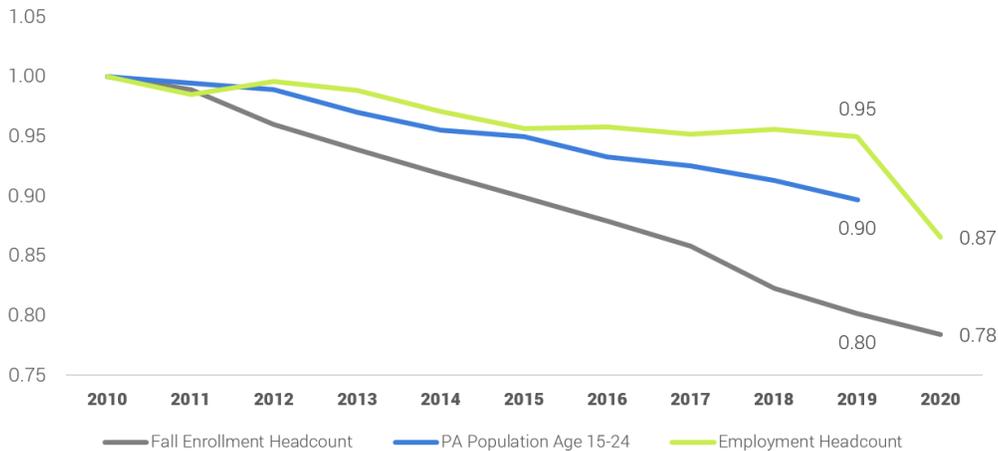


## INDEXED CHANGE IN ENROLLMENT, POPULATION, AND EMPLOYMENT

Again, focusing on the peak enrollment in 2010, the next chart compares the indexed change in enrollment, population, and employment so that all trends can be seen in one graphic without the use of different axes. As noted earlier, the indexed change in enrollment from 2010 to 2020 is 0.78 – meaning enrollment is 22 percent lower in 2020 compared to 2010. The indexed change in employment is 0.87 indicating a 13 percent decrease from 2010 to 2020. Accordingly, employment has not decreased in proportion to enrollment.

Population data is only available through 2019. As shown in Chart 7, the Pennsylvania population age 15-24 in 2019 is 0.90 of the 2010 population – meaning a 10 percent decrease in population over the period. Over the same 2010 to 2019 time period, enrollment is 0.80 (a 20 percent decrease) and employment is 0.95 (a 5 percent decrease).

Chart 7: Indexed change in enrollment, population, and employment

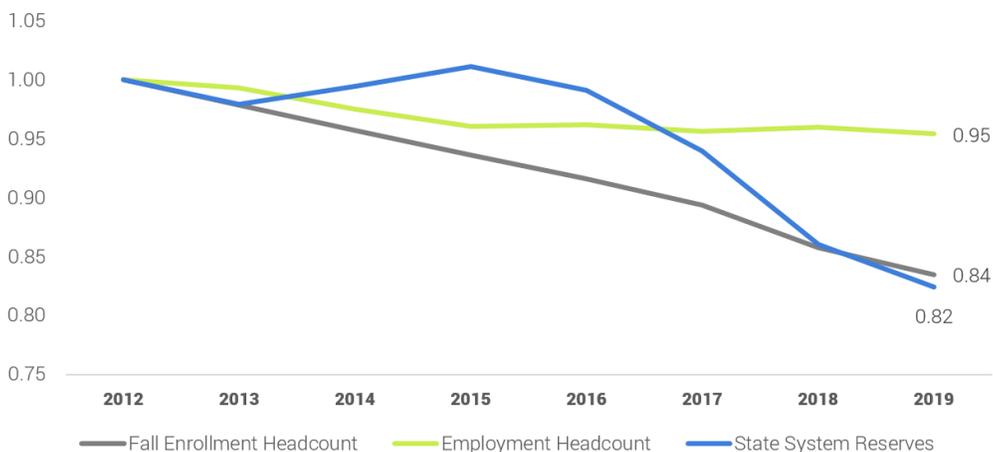


## INDEXED CHANGE IN ENROLLMENT, EMPLOYMENT, AND STATE SYSTEM FINANCIAL RESERVES

As noted above, enrollment and employment trends begin to diverge in 2012 – with enrollment decreasing faster than employment. Understanding that State System revenue and State System expenses are driven, in part, by enrollment, the State System’s financial reserves were evaluated from the 2012-2013 fiscal year through 2019-2020 fiscal year<sup>3</sup>. Ultimately, as the enrollment and employment trend lines diverge beginning in 2012, the State System’s financial reserves decrease as well.

Chart 8 illustrates the indexed change in enrollment, employment and state system financial reserves. Over the period from 2012 to 2019, enrollment has decreased considerably more than employment. The indexed change in enrollment from 2012 to 2019 is 0.84 – meaning enrollment is 16 percent lower in 2019 compared to 2012. The indexed change in employment is 0.95 indicating a 5 percent decrease from 2012 to 2019. As one would expect, State System financial reserves have decreased considerably over the time as well. The indexed change in State system financial reserves employment is 0.82 indicating an 18 percent decrease in reserves from 2012-2013 fiscal year through 2019-2020 fiscal.

Chart 8: Indexed change in enrollment, employment, and State System reserves



<sup>3</sup>Fall 2012 enrollment aligns with the 2012-2013 fiscal year and Fall 2019 enrollment aligns with the 2019-2020 fiscal year.

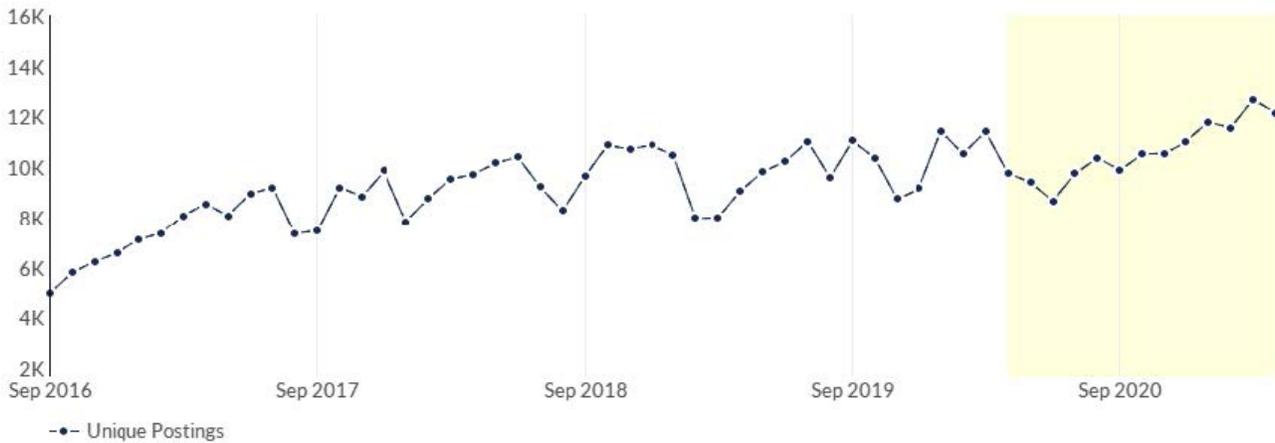
## Pennsylvania employment in the education industry

### AVAILABILITY AND JOB POSTINGS

From April 2020 to April 2021, there were a reported 43,196 unique job postings in the Colleges, Universities, and Professional Schools industry (NAICS 611310). These postings had a median duration of 44 days. The median advertised salary for these postings was approximately \$57,000.

During this period, the number of unique job postings has increased, demonstrating that there is an increasing need to find industry qualified staffing. Over 70 percent of the posted positions require educational attainment of a Bachelor's degree or greater.

Chart 9: Reported job postings in NAICS 611310 - Colleges, Universities, and Professional Schools



### UNEMPLOYMENT

From April 2019 to April 2021, the change in unemployment for those with higher education (Bachelor's degree or higher) was significantly less than those with less education. This potentially demonstrates that the COVID-19 pandemic and other factors have not significantly affected the ability for those with a higher education to find employment when compared to other educational levels.

Month	Less than a high school diploma	High school graduates, no college	Some college or associate degree	Bachelor's degree or higher
Apr-19	5.3	3.5	3.1	2.1
Apr-20	21.0	17.3	15.0	8.4
Apr-21	9.3	6.9	5.8	3.5
Change 2019-2020	15.7	13.8	11.9	6.3
Change 2020-2021	-11.7	-10.4	-9.2	-4.9
<b>Overall Change</b>	<b>4.0</b>	<b>3.4</b>	<b>2.7</b>	<b>1.4</b>

The median duration of unemployment for occupations in the Education industry in 2020 was 8.9 weeks, which was less than the total median duration of 9.7 weeks. Of the total 12,947 reported unemployed persons, only 2,004 were in the Education and Health Services industry. Four of the top 25 employers in the state and more than 322,000 employed persons are in the Education industry. These factors demonstrate the Education industry can easily support any separations or staffing changes that have occurred within the State System and other industry employers.

# Economic impact of Pennsylvania's State System of Higher Education on the Commonwealth of Pennsylvania during 2019-2020

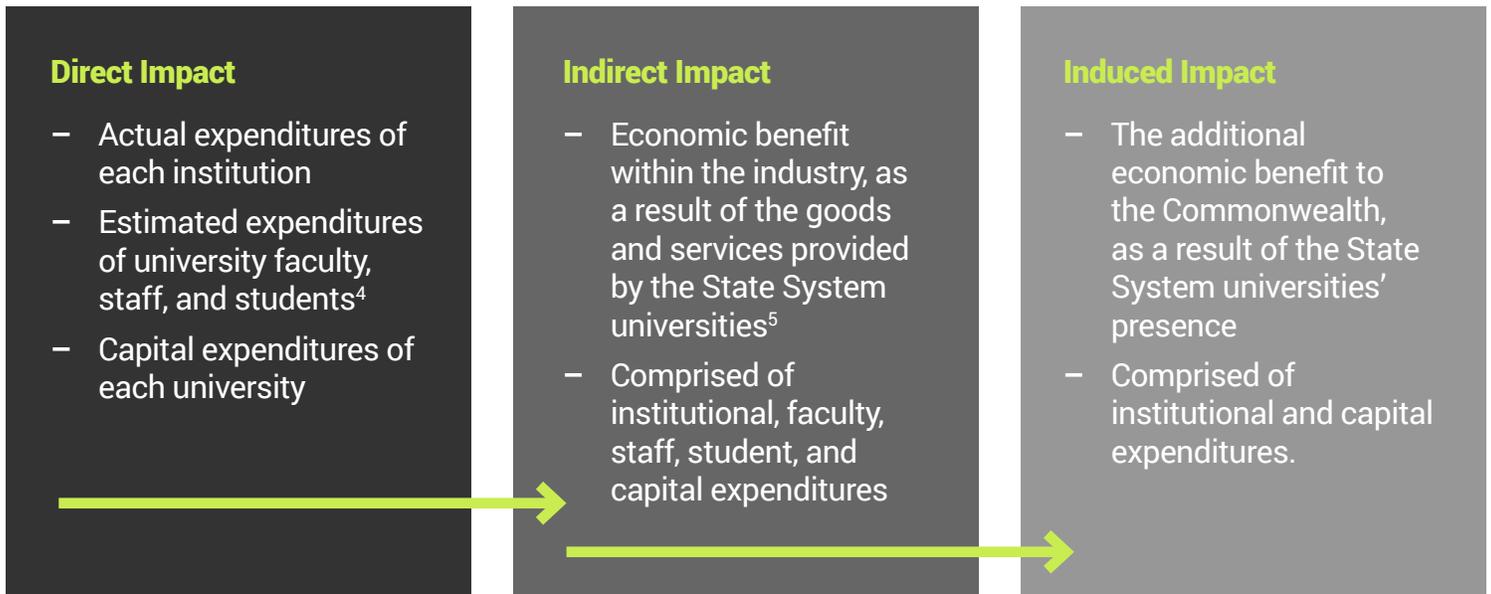
The current economic impact of Pennsylvania State System of Higher Education on the Commonwealth of Pennsylvania is detailed in this section. Economic impacts ultimately trace the flow of goods and services throughout an economy. In the case of the State System's economic impact, the analysis follows four categories of spending to quantify the total economic impact:

- Institutional Spending
- Faculty and Staff Spending
- Student Spending
- Capital Expenditures

The initial or direct spending in each category has the potential to generate additional rounds of spending throughout the economy to create a total economic impact that is greater than the initial spending.

## TOTAL ECONOMIC IMPACT OF STATE SYSTEM UNIVERSITIES UPON THE COMMONWEALTH

The total economic impact of the State System is comprised of the following:



Both the indirect and induced effects were calculated using the direct effect and applying the RIMS II multipliers. Refer to Appendix A for further detail regarding the methodology used to attain this value. The State System universities had a combined total economic impact of \$4.0 billion on the Commonwealth in the fiscal year 2019-2020, as shown in Table 1.

<sup>4</sup> Institutional spending is exclusive of salary and wages paid to faculty and staff to avoid double-counting. However, institutional spending does include employee benefits.

<sup>5</sup> Specifically, the economic benefit within the junior college, colleges, universities, and professional schools industry. The industry is classified per the North American Industry Classification System (NAICS).

Table 1:  
Direct, indirect,  
induced, and  
total economic  
impact upon the  
Commonwealth  
during 2019-2020

University	Total Direct	Total Indirect	Total Induced	Total Economic Impact
Bloomsburg	\$277,580,079	\$56,116,837	\$12,415,467	\$346,112,383
California	\$229,669,593	\$58,495,322	\$13,092,792	\$301,257,708
Cheyney	\$45,729,564	\$15,930,455	\$13,418,579	\$75,078,597
Clarion	\$162,741,833	\$36,928,787	\$8,443,697	\$208,114,317
East Stroudsburg	\$178,743,612	\$47,471,021	\$10,525,840	\$236,740,472
Edinboro	\$156,814,283	\$41,095,867	\$14,325,877	\$212,236,027
Indiana	\$366,937,965	\$87,414,167	\$25,753,025	\$480,105,157
Kutztown	\$290,044,718	\$65,893,727	\$13,412,788	\$369,351,233
Lock Haven	\$117,954,241	\$25,682,893	\$8,980,962	\$152,618,096
Mansfield	\$66,736,662	\$17,214,280	\$5,879,233	\$89,830,175
Millersville	\$247,779,325	\$51,171,247	\$8,192,198	\$307,142,771
Shippensburg	\$223,442,936	\$43,737,576	\$7,257,658	\$274,438,170
Slippery Rock	\$272,580,722	\$58,806,720	\$10,688,867	\$342,076,309
West Chester	\$443,074,985	\$90,865,988	\$17,704,956	\$551,645,929
System-wide Functions and Services	\$12,751,705	\$3,097,918	\$173,976	\$16,023,599
<b>Total</b>	<b>\$3,092,582,222</b>	<b>\$699,922,806</b>	<b>\$170,265,914</b>	<b>\$3,962,770,942</b>

Indiana University of Pennsylvania and West Chester University had the largest statewide economic impacts, \$480.1 million and \$551.6 million, respectively. System-wide Functions and Services had a total statewide economic impact of \$16.0 million.<sup>6</sup> The average statewide economic impact of each State System university was approximately \$281.9 million, as shown below.<sup>7</sup>

**State System Total Economic Impact / Number of Universities (\$3,946,747,343 / 14) = \$281,910,524**

The total economic impact can be used to determine the return on state appropriations. For the fiscal year 2019-2020, the state appropriation to the State System totaled \$477.5 million, as shown in Table 2.

Table 2:  
Economic impact to  
State appropriations  
ratio during 2019-2020

University	Total Economic Impact	State Appropriations	Ratio
Bloomsburg	\$346,112,383	\$38,405,845	9.01
California	\$301,257,708	\$34,181,375	8.81
Cheyney	\$75,078,597	\$13,497,667	5.56
Clarion	\$208,114,317	\$26,512,315	7.85
East Stroudsburg	\$236,740,472	\$29,102,386	8.13
Edinboro	\$212,236,027	\$28,576,510	7.43
Indiana	\$480,105,157	\$56,058,332	8.56
Kutztown	\$369,351,233	\$37,769,690	9.78
Lock Haven	\$152,618,096	\$25,746,354	5.93
Mansfield	\$89,830,175	\$18,074,506	4.97
Millersville	\$307,142,771	\$35,567,379	8.64
Shippensburg	\$274,438,170	\$31,352,960	8.75
Slippery Rock	\$342,076,309	\$39,786,283	8.60
West Chester	\$551,645,929	\$58,194,345	9.48
System-wide Functions and Services	\$16,023,599	\$4,644,054	3.45
<b>Total</b>	<b>\$3,962,770,942</b>	<b>\$477,470,000</b>	<b>8.30</b>

<sup>6</sup> System-wide Functions and Services are primarily located at the Dixon University Center in Harrisburg and include: System-wide shared administrative services; System leadership functions of the Chancellor and Board of Governors; some System-wide initiatives and grants managed on behalf of the universities; and the academic, student, and facilities support for the multi-university sites in Harrisburg and Philadelphia.

<sup>7</sup> To find the average of just the 14 universities, the System-wide Functions and Services impact was removed from the calculation.

Therefore, for every dollar invested by the Commonwealth to the State System, an average return of approximately \$8.30 in economic impact was produced. The highest return to the Commonwealth was \$9.78, generated by Kutztown University. Overall, eight of the State System universities produced at least a return of \$8.50 for every \$1 of state appropriations. Among the integrating universities, only Bloomsburg University (\$9.01) and California University of Pennsylvania (\$8.81) produce a return greater than the average State System return of \$8.30.

## EMPLOYMENT IMPACT OF STATE SYSTEM UPON THE COMMONWEALTH

In addition to the economic impact of \$4.0 billion, there is also a substantial direct employment impact that arises from the State System's economic activity. The direct employment impact consists of the job opportunities that are created from the direct spending of each institution, faculty and staff, students, or direct composite spending. A direct employment impact also arises from capital expenditures. By applying a multiplier to the total amount spent on the direct composite spending and the direct capital expenditures, the employment impact can be calculated, as shown in Table 3.

Table 3: Pennsylvania's State System of Higher Education total jobs supported during 2019-2020

University	Composite Direct Spending	Jobs Output	Composite Jobs Supported	Direct Capital Expenditures	Jobs Output	Capital Expenditures Jobs Supported	Total Jobs Supported
Bloomsburg	\$270,453,131	15.94	4,310	\$7,126,948	15.36	109	4,420
California	\$224,219,634	15.94	3,574	\$5,449,959	15.36	84	3,657
Cheyney	\$32,334,796	15.94	515	\$13,394,767	15.36	206	721
Clarion	\$158,600,954	15.94	2,528	\$4,140,880	15.36	64	2,591
East Stroudsburg	\$177,287,948	15.94	2,826	\$1,455,663	15.36	22	2,848
Edinboro	\$148,551,012	15.94	2,368	\$8,263,271	15.36	127	2,494
Indiana	\$348,963,657	15.94	5,562	\$17,974,307	15.36	276	5,838
Kutztown	\$285,023,276	15.94	4,543	\$5,021,442	15.36	77	4,620
Lock Haven	\$109,583,868	15.94	1,747	\$8,370,373	15.36	129	1,875
Mansfield	\$64,588,543	15.94	1,029	\$2,148,119	15.36	33	1,062
Millersville	\$244,078,138	15.94	3,890	\$3,701,188	15.36	57	3,947
Shippensburg	\$220,351,795	15.94	3,512	\$3,091,140	15.36	47	3,559
Slippery Rock	\$268,038,523	15.94	4,272	\$4,542,198	15.36	70	4,342
West Chester	\$438,915,574	15.94	6,995	\$4,159,411	15.36	64	7,059
System-wide Functions and Services	\$12,751,705	15.94	203				203
<b>Total</b>	<b>\$3,003,742,556</b>		<b>47,872</b>	<b>\$88,839,667</b>		<b>1,364</b>	<b>49,237</b>

The multiplier indicated that for each additional million dollars of direct composite spending by a State System university, approximately 15.9 total jobs were supported in the Commonwealth – inclusive of direct, indirect, and induced economic impacts. Therefore, the total employment impact resulting from the composite direct spending of the State System is 47,872 jobs. A separate multiplier was used to calculate the employment impact resulting from direct capital expenditures; for each additional million dollars of capital spending by a State System university, approximately 15.4 jobs were supported.<sup>8</sup> Thus, a total of 1,364 jobs were supported by capital expenditures alone. In total, approximately 49,237 jobs were supported by Pennsylvania's State System of Higher Education.

More than half of the universities supported more than 3,500 jobs from both composite and capital expenditures. West Chester University had the largest employment impact of 7,059 jobs. The average state employment impact of each State System university was 3,502 jobs, as shown below.<sup>9</sup>

$$\text{State System Total Employment Impact/Number of State System Universities (49,033 / 14) = 3,502}$$

<sup>8</sup> Refer to Appendix A regarding the use of RIMS II multipliers.

<sup>9</sup> To find the average of just the 14 universities, the System-wide Functions and Services impact was removed from the calculation.

## TOTAL ECONOMIC IMPACT BY SPENDING CATEGORY

As shown in Table 1, the total economic impact of the State System on the Commonwealth was \$4.0 billion during 2019-2020 fiscal year. Four different spending categories contribute to State System's total economic impact:

- Institutional Spending
- Faculty and Staff Spending
- Student Spending
- Capital Expenditures

Chart 9: Total economic impact of the State System by spending category during 2019-2020<sup>10</sup>

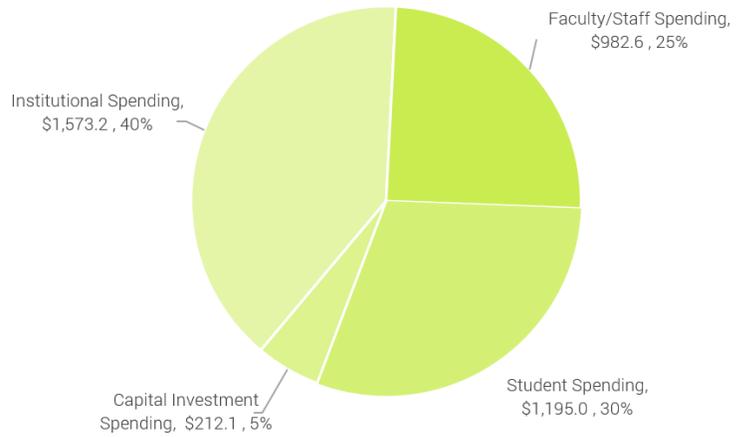


Chart 9 illustrates the contribution of each spending category to the total \$4.0 billion economic impact. Institutional Spending contributes the largest share of the total at 40 percent. The economic impact of Faculty/Staff Spending contributes 25 percent to the total economic impact of the State System. Student spending contributes 30 percent to the total and capital expenditures contribute 5 percent.

The following tables provide additional detail on the economic impact associated with each spending category.

## TOTAL ECONOMIC IMPACT BY SPENDING CATEGORY

The following provides summary tables for each type of spending by university. The methodology of how each input was calculated and the usage of RIMS II multipliers for the types of spending can be found in **Appendix A**.

Table 4 displays the institutional spending total economic impact of all State System universities, which, including System-wide Functions and Services, was \$1.5 billion. This amounts to 40 percent of the State System's \$4.0 billion total economic impact on the Commonwealth.

Table 4: Direct, indirect, induced, and total economic impact of institutional spending during 2019-2020

University	Direct	Indirect	Induced	Total
Bloomsburg	\$122,732,908	\$13,254,723	\$6,646,202	\$142,633,834
California	\$79,211,496	\$17,312,881	\$8,681,050	\$105,205,427
Cheyney	\$20,669,186	\$5,136,427	\$2,575,514	\$28,381,127
Clarion	\$65,640,983	\$10,154,442	\$5,091,655	\$80,887,080
East Stroudsburg	\$70,583,575	\$18,641,964	\$9,347,480	\$98,573,019
Edinboro	\$68,129,992	\$15,230,221	\$7,636,759	\$90,996,972
Indiana	\$140,447,941	\$22,342,130	\$11,202,823	\$173,992,894
Kutztown	\$115,936,415	\$18,642,863	\$9,347,931	\$143,927,209
Lock Haven	\$46,861,592	\$4,397,787	\$2,205,145	\$53,464,523
Mansfield	\$35,168,916	\$8,257,188	\$4,140,331	\$47,566,434
Millersville	\$96,645,931	\$10,362,714	\$5,196,087	\$112,204,731
Shippensburg	\$96,566,235	\$9,483,799	\$4,755,380	\$110,805,415
Slippery Rock	\$107,154,435	\$13,984,159	\$7,011,957	\$128,150,551
West Chester	\$210,666,209	\$28,594,535	\$14,337,913	\$253,598,657
System-wide Functions and Services	\$2,263,897	\$346,966	\$173,976	\$2,784,839
<b>Total</b>	<b>\$1,278,679,711</b>	<b>\$196,142,798</b>	<b>\$98,350,204</b>	<b>\$1,573,172,713</b>

<sup>10</sup> Dollar amounts in millions of dollars.

The two State System universities with the largest institutional impact on the Commonwealth were Indiana University of Pennsylvania and West Chester University, with institutional impacts of \$174.0 and \$253.6 million, respectively. The average institutional total impact of each State System university was approximately \$112.2 million, as shown below.<sup>11</sup>

**State System Total Institutional Spending Economic Impact/Number of Universities (\$1,570,387,873 / 14= \$112,170,562)**

### TOTAL ECONOMIC IMPACT OF FACULTY AND STAFF SPENDING

The majority of the State System’s faculty and staff live and spend their disposable income in Pennsylvania, thus creating an economic impact on the Commonwealth.

An analysis of personal consumption was conducted to determine the effect of the spending done by faculty and staff. Data obtained from the Bureau of Labor Statistics was taken into consideration and the analysis was broken down into the following categories:

TYPE OF EXPENDITURE	DEFINITION
<b>Food</b>	Groceries, convenience store purchases, restaurants
<b>Apparel and Services</b>	Buying clothes, dry cleaning, laundromat services
<b>Transportation</b>	Fuel, public transportation
<b>Healthcare</b>	Money spent on healthcare
<b>Entertainment</b>	Movies, special events, sports equipment and activities
<b>Cash Contributions</b>	Churches, local communities, and organizations
<b>Personal Insurance and Pensions</b>	Auto insurance, personal pension plans

Table 5 shows that Pennsylvania’s State System of Higher Education had a total faculty and staff economic impact of ~ \$1 billion during the 2019-2020 fiscal year.

Table 5: Direct, indirect, and total economic impact of faculty and staff spending during 2019-2020

University	Direct	Indirect	Total
Bloomsburg	\$68,545,363	\$17,979,449	\$86,524,812
California	\$51,310,694	\$13,458,795	\$64,769,489
Cheyney	\$9,699,134	\$2,544,083	\$12,243,217
Clarion	\$42,139,833	\$11,053,278	\$53,193,111
East Stroudsburg	\$45,891,564	\$12,037,357	\$57,928,921
Edinboro	\$42,012,290	\$11,019,824	\$53,032,113
Indiana	\$90,743,476	\$23,802,014	\$114,545,490
Kutztown	\$59,628,331	\$15,640,511	\$75,268,842
Lock Haven	\$34,196,524	\$8,969,748	\$43,166,273
Mansfield	\$20,346,287	\$5,336,831	\$25,683,119
Millersville	\$62,800,483	\$16,472,567	\$79,273,050
Shippensburg	\$54,675,136	\$14,341,288	\$69,016,424
Slippery Rock	\$63,183,400	\$16,573,006	\$79,756,406
West Chester	\$122,740,021	\$32,194,708	\$154,934,729
System-wide Functions and Services	\$10,487,808	\$2,750,952	\$13,238,760
<b>Total</b>	<b>\$778,400,345</b>	<b>\$204,174,410</b>	<b>\$982,574,755</b>

<sup>11</sup> To find the average of just the 14 universities, the System-wide Functions and Services impact was removed from the calculation.

Out of the State System's total economic impact of \$4.0 billion on the Commonwealth, the faculty and staff spending constitute 25 percent of it. West Chester University and Indiana University of Pennsylvania were the two State System universities with the largest employee total impact of \$154.9 and \$114.5 million, respectively. These two universities alone account for more than one-quarter of the total faculty and staff spending economic impact. The average faculty and staff spending per university was \$69.2 million, as shown below.<sup>12</sup>

**State System Total Faculty and Staff Spending Economic Impact/Number of Universities**  
**(\$969,335,996 / 14 = \$69,238,285).**

**TOTAL ECONOMIC IMPACT OF STUDENT EXPENDITURES**

A total of 95,782 students enrolled in undergraduate and graduate programs at one of the 14 State System universities during the 2019 fall semester. The enrollment trends by university from fall 2010 to fall 2019 are presented in Table 6.

Table 6: Fall headcount enrollment by university, 2010-2019

University	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Bloomsburg	10,091	10,159	9,950	10,127	9,998	9,777	9,658	9,287	8,924	8,689
California	9,400	9,483	8,610	8,243	7,978	7,854	7,553	7,788	7,312	6,842
Cheyney	1,586	1,200	1,284	1,211	1,022	711	746	755	469	618
Clarion	7,315	6,991	6,520	6,080	5,712	5,368	5,224	5,225	4,869	4,703
East Stroudsburg	7,387	7,353	6,943	6,778	6,820	6,828	6,830	6,742	6,425	6,214
Edinboro	8,642	8,262	7,462	7,098	6,837	6,550	6,181	5,575	4,834	4,646
Indiana	15,126	15,132	15,596	14,925	14,571	14,035	13,114	12,562	11,581	10,636
Kutztown	10,707	10,283	9,804	9,513	9,218	9,000	8,513	8,329	8,309	8,199
Lock Haven	5,451	5,366	5,328	5,260	4,917	4,607	4,220	3,827	3,425	3,162
Mansfield	3,411	3,275	3,131	2,970	2,752	2,376	2,196	1,897	1,637	1,663
Millersville	8,729	8,725	8,368	8,279	8,047	7,988	7,927	7,748	7,781	7,817
Shippensburg	8,326	8,183	7,724	7,548	7,355	7,058	6,989	6,581	6,408	6,096
Slippery Rock	8,852	8,712	8,559	8,347	8,495	8,628	8,881	8,895	8,824	8,806
West Chester	14,490	15,100	15,411	15,845	16,086	16,606	17,006	17,336	17,552	17,691
<b>Total</b>	<b>119,513</b>	<b>118,224</b>	<b>114,690</b>	<b>112,224</b>	<b>109,808</b>	<b>107,386</b>	<b>105,038</b>	<b>102,547</b>	<b>98,350</b>	<b>95,782</b>

The student expenditures analysis was based on the segregation of the fall 2019 enrollment data for each university into three broad categories, as follows:

- Students living on campus in university housing or university affiliated private housing;
- Students living off campus in private, non-affiliated housing; and
- Students living off campus with parents.

In order to capture the amount of student spending resulting from students who live in affiliated university housing, an aggregate of privatized replacement housing fees for each university was obtained. A percent was then calculated to determine the amount of room and board fees that were collected by affiliates, rather than the universities, and subsequently applied to the total number of students living in affiliated university housing. Average cost estimates for room, board, books and supplies, and other expenses were then applied to the students who live off-campus and pay for room and board to parties other than the university directly.<sup>13</sup> In the other instances in which students lived in on-campus housing or with a parent, only books and supplies and other expenses were included in the aggregated total. This was done in order to avoid double counting room and board expenditures that have already been accounted for in other aspects of the analysis.

<sup>12</sup> To find the average of just the 14 universities, the System-wide Functions and Services impact was removed from the calculation.

<sup>13</sup> Average cost estimates were supplied on a university-by-university basis by the State System.

The estimated spending of these students contributed to the economic impact of the State System, as shown in Table 7.

Table 7: Direct, indirect, and total economic impact of student spending during 2019-2020

University	Direct	Indirect	Total
Bloomsburg	\$79,174,860	\$20,767,566	\$99,942,426
California	\$93,697,444	\$24,576,840	\$118,274,284
Cheyney	\$1,966,476	\$515,807	\$2,482,283
Clarion	\$50,820,138	\$13,330,122	\$64,150,260
East Stroudsburg	\$60,812,810	\$15,951,200	\$76,764,010
Edinboro	\$38,408,730	\$10,074,610	\$48,483,340
Indiana	\$117,772,240	\$30,891,659	\$148,663,899
Kutztown	\$109,458,530	\$28,710,972	\$138,169,502
Lock Haven	\$28,525,752	\$7,482,305	\$36,008,057
Mansfield	\$9,073,340	\$2,379,937	\$11,453,277
Millersville	\$84,631,724	\$22,198,901	\$106,830,625
Shippensburg	\$69,110,424	\$18,127,664	\$87,238,088
Slippery Rock	\$97,700,688	\$25,626,890	\$123,327,578
West Chester	\$105,509,344	\$27,675,101	\$133,184,445
<b>Total</b>	<b>\$ 946,662,500</b>	<b>\$248,309,574</b>	<b>\$1,194,972,074</b>

During the fiscal year 2019-2020, the State System had a total student economic impact on the Commonwealth of \$1.2 billion, 30 percent of the total economic impact.<sup>14</sup> The two State System universities with the largest student total economic impact on the Commonwealth were Indiana University of Pennsylvania and Kutztown University, contributing \$148.7 and \$138.2 million, respectively. Of the 14 universities, seven had a student expenditure impact of \$100 million or more. The average student total economic impact of each State System university on the Commonwealth was \$85.4 million, as displayed below.

**State System Total Student Economic Impact / Number of Universities**  
**(\$1,194,972,074 / 14= \$85,355,148)**

<sup>14</sup> Student spending as a result of living in affiliated university housing was captured in the impact. For more details regarding this methodology, refer to Appendix A.

## CAPITAL EXPENDITURES

Pennsylvania's State System of Higher Education receives funding appropriated by the Governor and Governor's Budget Office for capital investments; the State System capital projects are then executed by the Department of General Services.<sup>15</sup> In the 2019-2020 fiscal year, the State System received \$69.5 million in capital investment appropriations. Additionally, the State System receives funding through the Annual Key '93 Deferred Maintenance Appropriation authorized by the Keystone Recreation, Parks, and Conservation Fund Act of 1993 and funded through the realty transfer tax. In the 2019-2020 fiscal year, the State System received \$19.3 million in Key '93 Deferred Maintenance appropriations. The total economic impact these funds created in the 2019-2020 fiscal year is approximately \$212.1 million, as shown in Table 8 below.<sup>16</sup>

Table 8: Direct, indirect, and induced economic Impact of capital expenditures during 2019-2020

University	Direct	Indirect	Induced	Total
Bloomsburg	\$7,126,948	\$4,115,100	\$5,769,264	\$17,011,311
California	\$5,449,959	\$3,146,807	\$4,411,742	\$13,008,508
Cheyney	\$13,394,767	\$7,734,139	\$10,843,064	\$31,971,970
Clarion	\$4,140,880	\$2,390,944	\$3,352,042	\$9,883,866
East Stroudsburg	\$1,455,663	\$840,500	\$1,178,359	\$3,474,523
Edinboro	\$8,263,271	\$4,771,213	\$6,689,118	\$19,723,602
Indiana	\$17,974,307	\$10,378,365	\$14,550,202	\$42,902,874
Kutztown	\$5,021,442	\$2,899,380	\$4,064,857	\$11,985,679
Lock Haven	\$8,370,373	\$4,833,053	\$6,775,817	\$19,979,243
Mansfield	\$2,148,119	\$1,240,324	\$1,738,902	\$5,127,345
Millersville	\$3,701,188	\$2,137,066	\$2,996,111	\$8,834,365
Shippensburg	\$3,091,140	\$1,784,824	\$2,502,278	\$7,378,243
Slippery Rock	\$4,542,198	\$2,622,665	\$3,676,910	\$10,841,773
West Chester	\$4,159,411	\$2,401,644	\$3,367,043	\$9,928,098
<b>Total</b>	<b>\$88,839,667</b>	<b>\$51,296,024</b>	<b>\$71,915,710</b>	<b>\$212,051,400</b>

Of the \$4.0 billion total economic impact, the total capital expenditures impact constitutes approximately 5 percent. Indiana University of Pennsylvania had the largest impact, contributing a total of approximately \$42.9 million to the total capital expenditures impact. Furthermore, five of the universities contributed more than \$17 million to the total impact. The average capital expenditure impact of each State System university on the Commonwealth was approximately \$15.1 million, as displayed below.

**State System Total Capital Expenditure Impact/Number of Universities (\$212,051,400 / 14= \$15,146,529)**

## VISITOR SPENDING

Consistent with the prior economic impact report, visitor spending was excluded from this analysis. Visitor spending would likely add to the economic impact calculated in this report and therefore these results can be viewed as conservative.

<sup>15</sup> These funds are independent of any capital expenditures from the university operating funds, which are included in the institutional spending impact and therefore a separate analysis was warranted.

<sup>16</sup> For further detail on how the capital expenditures impact was calculated, refer to Appendix A.

## EMPLOYMENT IMPACT OF JOBS SUPPORTED AS A RESULT OF STATE SYSTEM SPENDING

Additional economic benefit can be quantified, resulting from the total direct spending attributed to the State System universities to the Commonwealth. As shown in Table 9 of this report, the total direct spending attributed to each university generates an employment impact. The aggregate result of total direct spending supports approximately 49,237 jobs within the Commonwealth, in addition to the State System employees.

The additional jobs supported by the existence of the State System universities results in increased consumption of goods and services within Pennsylvania. Further, these jobs and corresponding consumption of goods and services provide an additional source of revenues to the Commonwealth in the form of increased sales and taxes, as demonstrated in Tables 10 and 11.

Table 9: Consumption attributable to the employment impact of Pennsylvania's State System of Higher Education during 2019-2020<sup>17,18</sup>

University	Total Jobs Supported	Per Capita Income	Estimated Wages	Consumption Factor	Estimated Consumption
Bloomsburg	4,420	62,198	\$274,903,890	76.08%	\$209,154,174
California	3,657	62,198	\$227,471,467	76.08%	\$173,066,328
Cheyney	721	62,198	\$44,846,984	76.08%	\$34,120,776
Clarion	2,591	62,198	\$161,174,173	76.08%	\$122,625,588
East Stroudsburg	2,848	62,198	\$177,133,578	76.08%	\$134,767,927
Edinboro	2,494	62,198	\$155,149,274	76.08%	\$118,041,684
Indiana	5,838	62,198	\$363,091,127	76.08%	\$276,249,364
Kutztown	4,620	62,198	\$287,336,022	76.08%	\$218,612,870
Lock Haven	1,875	62,198	\$116,623,955	76.08%	\$88,730,600
Mansfield	1,062	62,198	\$66,077,535	76.08%	\$50,273,542
Millersville	3,947	62,198	\$245,486,613	76.08%	\$186,772,729
Shippensburg	3,559	62,198	\$221,384,319	76.08%	\$168,435,064
Slippery Rock	4,342	62,198	\$270,041,514	76.08%	\$205,454,749
West Chester	7,059	62,198	\$439,064,069	76.08%	\$334,051,594
System-wide Functions and Services	203	62,198	\$12,640,597	76.08%	\$9,617,302
<b>Total</b>	<b>49,237</b>		<b>\$3,062,425,118</b>		<b>\$2,329,974,289</b>

All but three universities, and System-wide Functions and Services, contributed over \$100 million additional impact by way of estimated consumption. An aggregation of the total economic impact resulting from the State System supported jobs is an estimated \$2.3 billion in additional consumption.

In addition to the revenue generated by State System employees, total income tax revenue and sales tax revenue attributed to jobs supported by State System universities is shown in Table 10. For the purposes of this analysis, local earned income taxes, local services tax, and payments to the unemployment trust fund were not considered.

<sup>17</sup> 2020 annual per capita income for Pennsylvania was obtained from the Bureau of Economic Analysis.

<sup>18</sup> The consumption factor is the average total consumption as a percentage of revenue for all income ranges obtained from the Bureau of Labor Statistics.

Table 10: Sales, Income, and Total State Tax Revenue of Jobs Supported Attributable to Pennsylvania's State System of Higher Education During 2019-2020<sup>19,20</sup>

University	Estimated Wages	Estimated Income Tax Revenue	Estimated Consumption	Estimated Taxable Spending	Estimated Sales Tax Revenue	Total Tax Payments
Bloomsburg	\$274,903,890	\$8,439,549	\$209,154,174	\$47,831,422	\$2,869,885	\$11,309,435
California	\$227,471,467	\$6,983,374	\$173,066,328	\$39,578,501	\$2,374,710	\$9,358,084
Cheyney	\$44,846,984	\$1,376,802	\$34,120,776	\$7,803,073	\$468,184	\$1,844,987
Clarion	\$161,174,173	\$4,948,047	\$122,625,588	\$28,043,219	\$1,682,593	\$6,630,640
East Stroudsburg	\$177,133,578	\$5,438,001	\$134,767,927	\$30,820,047	\$1,849,203	\$7,287,204
Edinboro	\$155,149,274	\$4,763,083	\$118,041,684	\$26,994,927	\$1,619,696	\$6,382,778
Indiana	\$363,091,127	\$11,146,898	\$276,249,364	\$63,175,406	\$3,790,524	\$14,937,422
Kutztown	\$287,336,022	\$8,821,216	\$218,612,870	\$49,994,529	\$2,999,672	\$11,820,888
Lock Haven	\$116,623,955	\$3,580,355	\$88,730,600	\$20,291,781	\$1,217,507	\$4,797,862
Mansfield	\$66,077,535	\$2,028,580	\$50,273,542	\$11,497,045	\$689,823	\$2,718,403
Millersville	\$245,486,613	\$7,536,439	\$186,772,729	\$42,713,014	\$2,562,781	\$10,099,220
Shippensburg	\$221,384,319	\$6,796,499	\$168,435,064	\$38,519,378	\$2,311,163	\$9,107,661
Slippery Rock	\$270,041,514	\$8,290,274	\$205,454,749	\$46,985,401	\$2,819,124	\$11,109,399
West Chester	\$439,064,069	\$13,479,267	\$334,051,594	\$76,394,186	\$4,583,651	\$18,062,918
System-wide Functions and Services	\$12,640,597	\$388,066	\$9,617,302	\$2,199,379	\$131,963	\$520,029
<b>Total</b>	<b>\$3,062,425,118</b>	<b>\$94,016,451</b>	<b>\$2,329,974,289</b>	<b>\$532,841,308</b>	<b>\$31,970,478</b>	<b>\$125,986,930</b>

In the aggregate, the revenues realized by the Commonwealth in terms of payroll tax withholdings and sales tax receipts for the jobs supported by the State System were approximately \$126.0 million or approximately 26.4 percent of the Commonwealth's appropriations for the State System for fiscal year 2019-2020.

<sup>19</sup> Pennsylvania's sales tax rate is 6.00 percent and income taxes are based on Pennsylvania's 3.07 percent flat tax rate.

<sup>20</sup> Taxable consumption calculated at 22.87 percent of total consumption; refer to Appendix A for additional detail.

## TAX REVENUES ALLOCABLE TO STATE SYSTEM UNIVERSITIES

Income tax payments made to the Commonwealth, in the form of payroll withholdings from employees of State System universities, represent a significant revenue stream flowing to the Commonwealth on a year-over-year basis. The total state income tax revenue, on a university-by-university basis, is presented in Table 11.

Table 11: Income tax revenue attributable to employees of the State System during 2019-2020

University	State Tax Withholdings	Local EIT	Local Services Tax	Unemployment Tax	Total Tax Payments
Bloomsburg	\$2,381,201	\$1,190,814	\$81,894	\$45,850	\$3,699,759
California	\$1,840,775	\$669,744	\$75,142	\$34,788	\$2,620,449
Cheyney	\$329,061	\$165,045	\$4,378	\$6,592	\$505,076
Clarion	\$1,417,154	\$474,569	\$51,913	\$27,548	\$1,971,184
East Stroudsburg	\$1,519,271	\$576,280	\$45,066	\$30,834	\$2,171,452
Edinboro	\$1,478,097	\$570,255	\$52,399	\$28,922	\$2,129,672
Indiana	\$3,309,166	\$1,346,637	\$109,602	\$63,174	\$4,828,579
Kutztown	\$2,129,389	\$802,466	\$81,981	\$40,955	\$3,054,790
Lock Haven	\$1,209,748	\$604,674	\$35,374	\$23,595	\$1,873,391
Mansfield	\$663,169	\$328,838	\$22,410	\$12,967	\$1,027,384
Millersville	\$2,155,278	\$748,877	\$74,868	\$41,118	\$3,020,141
Shippensburg	\$1,942,452	\$911,832	\$57,009	\$37,588	\$2,948,881
Slippery Rock	\$2,251,394	\$825,959	\$72,423	\$43,379	\$3,193,156
West Chester	\$4,165,079	\$1,762,314	\$141,379	\$82,542	\$6,151,314
System-wide Functions and Services	\$392,641	\$195,196	\$16,402	\$7,107	\$611,345
<b>Total</b>	<b>\$27,183,875</b>	<b>\$11,173,501</b>	<b>\$922,240</b>	<b>\$526,958</b>	<b>\$39,806,573</b>

The State System provides an added benefit to the local municipalities in the form of local earned income taxes and local services taxes. State System employees also help to fund the unemployment trust fund through payroll withholdings, helping to strengthen the Commonwealth's social safety net available to displaced workers.

In addition to the payroll tax withholdings to the Commonwealth and to local municipalities, the State System, through the spending of its employees and students, generates sales tax revenue for the Commonwealth through the consumption of taxable goods and services. The total state sales tax revenue, attributed to State System universities, is presented in Table 12.

Table 12: Sales, income, and total state tax revenue attributed to employees of the State System during 2019-2020<sup>21</sup>

University	Total Faculty, Staff, and Student Spending	Spending subject to tax	Sales Tax Revenue
Bloomsburg	\$186,467,238	\$42,643,152	\$2,558,589
California	\$ 183,043,772	\$ 41,860,240	\$ 2,511,614
Cheyney	\$ 14,725,500	\$ 3,367,571	\$ 202,054
Clarion	\$ 117,343,371	\$ 26,835,230	\$ 1,610,114
East Stroudsburg	\$ 134,692,931	\$ 30,802,897	\$ 1,848,174
Edinboro	\$ 101,515,453	\$ 23,215,547	\$ 1,392,933
Indiana	\$ 263,209,389	\$ 60,193,297	\$ 3,611,598
Kutztown	\$ 213,438,345	\$ 48,811,168	\$ 2,928,670
Lock Haven	\$ 79,174,330	\$ 18,106,360	\$ 1,086,382
Mansfield	\$ 37,136,396	\$ 8,492,714	\$ 509,563
Millersville	\$ 186,103,675	\$ 42,560,008	\$ 2,553,601
Shippensburg	\$ 156,254,512	\$ 35,733,810	\$ 2,144,029
Slippery Rock	\$ 203,083,985	\$ 46,443,232	\$ 2,786,594
West Chester	\$ 288,119,174	\$ 65,889,910	\$ 3,953,395
System-wide Functions and Services	\$ 13,238,760	\$ 3,027,569	\$ 181,654
<b>Total</b>	<b>\$ 2,177,546,829</b>	<b>\$497,982,705</b>	<b>\$29,878,962</b>

Total payments made to the Commonwealth as sales taxes were approximately \$29.9 million. Refer to Appendix A for additional discussion related to the methodology used to estimate sales tax revenue attributed to the State System.

<sup>21</sup> Pennsylvania's sales tax rate is 6.00 percent.

## Economic impact comparison 2013-2014 vs 2019-2020

The differences observed between the prior impact study's results and the current impact study's results can be attributed to a variety of factors. First and foremost, the actual direct spending in each category may have increased or decreased contributing to an increase or decrease in total economic impact. Second, the economic impact multipliers are not static and change over time to reflect current industry-to-industry spending patterns. Therefore, changes in the economic impact multipliers can also affect the results. As detailed in **Appendix B**, the relevant multipliers applied in the current analysis are lower than the multipliers utilized in the 2015 study. **Therefore, even with identical direct spending, the overall economic impact would be lower.**

The economic impact of Pennsylvania State System of Higher Education on the Commonwealth of Pennsylvania during 2019-2020 decreased compared to the previous study that evaluated the economic impact during 2013-2014 fiscal year. Table 13 illustrates the total economic impact comparison.

Table 13: Total economic impact of the State System in FY 2014 and FY 2020

University	Total Economic Impact FY 2013-14	Total Economic Impact FY 2019-20	Percentage Change
Bloomsburg	\$392,944,290	\$346,112,383	-11.9%
California	\$340,976,298	\$301,257,708	-11.6%
Cheyney	\$115,406,159	\$75,078,597	-34.9%
Clarion	\$264,631,268	\$208,114,317	-21.4%
East Stroudsburg	\$309,868,504	\$236,740,472	-23.6%
Edinboro	\$212,827,350	\$212,236,027	-0.3%
Indiana	\$636,938,964	\$480,105,157	-24.6%
Kutztown	\$357,989,848	\$369,351,233	3.2%
Lock Haven	\$148,709,294	\$152,618,096	2.6%
Mansfield	\$111,802,341	\$89,830,175	-19.7%
Millersville	\$317,667,636	\$307,142,771	-3.3%
Shippensburg	\$304,693,352	\$274,438,170	-9.9%
Slippery Rock	\$333,284,922	\$342,076,309	2.6%
West Chester	\$495,452,557	\$551,645,929	11.3%
System-wide Functions and Services	\$37,086,814	\$16,023,599	-56.8%
<b>Total</b>	<b>\$4,380,279,597</b>	<b>\$3,962,770,942</b>	<b>-9.5%</b>

Overall, the economic impact of the State System decreased by 9.5 percent from the 2013-2014 fiscal year to 2019-2020 fiscal year. The impact of 10 of the 14 universities decreased from 2013-2014 fiscal year to 2019-2020 fiscal year. The economic impact associated with four universities increased over this period. The economic impact of the System-wide Functions and Services also decreased over the period.

The next table, Table 14 illustrates the total economic impact of the State System by spending category. The total economic impact of Institutional Spending increased by 2.6 percent over the period while the economic impact of other spending categories decreased. Additionally, a significant portion of the total dollar decrease can be attributed to the student spending impact declining by \$234 million.

Table 14: Total economic impact of the State System in FY 2014 and FY 2020 by spending category

Impact	Total Economic Impact FY 2013-14	Total Economic Impact FY 2019-20	Percentage Change	Dollar Change
Institutional Spending	\$1,532,954,828	\$1,573,172,713	2.6%	\$40,217,885
Faculty/Staff Spending	\$1,023,323,449	\$982,574,755	-4.0%	\$(40,748,694)
Student Spending	\$1,428,968,514	\$1,194,972,074	-16.4%	\$(233,996,440)
Capital Investment Spending	\$395,032,806	\$212,051,400	-46.3%	\$(182,981,406)
<b>Total</b>	<b>\$4,380,279,597</b>	<b>\$3,962,770,942</b>	<b>-9.5%</b>	<b>\$(417,508,655)</b>

Table 15 isolates the direct spending and compares the amount of direct spending in each category from 2013-2014 fiscal year and 2019-2020 fiscal year. Overall, the direct spending increased by 5.8 percent – including a 17.4 percent increase in direct Institutional Spending and a 7.1 percent increase in direct Faculty/Staff Spending. Direct Student Spending decreased by 6.7 percent or \$68.3 million. The decrease in direct Capital Investment spending is 4.5 percent but represents a decrease of just of \$4.2 million out of \$2.9 billion of total direct spending.

Table 15: Direct spending in FY 2014 and FY 2020 by spending category

Impact	Total Economic Impact FY 2013-14	Total Economic Impact FY 2019-20	Percentage Change	Dollar Change
Institutional Spending	\$1,089,540,553	\$1,278,679,711	17.4%	\$189,139,157
Faculty/Staff Spending	\$726,843,845	\$778,400,345	7.1%	\$51,556,500
Student Spending	\$1,014,964,496	\$946,662,500	-6.7%	\$(68,301,996)
Capital Investment Spending	\$93,018,933	\$88,839,667	-4.5%	\$(4,179,267)
<b>Total</b>	<b>\$2,924,367,827</b>	<b>\$3,092,582,222</b>	<b>5.8%</b>	<b>\$168,214,395</b>

Table 15 shows that the actual direct spending increased from the 2013-2014 fiscal year to the 2019 to 2020 fiscal year. Table 14, however, shows that the total economic impact decreased from the 2013-2014 fiscal year to the 2019 to 2020 fiscal year. The explanation for this seeming contradiction lies in a comparison of the relevant economic impact multipliers from the 2015 study and the current study.

As shown in Appendix B, \$1.00 million of direct spending by the university in the 2015 study would generate \$2.33 million of total economic impact inclusive of the direct, indirect, and induced impacts (a multiplier 2.33).

Based on the latest multipliers, \$1.00 million of direct spending by the university will generate \$1.95 million of total economic impact inclusive of the direct, indirect, and induced impacts (a multiplier 1.95). For the same \$1.0 million in spending, the total economic impact is 16 percent smaller.

The current multipliers for Faculty/Staff Spending, Student Spending, and Capital Investment Spending are also smaller than the multipliers used in the 2015 study.

## DECREASE IN ENROLLMENT

Interestingly, the percent decrease in economic impact was less than the percent decrease in enrollment. Table 16 shows that total fall enrollment across the fourteen universities fell by 14.7 percent from 112,224 to 95,782 undergraduate and graduate students from fall 2013 to fall 2019. Enrollments decreased at 12 of the 14 universities and increased at only 2 of the universities – Slipper Rock University and West Chester University.

Table 16: Total enrollment in Fall 2013 and Fall 2019

University	2013 Fall Enrollment	2019 Fall Enrollment	Percentage Change
Bloomsburg	10,127	8,689	-14.2%
California	8,243	6,842	-17.0%
Cheyney	1,211	618	-49.0%
Clarion	6,080	4,703	-22.6%
East Stroudsburg	6,778	6,214	-8.3%
Edinboro	7,098	4,646	-34.5%
Indiana	14,925	10,636	-28.7%
Kutztown	9,513	8,199	-13.8%
Lock Haven	5,260	3,162	-39.9%
Mansfield	2,970	1,663	-44.0%
Millersville	8,279	7,817	-5.6%
Shippensburg	7,548	6,096	-19.2%
Slippery Rock	8,347	8,806	5.5%
West Chester	15,845	17,691	11.7%
<b>Total</b>	<b>112,224</b>	<b>95,782</b>	<b>-14.7%</b>

The effect of lower enrollment on the economic impact can be seen in Table 17. Again, the total economic impact of the State System decreased by 9.5 percent but a significant portion decrease can be attributed to the student spending impact declining by \$234 million. The economic impact of student spending is directly tied to student enrollment; with fewer students enrolled, less student spending is supported in the economy.

## TOTAL JOBS SUPPORTED

The comparison of Total Jobs Supported from 2013-2014 fiscal year to 2019-2020 fiscal year shows a significant decrease. Although the total direct spending increased by 5.8 percent, the relevant RIMS II employment multiplier decreased by 25 percent between the two periods – from 21.26 jobs per \$1 million to 15.94 jobs per \$1 million. Overwhelmingly, the change in Total Jobs Supported is a result of the underlying economic impact multiplier decreasing by 25 percent.

Table 17: Total jobs supported in FY 2014 and FY 2020

University	Total Jobs Supported FY 2013-14	Total Jobs Supported FY 2019-20	Percentage Change	Job Count Change
Bloomsburg	5,563	4,420	-20.5%	(1,143)
California	4,963	3,657	-26.3%	(1,305)
Cheyney	1,219	721	-40.9%	(498)
Clarion	3,374	2,591	-23.2%	(782)
East Stroudsburg	3,848	2,848	-26.0%	(1,000)
Edinboro	3,003	2,494	-16.9%	(509)
Indiana	9,056	5,838	-35.5%	(3,218)
Kutztown	5,401	4,620	-14.5%	(782)
Lock Haven	2,308	1,875	-18.8%	(433)
Mansfield	1,482	1,062	-28.3%	(420)
Millersville	4,804	3,947	-17.8%	(857)
Shippensburg	4,552	3,559	-21.8%	(992)
Slippery Rock	4,812	4,342	-9.8%	(471)
West Chester	7,127	7,059	-1.0%	(68)
System-wide Functions and Services	341	203	-40.4%	(138)
<b>Total</b>	<b>61,853</b>	<b>49,237</b>	<b>-20.4%</b>	<b>(12,616)</b>

### IF LATEST MULTIPLIER IS APPLIED TO PRIOR STUDY IMPACT RESULTS

<b>Total Jobs Supported</b>	<b>46,553</b>	<b>49,237</b>	<b>5.8%</b>	<b>2,683</b>
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If the current employment multipliers were applied to the 2013-2014 spending estimates, the employment impact would actually reflect a 5.8 percent increase in total employment impact equal to an increase in 2,683 jobs.

# Economic impact of Pennsylvania's State System of Higher Education on the Commonwealth of Pennsylvania during 2022-2023

## FOLLOWING SUSTAINABILITY MANDATE EXECUTION

The projected economic impact of Pennsylvania State System of Higher Education on the Commonwealth of Pennsylvania during 2022-2023 fiscal year is detailed in this section. As with the other calculations in this study, economic impacts trace the flow of goods and services throughout an economy. For the 2022-2023 fiscal year, the analysis follows three categories of spending to quantify the total economic impact:

- Institutional Spending;
- Faculty and Staff Spending; and
- Student Spending.

*Note, estimates for the Capital Investment Spending category are not available for the 2022-2023 fiscal year. Therefore, comparisons of the 2022-2023 fiscal year impact to the 2019-2020 fiscal year impact will need to isolate just the three consistent spending categories.*

The initial or direct spending in each category has the potential to generate additional rounds of spending throughout the economy to create a total economic impact that is greater than the initial spending.

The State System universities are projected to have a total economic impact of \$3.8 billion on the Commonwealth in the fiscal year 2022-2023, as shown in Table 18.

Table 18: Direct, indirect, induced, and total economic input upon the Commonwealth during 2022-2023

University	Total Direct	Total Indirect	Total Induced	Total Economic Impact
Bloomsburg	\$278,090,867	\$52,622,474	\$6,748,884	\$337,462,226
California	\$233,433,560	\$57,366,983	\$10,053,818	\$300,854,361
Cheyney	\$45,825,203	\$11,938,624	\$4,454,502	\$62,218,330
Clarion	\$164,479,927	\$33,593,346	\$5,478,735	\$203,552,009
East Stroudsburg	\$189,256,044	\$50,085,258	\$11,408,403	\$250,749,705
Edinboro	\$150,837,225	\$37,417,234	\$8,895,905	\$197,150,364
Indiana	\$339,802,454	\$73,782,117	\$12,868,985	\$426,453,556
Kutztown	\$284,443,259	\$62,430,376	\$9,543,228	\$356,416,862
Lock Haven	\$111,412,983	\$20,446,760	\$2,383,683	\$134,243,426
Mansfield	\$69,095,099	\$17,119,018	\$4,827,385	\$91,041,502
Millersville	\$242,165,156	\$48,712,923	\$5,314,739	\$296,192,817
Shippensburg	\$222,466,732	\$42,948,663	\$5,088,993	\$270,504,388
Slippery Rock	\$283,863,675	\$60,768,460	\$8,104,329	\$352,736,464
West Chester	\$431,015,908	\$87,201,480	\$12,130,646	\$530,348,033
System-wide Functions and Services	\$12,711,690	\$2,296,983	\$727,879	\$15,736,552
<b>Total</b>	<b>\$3,058,899,783</b>	<b>\$658,730,698</b>	<b>\$108,030,115</b>	<b>\$3,825,660,596</b>

The total economic impact is compared to the state appropriations to estimate the return on state appropriations. For illustrative purposes and because state appropriations for 2022-2023 fiscal are not known at this time, Table 19 utilizes the state appropriation from fiscal year 2019-2020 to determine the ratio.

Table 19: Economic impact to State appropriations ratio during 2022-2023

University	Total Economic Impact	State Appropriations	Ratio
Bloomsburg	\$337,462,226	\$38,405,845	8.79
California	\$300,854,361	\$34,181,375	8.80
Cheyney	\$62,218,330	\$13,497,667	4.61
Clarion	\$203,552,009	\$26,512,315	7.68
East Stroudsburg	\$250,749,705	\$29,102,386	8.62
Edinboro	\$197,150,364	\$28,576,510	6.90
Indiana	\$426,453,556	\$56,058,332	7.61
Kutztown	\$356,416,862	\$37,769,690	9.44
Lock Haven	\$134,243,426	\$25,746,354	5.21
Mansfield	\$91,041,502	\$18,074,506	5.04
Millersville	\$296,192,817	\$35,567,379	8.33
Shippensburg	\$270,504,388	\$31,352,960	8.63
Slippery Rock	\$352,736,464	\$39,786,283	8.87
West Chester	\$530,348,033	\$58,194,345	9.11
System-wide Functions and Services	\$15,736,552	\$4,644,054	3.39
<b>Total</b>	<b>\$3,825,660,596</b>	<b>\$477,470,000</b>	<b>8.01</b>

Therefore, for every dollar invested by the Commonwealth to the State System, an average return of approximately \$8.01 in economic impact is projected. The highest return to the Commonwealth was \$9.44, generated by Kutztown University.

## EMPLOYMENT IMPACT OF STATE SYSTEM UPON THE COMMONWEALTH

In addition to the economic impact of \$3.8 billion, there is also a substantial direct employment impact that arises from the State System's economic activity. The direct employment impact consists of the job opportunities that are created from the direct spending of each institution, faculty and staff, students, or direct composite spending. By applying a multiplier to the total amount spent on the discounted direct composite spending, the employment impact can be calculated, as shown in Table 20. In order to apply the final-demand employment multiplier from the RIMS II economic model, the composite direct spending is discounted to 2019 dollars.

Table 20: Pennsylvania's State System of Higher Education total jobs supported during 2022-2023

University	Composite Direct Spending	Discounted Composite Direct Spending <sup>22</sup>	Jobs Output	Composite Jobs Supported
Bloomsburg	\$278,090,867	\$262,051,235	15.94	4,176
California	\$233,433,560	\$219,969,657	15.94	3,506
Cheyney	\$45,825,203	\$43,182,112	15.94	688
Clarion	\$164,479,927	\$154,993,109	15.94	2,470
East Stroudsburg	\$189,256,044	\$178,340,197	15.94	2,842
Edinboro	\$150,837,225	\$142,137,286	15.94	2,265
Indiana	\$339,802,454	\$320,203,442	15.94	5,103
Kutztown	\$284,443,259	\$268,037,236	15.94	4,272
Lock Haven	\$111,412,983	\$104,986,942	15.94	1,673
Mansfield	\$69,095,099	\$65,109,855	15.94	1,038
Millersville	\$242,165,156	\$228,197,635	15.94	3,637
Shippensburg	\$222,466,732	\$209,635,370	15.94	3,341
Slippery Rock	\$283,863,675	\$267,491,081	15.94	4,263
West Chester	\$431,015,908	\$406,155,916	15.94	6,473
System-wide Functions and Services	\$12,711,690	\$11,978,510	15.94	191
<b>Total</b>	<b>\$3,058,899,783</b>	<b>\$2,882,469,584</b>		<b>45,940</b>

The multiplier indicated that for each additional million dollars of direct composite spending by a State System university, approximately 15.9 jobs were supported. Therefore, the total employment impact resulting from the composite direct spending of the State System is 45,940 jobs.

<sup>22</sup> Discounted using 2 percent annual price change.

## EMPLOYMENT IMPACT OF STATE SYSTEM UPON THE TOTAL ECONOMIC IMPACTS OF INSTITUTIONAL SPENDING

The following provides summary tables for each type of spending by university. The methodology of how each input was calculated and the usage of RIMS II multipliers for the types of spending can be found in **Appendix A**.

Table 21 displays the institutional total economic impact of all State System universities, which, including System-wide Functions and Services, is projected to be \$1.7 billion. This amounts to 44 percent of the State System's \$3.8 billion total economic impact on the Commonwealth.

Table 21:  
Direct, indirect, induced,  
and total economic impact  
of institutional spending  
during 2022-2023

University	Direct	Indirect	Induced	Total
Bloomsburg	\$128,784,847	\$13,459,505	\$6,748,884	\$148,993,237
California	\$91,167,652	\$20,050,635	\$10,053,818	\$121,272,105
Cheyney	\$34,178,708	\$8,883,749	\$4,454,502	\$47,516,959
Clarion	\$78,063,846	\$10,926,408	\$5,478,735	\$94,468,989
East Stroudsburg	\$85,050,429	\$22,752,125	\$11,408,403	\$119,210,957
Edinboro	\$75,824,410	\$17,741,373	\$8,895,905	\$102,461,688
Indiana	\$156,359,418	\$25,665,009	\$12,868,985	\$194,893,412
Kutztown	\$118,991,384	\$19,032,349	\$9,543,228	\$147,566,961
Lock Haven	\$51,584,893	\$4,753,852	\$2,383,683	\$58,722,429
Mansfield	\$40,533,841	\$9,627,400	\$4,827,385	\$54,988,626
Millersville	\$96,859,864	\$10,599,345	\$5,314,739	\$112,773,947
Shippensburg	\$97,420,870	\$10,149,133	\$5,088,993	\$112,658,996
Slippery Rock	\$113,807,444	\$16,162,710	\$8,104,329	\$138,074,484
West Chester	\$190,798,734	\$24,192,515	\$12,130,646	\$227,121,895
System-wide Functions and Services	\$9,488,846	\$1,451,631	\$727,879	\$11,668,356
<b>Total</b>	<b>\$1,368,915,186</b>	<b>\$215,447,739</b>	<b>\$108,030,115</b>	<b>\$1,692,393,040</b>

Table 22:  
Direct, indirect, and total  
economic impact of faculty  
and staff spending during  
2022-2023

University	Direct	Indirect	Total
Bloomsburg	\$66,923,708	\$17,554,089	\$84,477,796
California	\$48,988,427	\$12,849,664	\$61,838,091
Cheyney	\$9,463,643	\$2,482,314	\$11,945,957
Clarion	\$39,190,706	\$10,279,722	\$49,470,428
East Stroudsburg	\$46,641,896	\$12,234,169	\$58,876,065
Edinboro	\$37,948,859	\$9,953,986	\$47,902,845
Indiana	\$75,625,407	\$19,836,544	\$95,461,952
Kutztown	\$58,449,787	\$15,331,379	\$73,781,166
Lock Haven	\$30,779,095	\$8,073,357	\$38,852,451
Mansfield	\$18,276,685	\$4,793,974	\$23,070,659
Millersville	\$64,311,314	\$16,868,858	\$81,180,171
Shippensburg	\$54,087,505	\$14,187,153	\$68,274,658
Slippery Rock	\$68,583,316	\$17,989,404	\$86,572,720
West Chester	\$133,759,552	\$35,085,131	\$168,844,683
System-wide Functions and Services	\$3,222,844	\$845,352	\$4,068,196
<b>Total</b>	<b>\$756,252,743</b>	<b>\$198,365,095</b>	<b>\$954,617,838</b>

### TOTAL ECONOMIC IMPACT OF FACULTY AND STAFF SPENDING

Faculty and staff spending was calculated consistent with the methodology applies for the 2019-2020 fiscal year. Table 22 shows that Pennsylvania's State System of Higher Education is estimated to have a total faculty and staff economic impact of ~\$1 billion during the 2022-2023 fiscal year.

Out of the State System's total economic impact of \$3.8 billion on the Commonwealth, the faculty and staff spending constitutes 25 percent of it.

<sup>23</sup> Again, this 2022-2023 fiscal year analysis excludes the capital investment spending category that was included in 2019-2020.

## TOTAL ECONOMIC IMPACTS OF INSTITUTIONAL SPENDING

A total of 94,867 students are projected to be enrolled in undergraduate and graduate programs at one of the 14 State System universities during the 2022 fall semester. The enrollment trends by university from fall 2013 to fall 2022 are presented in Table 23. The projected enrollment in fall 2022 includes 487 students in Online Offerings associated with what is planned to become the Western Integrated University encompassing California University of Pennsylvania, Clarion University, and Edinboro University. Notably, enrollment is projected to decrease from fall 2019 to fall 2022 by approximately 1 percent.

Table 23: Fall headcount enrollment by university, 2013-2022

University	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Bloomsburg	10,127	9,998	9,777	9,658	9,287	8,924	8,689	8,436	8,673	9,041
California	8,243	7,978	7,854	7,553	7,788	7,312	6,842	6,885	6,770	6,811
Cheyney	1,211	1,022	711	746	755	469	618	627	650	686
Clarion	6,080	5,712	5,368	5,224	5,225	4,869	4,703	4,465	4,208	4,370
East Stroudsburg	6,778	6,820	6,828	6,830	6,742	6,425	6,214	5,842	5,827	5,882
Edinboro	7,098	6,837	6,550	6,181	5,575	4,834	4,646	4,319	4,189	4,483
Indiana	14,925	14,571	14,035	13,114	12,562	11,581	10,636	10,067	9,648	9,737
Kutztown	9,513	9,218	9,000	8,513	8,329	8,309	8,199	7,892	7,935	8,015
Lock Haven	5,260	4,917	4,607	4,220	3,827	3,425	3,162	3,163	3,088	3,220
Mansfield	2,970	2,752	2,376	2,196	1,897	1,637	1,663	1,792	1,847	1,885
Millersville	8,279	8,047	7,988	7,927	7,748	7,781	7,817	7,495	7,481	7,481
Shippensburg	7,548	7,355	7,058	6,989	6,581	6,408	6,096	6,130	6,259	6,259
Slippery Rock	8,347	8,495	8,628	8,881	8,895	8,824	8,806	8,876	9,028	9,146
West Chester	15,845	16,086	16,606	17,006	17,336	17,552	17,691	17,719	17,735	17,850
<b>Total</b>	<b>112,224</b>	<b>109,808</b>	<b>107,386</b>	<b>105,038</b>	<b>102,547</b>	<b>98,350</b>	<b>95,782</b>	<b>93,708</b>	<b>93,338</b>	<b>94,867</b>

The student expenditures analysis was based on the segregation of the fall 2022 enrollment projections for each university into three broad categories, as follows:

- Students living on campus in university housing or university affiliated private housing
- Students living off campus in private, non-affiliated housing
- Students living off campus with parents

The analysis required first, determining the proportion of students at each university in the three broad categories for fall 2019 and then applying those proportions to the fall 2022 enrollment projections. Additionally, the spending profiles developed for the 2019-2020 fiscal year student spending analysis were applied to the fall 2022 enrollment projections.

The estimated spending of these students contributed to the economic impact of the State System, as shown in Table 24.

Table 24: Direct, indirect, and total economic impact of student spending during 2022-2023

University	Direct Impact	Indirect Impact	Total Impact
Bloomsburg	\$82,382,312	\$21,608,880	\$103,991,192
California	\$93,277,481	\$24,466,683	\$117,744,164
Cheyney	\$2,182,852	\$572,562	\$2,755,414
Clarion	\$47,225,376	\$12,387,216	\$59,612,592
East Stroudsburg	\$57,563,719	\$15,098,963	\$72,662,682
Edinboro	\$37,063,956	\$9,721,876	\$46,785,832
Indiana	\$107,817,629	\$28,280,564	\$136,098,193
Kutztown	\$107,002,088	\$28,066,648	\$135,068,735
Lock Haven	\$29,048,995	\$7,619,551	\$36,668,546
Mansfield	\$10,284,574	\$2,697,644	\$12,982,217
Millersville	\$80,993,978	\$21,244,720	\$102,238,699
Shippensburg	\$70,958,357	\$18,612,377	\$89,570,734
Slippery Rock	\$101,472,915	\$26,616,346	\$128,089,261
West Chester	\$106,457,622	\$27,923,834	\$134,381,456
<b>Total</b>	<b>\$933,731,853</b>	<b>\$244,917,865</b>	<b>\$1,178,649,718</b>

During the fiscal year 2022-2023, the State System is projected to have a total student spending economic impact on the Commonwealth of \$1.2 billion, 31 percent of the total economic impact. The two State System universities with the largest student total economic impact on the Commonwealth were again Indiana University of Pennsylvania and Kutztown University.

### EMPLOYMENT IMPACT OF JOBS SUPPORTED AS A RESULT OF STATE SYSTEM SPENDING

Additional economic benefit, resulting from the total direct spending attributed to the State System universities to the Commonwealth, can be quantified. As shown in Table 20 of this report, the total direct spending attributed to each university generates an employment impact. The aggregate result of total direct spending is expected to support approximately 45,940 jobs within the Commonwealth, in addition to the State System employees.

The additional jobs supported by the existence of the State System universities results in increased consumption of goods and services within Pennsylvania. Further, these jobs and corresponding consumption of goods and services will provide an additional source of revenues to the Commonwealth in the form of increased sales and taxes, as demonstrated in Tables 25 and 26.

All but three universities, and System-wide Functions and Services, contribute over \$100 million additional impact by way of estimated consumption. An aggregation of the total economic impact resulting from the State System supported jobs is an estimated \$2.3 billion in additional consumption.

In addition to the revenue generated by State System employees, total income tax revenue and sales tax revenue attributed to jobs supported by State System universities is shown in Table 26. For the purposes of this analysis, local earned income taxes, local services tax, and payments to the unemployment trust fund were not considered.

Table 25: Consumption attributable to the employment impact of Pennsylvania's State System of Higher Education during 2022-2023<sup>24, 25</sup>

University	Total Jobs Supported	Per Capita Income	Estimated Wages	Consumption Factor	Estimated Consumption
Bloomsburg	4,176	\$66,005	\$275,667,818	76.08%	\$209,735,391
California	3,506	\$66,005	\$231,399,617	76.08%	\$176,054,969
Cheyney	688	\$66,005	\$45,425,921	76.08%	\$34,561,246
Clarion	2,470	\$66,005	\$163,046,788	76.08%	\$124,050,323
East Stroudsburg	2,842	\$66,005	\$187,607,027	76.08%	\$142,736,404
Edinboro	2,265	\$66,005	\$149,522,957	76.08%	\$113,761,033
Indiana	5,103	\$66,005	\$336,841,702	76.08%	\$256,278,105
Kutztown	4,272	\$66,005	\$281,964,860	76.08%	\$214,526,348
Lock Haven	1,673	\$66,005	\$110,442,224	76.08%	\$84,027,375
Mansfield	1,038	\$66,005	\$68,493,063	76.08%	\$52,111,340
Millersville	3,637	\$66,005	\$240,055,133	76.08%	\$182,640,315
Shippensburg	3,341	\$66,005	\$220,528,345	76.08%	\$167,783,816
Slippery Rock	4,263	\$66,005	\$281,390,327	76.08%	\$214,089,227
West Chester	6,473	\$66,005	\$427,260,399	76.08%	\$325,071,049
System-wide Functions and Services	191	\$66,005	\$12,600,931	76.08%	\$9,587,123
<b>Total</b>	<b>45,940</b>		<b>\$3,032,247,114</b>		<b>\$2,307,014,062</b>

Table 26: Sales, income, and total State tax revenue of jobs supported attributable to Pennsylvania's State System of Higher Education During 2022-2023<sup>26, 27</sup>

University	Estimated Wages	Estimated Income Tax Revenue	Estimated Consumption	Estimated Taxable Spending	Estimated Sales Tax Revenue	Total Tax Payments
Bloomsburg	\$275,667,818	\$8,463,002	\$209,735,391	\$47,964,340	\$2,877,860	\$11,340,862
California	\$231,399,617	\$7,103,968	\$176,054,969	\$40,261,972	\$2,415,718	\$9,519,687
Cheyney	\$45,425,921	\$1,394,576	\$34,561,246	\$7,903,804	\$474,228	\$1,868,804
Clarion	\$163,046,788	\$5,005,536	\$124,050,323	\$28,369,041	\$1,702,142	\$6,707,679
East Stroudsburg	\$187,607,027	\$5,759,536	\$142,736,404	\$32,642,357	\$1,958,541	\$7,718,077
Edinboro	\$149,522,957	\$4,590,355	\$113,761,033	\$26,015,986	\$1,560,959	\$6,151,314
Indiana	\$336,841,702	\$10,341,040	\$256,278,105	\$58,608,183	\$3,516,491	\$13,857,531
Kutztown	\$281,964,860	\$8,656,321	\$214,526,348	\$49,059,983	\$2,943,599	\$11,599,920
Lock Haven	\$110,442,224	\$3,390,576	\$84,027,375	\$19,216,202	\$1,152,972	\$4,543,548
Mansfield	\$68,493,063	\$2,102,737	\$52,111,340	\$11,917,331	\$715,040	\$2,817,777
Millersville	\$240,055,133	\$7,369,693	\$182,640,315	\$41,767,973	\$2,506,078	\$9,875,771
Shippensburg	\$220,528,345	\$6,770,220	\$167,783,816	\$38,370,444	\$2,302,227	\$9,072,447
Slippery Rock	\$281,390,327	\$8,638,683	\$214,089,227	\$48,960,018	\$2,937,601	\$11,576,284
West Chester	\$427,260,399	\$13,116,894	\$325,071,049	\$74,340,427	\$4,460,426	\$17,577,320
System-wide Functions and Services	\$12,600,931	\$386,849	\$9,587,123	\$2,192,477	\$131,549	\$518,397
<b>Total</b>	<b>\$3,032,247,114</b>	<b>\$93,089,986</b>	<b>\$2,307,014,062</b>	<b>\$527,590,538</b>	<b>\$31,655,432</b>	<b>\$124,745,419</b>

In the aggregate, the revenues realized by the Commonwealth in terms of payroll tax withholdings and sales tax receipts for the jobs supported by the State System were approximately \$124.7 million or approximately 26.1 percent of the Commonwealth's appropriations for the State System for fiscal year 2022-2023.

<sup>24</sup> Per capita income represents 2 percent annual increase of 2020 per capita income for Pennsylvania that was obtained from the Bureau of Economic Analysis.

<sup>25</sup> The consumption factor is the average total consumption as a percentage of revenue for all income ranges obtained from Bureau of Labor Statistics.

<sup>26</sup> Pennsylvania's sales tax rate is 6.00 percent and income taxes are based on Pennsylvania's 3.07 percent flat tax rate.

<sup>27</sup> Taxable consumption calculated at 22.87 percent of total consumption; refer to Appendix A for additional detail.

## TAX REVENUES ALLOCABLE TO STATE SYSTEM UNIVERSITIES

Income tax payments made to the Commonwealth, in the form of payroll withholdings from employees of State System universities, represent a significant revenue stream flowing to the Commonwealth on a year-over-year basis. The total state income tax revenue, on a university-by-university basis, is presented in Table 27.

Table 27: Income tax revenue attributable to employees of the State System during 2022-2023

University	State Tax Withholdings	Local EIT	Local Services Tax	Unemployment Tax	Total Tax Payments
Bloomsburg	\$2,324,867	\$1,162,641	\$79,957	\$44,766	\$3,612,230
California	\$1,757,464	\$639,432	\$71,741	\$33,214	\$2,501,850
Cheyney	\$321,071	\$161,038	\$4,272	\$6,432	\$492,813
Clarion	\$1,317,975	\$441,357	\$48,280	\$25,620	\$1,833,232
East Stroudsburg	\$1,544,112	\$585,703	\$45,803	\$31,338	\$2,206,956
Edinboro	\$1,335,135	\$515,100	\$47,331	\$26,124	\$1,923,690
Indiana	\$2,757,852	\$1,122,284	\$91,342	\$52,649	\$4,024,127
Kutztown	\$2,087,302	\$786,605	\$80,361	\$40,145	\$2,994,413
Lock Haven	\$1,088,852	\$544,246	\$31,839	\$21,237	\$1,686,174
Mansfield	\$595,712	\$295,389	\$20,130	\$11,648	\$922,879
Millersville	\$2,207,129	\$766,893	\$76,669	\$42,107	\$3,092,798
Shippensburg	\$1,921,575	\$902,032	\$56,396	\$37,184	\$2,917,187
Slippery Rock	\$2,443,807	\$896,549	\$78,613	\$47,086	\$3,466,056
West Chester	\$4,539,018	\$1,920,534	\$154,072	\$89,952	\$6,703,575
System-wide Functions and Services	\$120,656	\$59,983	\$5,040	\$2,184	\$187,863
<b>Total</b>	<b>\$26,362,526</b>	<b>\$10,799,786</b>	<b>\$891,845</b>	<b>\$511,686</b>	<b>\$38,565,844</b>

The State System provides an added benefit to the local municipalities in the form of local earned income taxes and local services taxes. State System employees also help to fund the unemployment trust fund through payroll withholdings, helping to strengthen the Commonwealth's social safety net available to displaced workers.

In addition to the payroll tax withholdings to the Commonwealth and to local municipalities, the State System, through the spending of its employees and students, generates sales tax revenue for the Commonwealth through the consumption of taxable goods and services. The total state sales tax revenue, attributed to State System universities, is presented in Table 28.

Table 28: Sales, income, and total State tax revenue attributed to employees of the State System during 2022-2023<sup>28</sup>

University	Total Faculty, Staff, and Student Spending	Spending subject to tax	Sales Tax Revenue
Bloomsburg	\$188,468,989	\$43,100,932	\$2,586,056
California	\$179,582,255	\$41,068,627	\$2,464,118
Cheyney	\$14,701,371	\$3,362,053	\$201,723
Clarion	\$109,083,020	\$24,946,172	\$1,496,770
East Stroudsburg	\$131,538,748	\$30,081,567	\$1,804,894
Edinboro	\$94,688,676	\$21,654,333	\$1,299,260
Indiana	\$231,560,145	\$52,955,439	\$3,177,326
Kutztown	\$208,849,901	\$47,761,838	\$2,865,710
Lock Haven	\$75,520,998	\$17,270,880	\$1,036,253
Mansfield	\$36,052,876	\$8,244,924	\$494,695
Millersville	\$183,418,870	\$41,946,021	\$2,516,761
Shippensburg	\$157,845,392	\$36,097,628	\$2,165,858
Slippery Rock	\$214,661,981	\$49,091,001	\$2,945,460
West Chester	\$303,226,139	\$69,344,719	\$4,160,683
System-wide Functions and Services	\$4,068,196	\$930,355	\$55,821
<b>Total</b>	<b>\$2,133,267,556</b>	<b>\$487,856,488</b>	<b>\$29,271,389</b>

Total payments made to the Commonwealth as sales taxes are estimated to be approximately \$29.3 million.

<sup>28</sup> Pennsylvania's sales tax rate in 6.00 percent.

## Economic impact comparison 2019-2020 vs. 2022-2023

### ECONOMIC IMPACT DIFFERENCES

The differences observed between the 2019-2020 fiscal year results and the 2022-2023 fiscal year results will primarily reflect differences in the direct spending in each category in 2019-2020 and the projected spending levels in 2022-2023. Both the 2019-2020 fiscal impact and 2022-2023 fiscal year impact rely on the latest RIMS II economic impact multipliers. Therefore, there is no difference in the economic impact multipliers to generate these results. Importantly, the 2022-2023 fiscal year projections do not include capital expenditures and no capital expenditure impact was estimated for this period. Although the 2019-2020 fiscal year impact results include capital expenditure impacts, all comparisons in this section will be made after excluding the capital expenditure impact results for 2019-2020 fiscal year.

The projected economic impact of Pennsylvania State System of Higher Education on the Commonwealth of Pennsylvania during 2022-2023 is expected to increase by 2 percent compared to the 2019-2020 fiscal year impact. Table 29 illustrates the total economic impact comparison.

Table 29: Total economic impact of the State System in FY 2020 and FY 2023<sup>29</sup>

University	Total Impact FY 2019-20	Total Impact FY 2022-23	Percentage Change
Bloomsburg	\$329,101,072	\$337,462,226	2.5%
California	\$288,249,200	\$300,854,361	4.4%
Cheyney	\$43,106,627	\$62,218,330	44.3%
Clarion	\$198,230,451	\$203,552,009	2.7%
East Stroudsburg	\$233,265,950	\$250,749,705	7.5%
Edinboro	\$192,512,425	\$197,150,364	2.4%
Indiana	\$437,202,282	\$426,453,556	-2.5%
Kutztown	\$357,365,554	\$356,416,862	-0.3%
Lock Haven	\$132,638,853	\$134,243,426	1.2%
Mansfield	\$84,702,830	\$91,041,502	7.5%
Millersville	\$298,308,406	\$296,192,817	-0.7%
Shippensburg	\$267,059,927	\$270,504,388	1.3%
Slippery Rock	\$331,234,535	\$352,736,464	6.5%
West Chester	\$541,717,831	\$530,348,033	-2.1%
System-wide Functions and Services	\$16,023,599	\$15,736,552	-1.8%
<b>Total</b>	<b>\$3,750,719,542</b>	<b>\$3,825,660,596</b>	<b>2.0%</b>

Overall, the economic impact of the State System is projected to increase by 2 percent from the 2019-2020 fiscal year to 2022-2023 fiscal year. The impact of 10 of the 14 universities is expected to increase from 2019-2020 fiscal year to 2022-2023 fiscal year. The economic impact associated with four universities is expected to decrease over this period. The economic impact of the System-wide Functions and Services is also expected to decrease over the period.

The next table, Table 30, illustrates the total economic impact of the State System by spending category. The total economic impact of Institutional Spending is projected to increase by 7.6% over the period while the economic impact of Faculty/Staff Spending and Student Spending categories are expected to decrease.

<sup>29</sup> The Total Impact for FY 2020 is adjusted to remove the impact from Capital Expenditures so that it is comparable to the FY 2023 estimates for which Capital Expenditure estimates were not available.

As noted earlier, fall enrollment in 2022 is expected to be approximately 1 percent lower than the fall enrollment in 2019. The decrease in Student Spending impact can be directly tied to the overall decrease in student enrollment.

Table 30: Total economic impact of the State System in FY 2020 and FY 2023 by spending category

Impact	Total Impact FY 2019-20	Total Impact FY 2022-23	Percentage Change	Dollar Change
Institutional Spending	\$1,573,172,713	\$1,692,393,040	7.6%	\$119,220,327
Faculty/Staff Spending	\$982,574,755	\$954,617,838	-2.8%	\$(27,956,918)
Student Spending	\$1,194,972,074	\$1,178,649,718	-1.4%	\$(16,322,356)
<b>Total</b>	<b>\$3,750,719,542</b>	<b>\$3,825,660,596</b>	<b>2.0%</b>	<b>\$74,941,054</b>

Despite the slight increase in overall impact and the increase in Institutional Spending impact, the total employment supported, employment consumption impact, and various tax payments are expected to be lower in 2022-2023 compared to 2019-2020. Table 31 illustrates the modest decreases in several impact projections.

Table 31: Other impact results in FY 2020 and FY 2023

Impact	FY 2019-20	FY 2022-23	Percentage Change	Amount Change
Total Supported Employment	47,872	45,940	-4.0%	(1,933)
Employment Consumption Impact	\$2,329,974,289	\$2,307,014,062	-1.0%	\$(22,960,226)
Tax Payments - Total Employment Supported	\$125,986,930	\$124,745,419	-1.0%	\$(1,241,511)
State System Payroll Tax Payments	\$39,806,573	\$38,565,844	-3.1%	\$(1,240,729)
State System Sales Tax Revenue	\$29,878,962	\$29,271,389	-2.0%	\$(607,573)

## Economic impact of integrated universities in 2022-2023

The System Redesign calls for the integration of three northeastern universities – including Bloomsburg University, Lock Haven University, and Mansfield University – and the integration of three western universities – including California University of Pennsylvania, Clarion University, and Edinboro University. This section repeats the presentation of the projected economic impact results from the 2022-2023 fiscal year, now with subtotals for the combined universities. The Northeast and West subtotals will then be compared to the economic impact projections for the fully integrated universities in 2025-2026 fiscal year.

As shown earlier, the State System universities are projected to have a total economic impact of \$3.8 billion on the Commonwealth in the fiscal year 2022-2023. The subtotal for Northeast shows a combined total economic impact of \$562.7 million, or 14.7 percent of the total State System impact. The subtotal for West captures \$701.6 million, or 18.3 percent of the total State System impact, as shown in Table 32.

Table 32: Direct, indirect, induced, and total economic impact upon the Commonwealth

University	Total Direct	Total Indirect	Total Induced	Total Economic Impact
Bloomsburg	\$278,090,867	\$52,622,474	\$6,748,884	\$337,462,226
Lock Haven	\$111,412,983	\$20,446,760	\$2,383,683	\$134,243,426
Mansfield	\$69,095,099	\$17,119,018	\$4,827,385	\$91,041,502
<b>Subtotal Northeast</b>	<b>\$458,598,949</b>	<b>\$90,188,252</b>	<b>\$13,959,953</b>	<b>\$562,747,154</b>
California	\$233,433,560	\$57,366,983	\$10,053,818	\$300,854,361
Clarion	\$164,479,927	\$33,593,346	\$5,478,735	\$203,552,009
Edinboro	\$150,837,225	\$37,417,234	\$8,895,905	\$197,150,364
<b>Subtotal West</b>	<b>\$548,750,712</b>	<b>\$128,377,563</b>	<b>\$24,428,458</b>	<b>\$701,556,734</b>
Cheyney	\$45,825,203	\$11,938,624	\$4,454,502	\$62,218,330
East Stroudsburg	\$189,256,044	\$50,085,258	\$11,408,403	\$250,749,705
Indiana	\$339,802,454	\$73,782,117	\$12,868,985	\$426,453,556
Kutztown	\$284,443,259	\$62,430,376	\$9,543,228	\$356,416,862
Millersville	\$242,165,156	\$48,712,923	\$5,314,739	\$296,192,817
Shippensburg	\$222,466,732	\$42,948,663	\$5,088,993	\$270,504,388
Slippery Rock	\$283,863,675	\$60,768,460	\$8,104,329	\$352,736,464
West Chester	\$431,015,908	\$87,201,480	\$12,130,646	\$530,348,033
System-wide Functions and Services	\$12,711,690	\$2,296,983	\$727,879	\$15,736,552
<b>Total</b>	<b>\$3,058,899,783</b>	<b>\$658,730,698</b>	<b>\$108,030,115</b>	<b>\$3,825,660,596</b>

Table 33 summarizes the return on state appropriations, with subtotals for the Northeast and West combinations. The return on state appropriations compares the projected total economic impact to state appropriations during the 2019-2020 fiscal year.

Table 33: Economic impact to state appropriations ratio

University	Total Economic Impact	State Appropriations	Ratio
Bloomsburg	\$337,462,226	\$38,405,845	8.79
Lock Haven	\$134,243,426	\$25,746,354	5.21
Mansfield	\$91,041,502	\$18,074,506	5.04
<b>Subtotal Northeast</b>	<b>\$562,747,154</b>	<b>\$82,226,705</b>	<b>6.84</b>
California	\$300,854,361	\$34,181,375	8.80
Clarion	\$203,552,009	\$26,512,315	7.68
Edinboro	\$197,150,364	\$28,576,510	6.90
<b>Subtotal West</b>	<b>\$701,556,734</b>	<b>\$89,270,200</b>	<b>7.86</b>
Cheyney	\$62,218,330	\$13,497,667	4.61
East Stroudsburg	\$250,749,705	\$29,102,386	8.62
Indiana	\$426,453,556	\$56,058,332	7.61
Kutztown	\$356,416,862	\$37,769,690	9.44
Millersville	\$296,192,817	\$35,567,379	8.33
Shippensburg	\$270,504,388	\$31,352,960	8.63
Slippery Rock	\$352,736,464	\$39,786,283	8.87
West Chester	\$530,348,033	\$58,194,345	9.11
System-wide Functions and Services	\$15,736,552	\$4,644,054	3.39
<b>Total</b>	<b>\$3,825,660,596</b>	<b>\$477,470,000</b>	<b>8.01</b>

For every dollar invested by the Commonwealth to the State System, an average return of approximately \$8.01 in economic impact is projected. The subtotal for the Northeast's return on investment is \$6.84 which is slightly below the State System's average. The subtotal for the West's return on investment is also below the State System's average return on investment at \$7.86.

## EMPLOYMENT IMPACT OF STATE SYSTEM UPON THE COMMONWEALTH

The total projected employment impact during the 2022-2023 fiscal year is shown again in Table 34, this time with subtotals for the Northeast and West entities. These jobs represent the model-estimated employment impact with all of the economic impact supported by the State System.

Table 34: Pennsylvania's State System of Higher Education total jobs supported

University	Composite Direct Spending	Discounted Composite Direct Spending <sup>30</sup>	Jobs Output	Composite Jobs Supported
Bloomsburg	\$278,090,867	\$262,051,235	15.94	4,176
Lock Haven	\$111,412,983	\$104,986,942	15.94	1,673
Mansfield	\$69,095,099	\$65,109,855	15.94	1,038
<b>Subtotal Northeast</b>	<b>\$458,598,949</b>	<b>\$432,148,032</b>		<b>6,887</b>
California	\$233,433,560	\$219,969,657	15.94	3,506
Clarion	\$164,479,927	\$154,993,109	15.94	2,470
Edinboro	\$150,837,225	\$142,137,286	15.94	2,265
<b>Subtotal West</b>	<b>\$548,750,712</b>	<b>\$517,100,052</b>		<b>8,241</b>
Cheyney	\$45,825,203	\$43,182,112	15.94	688
East Stroudsburg	\$189,256,044	\$178,340,197	15.94	2,842
Indiana	\$339,802,454	\$320,203,442	15.94	5,103
Kutztown	\$284,443,259	\$268,037,236	15.94	4,272
Millersville	\$242,165,156	\$228,197,635	15.94	3,637
Shippensburg	\$222,466,732	\$209,635,370	15.94	3,341
Slippery Rock	\$283,863,675	\$267,491,081	15.94	4,263
West Chester	\$431,015,908	\$406,155,916	15.94	6,473
System-wide Functions and Services	\$12,711,690	\$11,978,510	15.94	191
<b>Total</b>	<b>\$3,058,899,783</b>	<b>\$2,882,469,584</b>		<b>45,940</b>

Therefore, the total employment impact resulting from the composite direct spending of the State System is 45,940 jobs. The Northeast and West universities represent 15 percent and 18 percent of the total system wide employment impact, respectively.

## TOTAL ECONOMIC IMPACTS OF INSTITUTIONAL SPENDING

Table 35 displays the institutional total economic impact of all State System universities, which, including System-wide Functions and Services, is projected to be \$1.7 billion. The Northeast and West subtotals represent 16 percent and 19 percent, respectively, of the total system-wide Institutional Spending impact.

<sup>30</sup> Discounted using 2 percent annual price change.

Table 35:  
Direct, indirect,  
induced, and total  
economic impact of  
institutional spending

University	Direct	Indirect	Induced	Total
Bloomsburg	\$128,784,847	\$13,459,505	\$6,748,884	\$148,993,237
Lock Haven	\$51,584,893	\$4,753,852	\$2,383,683	\$58,722,429
Mansfield	\$40,533,841	\$9,627,400	\$4,827,385	\$54,988,626
<b>Subtotal Northeast</b>	<b>\$220,903,581</b>	<b>\$27,840,757</b>	<b>\$13,959,953</b>	<b>\$262,704,292</b>
California	\$91,167,652	\$20,050,635	\$10,053,818	\$121,272,105
Clarion	\$78,063,846	\$10,926,408	\$5,478,735	\$94,468,989
Edinboro	\$75,824,410	\$17,741,373	\$8,895,905	\$102,461,688
<b>Subtotal West</b>	<b>\$245,055,908</b>	<b>\$48,718,416</b>	<b>\$24,428,458</b>	<b>\$318,202,782</b>
Cheyney	\$34,178,708	\$8,883,749	\$4,454,502	\$47,516,959
East Stroudsburg	\$85,050,429	\$22,752,125	\$11,408,403	\$119,210,957
Indiana	\$156,359,418	\$25,665,009	\$12,868,985	\$194,893,412
Kutztown	\$118,991,384	\$19,032,349	\$9,543,228	\$147,566,961
Millersville	\$96,859,864	\$10,599,345	\$5,314,739	\$112,773,947
Shippensburg	\$97,420,870	\$10,149,133	\$5,088,993	\$112,658,996
Slippery Rock	\$113,807,444	\$16,162,710	\$8,104,329	\$138,074,484
West Chester	\$190,798,734	\$24,192,515	\$12,130,646	\$227,121,895
System-wide Functions and Services	\$9,488,846	\$1,451,631	\$727,879	\$11,668,356
<b>Total</b>	<b>\$1,368,915,186</b>	<b>\$215,447,739</b>	<b>\$108,030,115</b>	<b>\$1,692,393,040</b>

## TOTAL ECONOMIC IMPACT OF FACULTY AND STAFF SPENDING

Table 36 shows that Pennsylvania's State System of Higher Education is estimated to have a total faculty and staff economic impact of \$1 billion during the 2022-2023 fiscal year with the Northeast and West representing 15 percent and 17 percent of the total, respectively.

Table 36:  
Direct, indirect, and  
total economic  
impact of faculty and  
staff spending

University	Direct	Indirect	Total
Bloomsburg	\$66,923,708	\$17,554,089	\$84,477,796
Lock Haven	\$30,779,095	\$8,073,357	\$38,852,451
Mansfield	\$18,276,685	\$4,793,974	\$23,070,659
<b>Subtotal Northeast</b>	<b>\$115,979,487</b>	<b>\$30,421,420</b>	<b>\$146,400,907</b>
California	\$48,988,427	\$12,849,664	\$61,838,091
Clarion	\$39,190,706	\$10,279,722	\$49,470,428
Edinboro	\$37,948,859	\$9,953,986	\$47,902,845
<b>Subtotal West</b>	<b>\$126,127,992</b>	<b>\$33,083,372</b>	<b>\$159,211,364</b>
Cheyney	\$9,463,643	\$2,482,314	\$11,945,957
East Stroudsburg	\$46,641,896	\$12,234,169	\$58,876,065
Indiana	\$75,625,407	\$19,836,544	\$95,461,952
Kutztown	\$58,449,787	\$15,331,379	\$73,781,166
Millersville	\$64,311,314	\$16,868,858	\$81,180,171
Shippensburg	\$54,087,505	\$14,187,153	\$68,274,658
Slippery Rock	\$68,583,316	\$17,989,404	\$86,572,720
West Chester	\$133,759,552	\$35,085,131	\$168,844,683
System-wide Functions and Services	\$3,222,844	\$845,352	\$4,068,196
<b>Total</b>	<b>\$756,252,743</b>	<b>\$198,365,095</b>	<b>\$954,617,838</b>

## TOTAL ECONOMIC IMPACT OF STUDENT EXPENDITURES

A total of 94,867 students are projected to be enrolled in undergraduate and graduate programs at 1 of the 14 State System universities during the 2022 fall semester. The enrollment trends by university from fall 2013 to fall 2022 are presented in Table 37.

The subtotal for the Northeast shows a fall 2022 enrollment of 14,146 students which is 15 percent of the total fall enrollment. The subtotal for the West shows a fall 2022 enrollment of 15,665, representing 17 percent of the total.

Table 37: Fall headcount enrollment by university, 2013-2022

University	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Bloomsburg	10,127	9,998	9,777	9,658	9,287	8,924	8,689	8,436	8,673	9,041
Lock Haven	5,260	4,917	4,607	4,220	3,827	3,425	3,162	3,163	3,088	3,220
Mansfield	2,970	2,752	2,376	2,196	1,897	1,637	1,663	1,792	1,847	1,885
<b>Subtotal Northeast</b>	<b>18,357</b>	<b>17,667</b>	<b>16,760</b>	<b>16,074</b>	<b>15,011</b>	<b>13,986</b>	<b>13,514</b>	<b>13,391</b>	<b>13,608</b>	<b>14,146</b>
California	8,243	7,978	7,854	7,553	7,788	7,312	6,842	6,885	6,770	6,811
Clarion	6,080	5,712	5,368	5,224	5,225	4,869	4,703	4,465	4,208	4,370
Edinboro	7,098	6,837	6,550	6,181	5,575	4,834	4,646	4,319	4,189	4,483
<b>Subtotal West</b>	<b>21,421</b>	<b>20,527</b>	<b>19,772</b>	<b>18,958</b>	<b>18,588</b>	<b>17,015</b>	<b>16,191</b>	<b>15,669</b>	<b>15,167</b>	<b>15,665</b>
Cheyney	1,211	1,022	711	746	755	469	618	627	650	686
East Stroudsburg	6,778	6,820	6,828	6,830	6,742	6,425	6,214	5,842	5,827	5,882
Indiana	14,925	14,571	14,035	13,114	12,562	11,581	10,636	10,067	9,648	9,737
Kutztown	9,513	9,218	9,000	8,513	8,329	8,309	8,199	7,892	7,935	8,015
Millersville	8,279	8,047	7,988	7,927	7,748	7,781	7,817	7,495	7,481	7,481
Shippensburg	7,548	7,355	7,058	6,989	6,581	6,408	6,096	6,130	6,259	6,259
Slippery Rock	8,347	8,495	8,628	8,881	8,895	8,824	8,806	8,876	9,028	9,146
West Chester	15,845	16,086	16,606	17,006	17,336	17,552	17,691	17,719	17,735	17,850
<b>Total</b>	<b>112,224</b>	<b>109,808</b>	<b>107,386</b>	<b>105,038</b>	<b>102,547</b>	<b>98,350</b>	<b>95,782</b>	<b>93,708</b>	<b>93,338</b>	<b>94,867</b>

The economic impact of student spending is shown in Table 38.

Table 38:  
Direct, indirect, and total economic  
impact of student spending

University	Direct	Indirect	Total
Bloomsburg	\$82,382,312	\$21,608,880	\$103,991,192
Lock Haven	\$29,048,995	\$7,619,551	\$36,668,546
Mansfield	\$10,284,574	\$2,697,644	\$12,982,217
<b>Subtotal Northeast</b>	<b>\$121,715,880</b>	<b>\$31,926,075</b>	<b>\$153,641,956</b>
California	\$93,277,481	\$24,466,683	\$117,744,164
Clarion	\$47,225,376	\$12,387,216	\$59,612,592
Edinboro	\$37,063,956	\$9,721,876	\$46,785,832
<b>Subtotal West</b>	<b>\$177,566,813</b>	<b>\$46,575,775</b>	<b>\$224,142,588</b>
Cheyney	\$2,182,852	\$572,562	\$2,755,414
East Stroudsburg	\$57,563,719	\$15,098,963	\$72,662,682
Indiana	\$107,817,629	\$28,280,564	\$136,098,193
Kutztown	\$107,002,088	\$28,066,648	\$135,068,735
Millersville	\$80,993,978	\$21,244,720	\$102,238,699
Shippensburg	\$70,958,357	\$18,612,377	\$89,570,734
Slippery Rock	\$101,472,915	\$26,616,346	\$128,089,261
West Chester	\$106,457,622	\$27,923,834	\$134,381,456
<b>Total</b>	<b>\$933,731,853</b>	<b>\$244,917,865</b>	<b>\$1,178,649,718</b>

During the fiscal year 2022-2023, the State System is projected to have a total student economic impact on the Commonwealth of \$1.2 billion with the Northwest and West representing 13 percent and 19 percent of the total, respectively.

### EMPLOYMENT IMPACT OF JOBS SUPPORTED AS A RESULT OF STATE SYSTEM SPENDING

As shown in Table 34 of this report, the total direct spending attributed to each university generates an employment impact. The aggregate result of total direct spending supports approximately 45,940 jobs within the Commonwealth, in addition to the State System employees.

The additional jobs supported by the existence of the State System universities results in increased consumption of goods and services within Pennsylvania. Further, these jobs and corresponding consumption of goods and services provide an additional source of revenues to the Commonwealth in the form of increased sales and taxes, as demonstrated in Tables 39 and 40.

The estimated consumption for the Northeast subtotal is approximately 15 percent of the State System total consumption impact of \$2.3 billion. The estimated consumption associated with the West subtotal is 18 percent of the total.

Table 39:  
Consumption attributable to the employment impact of Pennsylvania's State System of Higher Education<sup>31, 32</sup>

University	Total Jobs Supported	Per Capita Income	Estimated Wages	Consumption Factor	Estimated Consumption
Bloomsburg	4,176	\$66,005	\$275,667,818	76.08%	\$209,735,391
Lock Haven	1,673	\$66,005	\$110,442,224	76.08%	\$84,027,375
Mansfield	1,038	\$66,005	\$68,493,063	76.08%	\$52,111,340
<b>Subtotal Northeast</b>	<b>6,887</b>		<b>454,603,105</b>		<b>\$345,874,105</b>
California	3,506	\$66,005	\$231,399,617	76.08%	\$176,054,969
Clarion	2,470	\$66,005	\$163,046,788	76.08%	\$124,050,323
Edinboro	2,265	\$66,005	\$149,522,957	76.08%	\$113,761,033
<b>Subtotal West</b>	<b>8,241</b>		<b>543,969,362</b>		<b>\$413,866,325</b>
Cheyney	688	\$66,005	\$45,425,921	76.08%	\$34,561,246
East Stroudsburg	2,842	\$66,005	\$187,607,027	76.08%	\$142,736,404
Indiana	5,103	\$66,005	\$336,841,702	76.08%	\$256,278,105
Kutztown	4,272	\$66,005	\$281,964,860	76.08%	\$214,526,348
Millersville	3,637	\$66,005	\$240,055,133	76.08%	\$182,640,315
Shippensburg	3,341	\$66,005	\$220,528,345	76.08%	\$167,783,816
Slippery Rock	4,263	\$66,005	\$281,390,327	76.08%	\$214,089,227
West Chester	6,473	\$66,005	\$427,260,399	76.08%	\$325,071,049
System-wide Functions and Services	191	\$66,005	\$12,600,931	76.08%	\$9,587,123
<b>Total</b>	<b>45,940</b>		<b>\$3,032,247,114</b>		<b>\$2,307,014,062</b>

Table 40:  
Sales, income, and total State tax revenue of jobs supported attributable to Pennsylvania's State System of Higher Education<sup>33, 34</sup>

University	Estimated Wages	Estimated Income Tax Revenue	Estimated Consumption	Estimated Taxable Spending	Estimated Sales Tax Revenue	Total Tax Payments
Bloomsburg	\$275,667,818	\$8,463,002	\$209,735,391	\$47,964,340	\$2,877,860	\$11,340,862
Lock Haven	\$110,442,224	\$3,390,576	\$84,027,375	\$19,216,202	\$1,152,972	\$4,543,548
Mansfield	\$68,493,063	\$2,102,737	\$52,111,340	\$11,917,331	\$715,040	\$2,817,777
<b>Subtotal Northeast</b>	<b>\$454,603,105</b>	<b>\$13,956,315</b>	<b>\$345,874,105</b>	<b>\$79,097,873</b>	<b>\$4,745,872</b>	<b>\$18,702,188</b>
California	\$231,399,617	\$7,103,968	\$176,054,969	\$40,261,972	\$2,415,718	\$9,519,687
Clarion	\$163,046,788	\$5,005,536	\$124,050,323	\$28,369,041	\$1,702,142	\$6,707,679
Edinboro	\$149,522,957	\$4,590,355	\$113,761,033	\$26,015,986	\$1,560,959	\$6,151,314
<b>Subtotal West</b>	<b>\$543,969,362</b>	<b>\$16,699,859</b>	<b>\$413,866,325</b>	<b>\$94,646,999</b>	<b>\$5,678,820</b>	<b>\$22,378,679</b>
Cheyney	\$45,425,921	\$1,394,576	\$34,561,246	\$7,903,804	\$474,228	\$1,868,804
East Stroudsburg	\$187,607,027	\$5,759,536	\$142,736,404	\$32,642,357	\$1,958,541	\$7,718,077
Indiana	\$336,841,702	\$10,341,040	\$256,278,105	\$58,608,183	\$3,516,491	\$13,857,531
Kutztown	\$281,964,860	\$8,656,321	\$214,526,348	\$49,059,983	\$2,943,599	\$11,599,920
Millersville	\$240,055,133	\$7,369,693	\$182,640,315	\$41,767,973	\$2,506,078	\$9,875,771
Shippensburg	\$220,528,345	\$6,770,220	\$167,783,816	\$38,370,444	\$2,302,227	\$9,072,447
Slippery Rock	\$281,390,327	\$8,638,683	\$214,089,227	\$48,960,018	\$2,937,601	\$11,576,284
West Chester	\$427,260,399	\$13,116,894	\$325,071,049	\$74,340,427	\$4,460,426	\$17,577,320
System-wide Functions and Services	\$12,600,931	\$386,849	\$9,587,123	\$2,192,477	\$131,549	\$518,397
<b>Total</b>	<b>\$3,032,247,114</b>	<b>\$93,089,986</b>	<b>\$2,307,014,062</b>	<b>\$527,590,538</b>	<b>\$31,655,432</b>	<b>\$124,745,419</b>

<sup>31</sup> Per capita income represents 2 percent annual increase of 2020 per capita income for Pennsylvania that was obtained from the Bureau of Economic Analysis.

<sup>32</sup> The consumption factor is the average total consumption as a percentage of revenue for all income ranges obtained from Bureau of Labor Statistics.

<sup>33</sup> Pennsylvania's sales tax rate is 6.00 percent and income taxes are based on Pennsylvania's 3.07 percent flat tax rate.

<sup>34</sup> Taxable consumption calculated at 22.87 percent of total consumption; refer to Appendix A for additional detail.

In addition to the revenue generated by State System employees, total income tax revenue and sales tax revenue attributed to jobs supported by State System universities is shown in Table 40. For the purposes of this analysis, local earned income taxes, local services tax, and payments to the unemployment trust fund were not considered.

In the aggregate, the revenues realized by the Commonwealth in terms of payroll tax withholdings and sales tax receipts for the jobs supported by the State System were approximately \$124.7 million. The subtotal for the Northeast universities account for \$18.7 million or 15 percent of the total. The subtotal for the West universities account for \$22.4 million of the total or 18 percent of the total.

## TAX REVENUES ALLOCABLE TO STATE SYSTEM UNIVERSITIES

Income tax payments made to the Commonwealth, in the form of payroll withholdings from employees of State System universities, represent a significant revenue stream flowing to the Commonwealth on a year-over-year basis. The total state income tax revenue, on a university-by-university basis, is presented in Table 41 including subtotals for Northeast and West.

Table 41: Income tax revenue attributable to employees of the State System

University	State Tax Withholdings	Local EIT	Local Services Tax	Unemployment Tax	Total Tax Payments
Bloomsburg	\$2,324,867	\$1,162,641	\$79,957	\$44,766	\$3,612,230
Lock Haven	\$1,088,852	\$544,246	\$31,839	\$21,237	\$1,686,174
Mansfield	\$595,712	\$295,389	\$20,130	\$11,648	\$922,879
<b>Subtotal Northeast</b>	<b>\$4,009,430</b>	<b>\$2,002,276</b>	<b>\$131,926</b>	<b>\$77,651</b>	<b>\$6,221,283</b>
California	\$1,757,464	\$639,432	\$71,741	\$33,214	\$2,501,850
Clarion	\$1,317,975	\$441,357	\$48,280	\$25,620	\$1,833,232
Edinboro	\$1,335,135	\$515,100	\$47,331	\$26,124	\$1,923,690
<b>Subtotal West</b>	<b>\$4,410,574</b>	<b>\$1,595,889</b>	<b>\$167,352</b>	<b>\$84,958</b>	<b>\$6,258,773</b>
Cheyney	\$321,071	\$161,038	\$4,272	\$6,432	\$492,813
East Stroudsburg	\$1,544,112	\$585,703	\$45,803	\$31,338	\$2,206,956
Indiana	\$2,757,852	\$1,122,284	\$91,342	\$52,649	\$4,024,127
Kutztown	\$2,087,302	\$786,605	\$80,361	\$40,145	\$2,994,413
Millersville	\$2,207,129	\$766,893	\$76,669	\$42,107	\$3,092,798
Shippensburg	\$1,921,575	\$902,032	\$56,396	\$37,184	\$2,917,187
Slippery Rock	\$2,443,807	\$896,549	\$78,613	\$47,086	\$3,466,056
West Chester	\$4,539,018	\$1,920,534	\$154,072	\$89,952	\$6,703,575
System-wide Functions and Services	\$120,656	\$59,983	\$5,040	\$2,184	\$187,863
<b>Total</b>	<b>\$26,362,526</b>	<b>\$10,799,786</b>	<b>\$891,845</b>	<b>\$511,686</b>	<b>\$38,565,844</b>

In addition to the payroll tax withholdings to the Commonwealth and to local municipalities, the State System, through the spending of its employees and students, generates sales tax revenue for the Commonwealth through the consumption of taxable goods and services. The total state sales tax revenue, attributed to State System universities, is presented in Table 42 including subtotals for Northeast and West.

Table 42: Sales, income, and total State tax revenue attributed to employees of the State System<sup>35</sup>

University	Total Faculty, Staff, and Student Spending	Spending subject to tax	Sales Tax Revenue
Bloomsburg	\$188,468,989	\$43,100,932	\$2,586,056
Lock Haven	\$75,520,998	\$17,270,880	\$1,036,253
Mansfield	\$36,052,876	\$8,244,924	\$494,695
<b>Subtotal Northeast</b>	<b>\$300,042,863</b>	<b>\$68,616,736</b>	<b>\$4,117,004</b>
California	\$179,582,255	\$41,068,627	\$2,464,118
Clarion	\$109,083,020	\$24,946,172	\$1,496,770
Edinboro	\$94,688,676	\$21,654,333	\$1,299,260
<b>Subtotal West</b>	<b>\$383,353,952</b>	<b>\$87,669,131</b>	<b>\$5,260,148</b>
Cheyney	\$14,701,371	\$3,362,053	\$201,723
East Stroudsburg	\$131,538,748	\$30,081,567	\$1,804,894
Indiana	\$231,560,145	\$52,955,439	\$3,177,326
Kutztown	\$208,849,901	\$47,761,838	\$2,865,710
Millersville	\$183,418,870	\$41,946,021	\$2,516,761
Shippensburg	\$157,845,392	\$36,097,628	\$2,165,858
Slippery Rock	\$214,661,981	\$49,091,001	\$2,945,460
West Chester	\$303,226,139	\$69,344,719	\$4,160,683
System-wide Functions and Services	\$4,068,196	\$930,355	\$55,821
<b>Total</b>	<b>\$2,133,267,556</b>	<b>\$487,856,488</b>	<b>\$29,271,389</b>

Total payments made to the Commonwealth as sales taxes were approximately \$29.3 million including \$4.1 million associated with Northeast universities and \$5.3 million associated with West universities.

<sup>35</sup> Pennsylvania's sales tax rate is six percent.

## Economic impact of Northeast Integration

The System Redesign calls for the integration of three northeastern universities including Bloomsburg University, Lock Haven University, and Mansfield University (“Northeast”). The integration process will be completed by the 2025-2026 fiscal year. This section compares the projected economic impact of the three universities in 2022-2023 fiscal year to the projected economic impact of the fully integrated Northeast Integrated University in 2025-2026.

The total economic impact of the Northeast Integrated University is projected to be \$573.5 million during fiscal year 2025-2026. This represents a small, 1.9 percent increase over the combined three-university impact projected in fiscal year 2022-2023 and a 5.0 percent increase over the combined three-university impact in fiscal year 2019-2020<sup>36</sup> as shown in Table 43.

Table 43: Direct, indirect, induced, and total economic impact of Northeast Integrated University

	Total Direct	Total Indirect	Total Induced	Total Economic Impact	Period to Period Change	FY2020 to FY2026 Change
FY 2020	\$444,625,543	\$88,825,534	\$12,991,678	\$546,442,755		
FY 2023	\$458,598,949	\$90,188,252	\$13,959,953	\$562,747,154	3.0%	
FY 2026	\$469,037,179	\$91,137,252	\$13,359,105	\$573,533,536	1.9%	5.0%

The total jobs supported by the Northeast Integrated University is projected to decrease by 250 jobs or 3.6 percent from the 2022-2023 fiscal year to the 2025-2026 fiscal year, as shown in Table 44. The undiscounted composite direct spending is 2.3 percent greater in the 2025-2026 fiscal year. However, after discounting spending to consistent dollars before applying the multiplier, composite direct spending is actually 3.6 percent smaller which leads to the decrease in total jobs supported.

From the 2019-2020 fiscal year to 2025-2026 fiscal year, total model derived employment impacts are estimated to decrease by 448 jobs or 6.3 percent.

Table 44: Total jobs supported by the Northeast Integrated University

	Composite Direct Spending	Discounted Composite Direct Spending <sup>37</sup>	Jobs Output	Composite Jobs Supported	Period to Period Change	FY2020 to FY2026 Change
FY 2020	\$444,625,543	\$444,625,543	15.94	7,086		
FY 2023	\$458,598,949	\$432,148,032	15.94	6,887	-2.8%	
FY 2026	\$469,037,179	\$416,491,592	15.94	6,638	-3.6%	-6.3%

<sup>36</sup> Note the FY 2020 impacts throughout this section exclude the impact of capital expenditures.

<sup>37</sup> Discounted using 2 percent annual price change.

## INSTITUTIONAL SPENDING, FACULTY / STAFF SPENDING, AND STUDENT SPENDING

As noted earlier, the total economic impact associated with the Northeast Integrated University is projected to increase only slightly from the 2022-2023 fiscal year to the 2025-2026 fiscal year. The next section presents the component parts of the total economic impact including the Institutional Spending, Faculty/Staff Spending, and Student Spending economic impacts for the Northeast Integrated University.

The projected total Institutional Spending economic impact increases by just 0.2 percent from the 2022-2023 fiscal year to the 2025-2026 fiscal year. However, the total Institutional Spending economic impact increases by 8.0 percent from the 2019-2020 fiscal year to 2025-2026 fiscal year, as shown in Table 45.

Table 45: Direct, indirect, induced, and total economic impact of institutional spending for the Northeast Integrated University

	Direct	Indirect	Induced	Total	Period over Period Change	FY2020 to FY2026 Change
FY 2020	\$204,763,416	\$25,909,698	\$12,991,678	\$243,664,792		
FY 2023	\$220,903,581	\$27,840,757	\$13,959,953	\$262,704,292	7.8%	
FY 2026	\$223,155,431	\$26,642,470	\$13,359,105	\$263,157,006	0.2%	8.0%

Table 46 shows a 3.5 percent increase in the economic impact associated with Faculty/Staff Spending for the Northeast Integrated University from the 2022-2023 fiscal year to the 2025-2026 fiscal year. The economic impact associated with Faculty/Staff Spending is expected to decrease by 2.5 percent from the 2019-2020 fiscal year to the 2025-2026 fiscal year.

Table 46: Direct, indirect, and total economic impact of faculty and staff spending for the Northeast Integrated University

	Direct	Indirect	Total	Period over Period Change	FY2020 to FY2026 Change
FY 2020	\$123,088,175	\$32,286,028	\$155,374,203		
FY 2023	\$115,979,487	\$30,421,420	\$146,400,907	-5.8%	
FY 2026	\$120,045,741	\$31,487,998	\$151,533,739	3.5%	-2.5%

Student enrollment is projected to increase by 3 percent from fall 2022 to fall 2025 and by 7.9 percent from fall 2019 to fall 2025. The economic impact of Student Spending associated with the Northeast Integrated University is projected to increase at similar levels during these periods. The projected total Student Spending economic impact increases by 3.4 percent from the 2022-2023 fiscal year to the 2025-2026 fiscal year. The Student Spending economic impact increases by 7.8 percent from the 2019-2020 fiscal year to 2025-2026 fiscal year, as shown in Table 47.

Table 47: Direct, indirect, and total economic impact of student spending for the Northeast Integrated University

	Fall Enrollment	Direct Impact	Indirect Impact	Total Impact	Period over Period Change	FY2020 to FY2026 Change
FY 2020	13,514	\$116,773,952	\$30,629,808	\$147,403,760		
FY 2023	14,146	\$121,715,880	\$31,926,075	\$153,641,956	4.2%	
FY 2026	14,575	\$125,836,006	\$33,006,784	\$158,842,791	3.4%	7.8%

## TAXES ATTRIBUTABLE TO EMPLOYEES OF THE NORTHEAST INTEGRATED UNIVERSITY

Consistent with the change in total Faculty and Staff Spending, the projected income taxes and local payroll taxes are projected to increase by 3.5 percent from the 2022-2023 fiscal year to the 2025-2026 fiscal year, as shown in Table 48. From the 2019-2020 fiscal year to the 2025-2026 fiscal year, overall tax payment are expected to decrease by 2.5 percent.

Table 48: Income tax revenue attributable to employees of the Northeast Integrated University

	State Tax Withholdings	Local EIT	Local Services Tax	Unemployment Tax	Total Tax Payments	Period over Period Change	FY2020 to FY2026 Change
FY 2020	\$4,254,118	\$2,124,326	\$139,678	\$82,413	\$6,600,534		
FY 2023	\$4,009,430	\$2,002,276	\$131,926	\$77,651	\$6,221,283	-5.7%	
FY 2026	\$4,148,967	\$2,071,818	\$136,226	\$80,376	\$6,437,386	3.5%	-2.5%

The total state sales tax revenue, attributed to the Northeast Integrated University is presented in Table 49 and shows a 3.4 percent increase in sales tax revenue from the 2022-2023 fiscal year to the 2025-2026 fiscal year.

Table 49: Sales, income, and total state tax revenue attributed to employees of the Northeast Integrated University<sup>38</sup>

	Total Faculty, Staff, and Student Spending	Spending subject to tax	Sales Tax Revenue	Period over Period Change	FY2020 to FY2026 Change
FY 2020	\$302,777,963	\$69,242,226	\$4,154,534		
FY 2023	\$300,042,863	\$68,616,736	\$4,117,004	-0.9%	
FY 2026	\$310,376,529	\$70,979,940	\$4,258,796	3.4%	2.5%

<sup>38</sup> Pennsylvania's sales tax rate is six percent.

## Economic impact of Western Integration

The System Redesign calls for the integration of three western universities including California University of Pennsylvania, Clarion University, and Edinboro University (“West”). The integration process will be completed by the 2025-2026 fiscal year. This section compares the projected economic impact of the three universities in 2022-2023 fiscal year to the projected economic impact of the fully integrated Western University in 2025-2026.

The total economic impact of the Western Integrated University is projected to be \$758.6 million during fiscal year 2025-2026. This represents an 8.1 percent increase over the combined three-university impact projected in fiscal year 2022-2023 and an 11.7 percent increase over the combined three-university impact in fiscal year 2019-2020<sup>39</sup> as shown in Table 50.

Table 50: Direct, indirect, induced, and total economic impact of Western Integrated University

	Total Direct	Total Indirect	Total Induced	Total Economic Impact	Period to Period Change	FY2020 to FY2026 Change
FY 2020	\$531,371,599	\$126,211,013	\$21,409,464	\$678,992,076		
FY 2023	\$548,750,712	\$128,377,563	\$24,428,458	\$701,556,734	3.3%	
FY 2026	\$596,008,162	\$136,861,694	\$25,696,298	\$758,566,154	8.1%	11.7%

The total jobs supported by the Western Integrated University is projected to increase by 194 jobs or 2.3 percent from the 2022-2023 fiscal year to the 2025-2026 fiscal year, as shown in Table 51. The undiscounted composite direct spending is 8.6 percent greater in the 2025-2026 fiscal year. However, after discounting spending to consistent dollars before applying the multiplier, composite direct spending is 2.3 percent larger which leads to the increase in total jobs supported.

From the 2019-2020 fiscal year to 2025-2026 fiscal year, total model derived employment is estimated to decrease by 34 jobs or 0.4 percent.

Table 51: Total jobs supported by the Western Integrated University

	Composite Direct Spending	Discounted Composite Direct Spending <sup>40</sup>	Jobs Output	Composite Jobs Supported	Period to Period Change	FY2020 to FY2026 Change
FY 2020	\$531,371,599	\$531,371,599	15.94	8,469		
FY 2023	\$548,750,712	\$517,100,052	15.94	8,241	-2.7%	
FY 2026	\$596,008,162	\$529,238,191	15.94	8,435	2.3%	-0.4%

### INSTITUTIONAL SPENDING, FACULTY / STAFF SPENDING AND STUDENT SPENDING

As noted earlier, the total economic impact associated with the Western Integrated University is projected to increase by approximately 8 percent from the 2022-2023 fiscal year to the 2025-2026 fiscal year. The next section presents the component parts of the total economic impact including the Institutional Spending, Faculty/Staff Spending, and Student Spending economic impacts for the Western Integrated University.

<sup>39</sup> Note the FY 2020 impacts throughout this section exclude the impact of capital expenditures.

The projected total Institutional Spending economic impact increases by 8.9 percent from the 2022-2023 fiscal year to the 2025-2026 fiscal year. The total Institutional Spending economic impact increases by 25.1 percent from the 2019-2020 fiscal year to 2025-2026 fiscal year, as shown in Table 52.

Table 52: Direct, indirect, induced, and total economic impact of institutional spending for the Western Integrated University

	Direct	Indirect	Induced	Total	Period over Period Change	FY2020 to FY2026 Change
FY 2020	\$212,982,471	\$42,697,544	\$21,409,464	\$277,089,479		
FY 2023	\$245,055,908	\$48,718,416	\$24,428,458	\$318,202,782	14.8%	
FY 2026	\$269,607,906	\$51,246,907	\$25,696,298	\$346,551,111	8.9%	25.1%

Table 53 shows a 5.4 percent increase in the economic impact associated with Faculty/Staff Spending for the Western Integrated University from the 2022-2023 fiscal year to the 2025-2026 fiscal year. The economic impact associated with Faculty/Staff Spending is expected to decrease by 1.9 percent from the 2019-2020 fiscal year to the 2025-2026 fiscal year.

Table 53: Direct, indirect, and total economic impact of faculty and staff spending for the Western integrated University

	Direct	Indirect	Total	Period over Period Change	FY2020 to FY2026 Change
FY 2020	\$135,462,816	\$35,531,897	\$170,994,713		
FY 2023	\$126,127,992	\$33,083,372	\$159,211,364	-6.9%	
FY 2026	\$132,953,434	\$34,873,686	\$167,827,119	5.4%	-1.9%

Student enrollment is projected to increase by 9.2 percent from fall 2022 to fall 2025 and by 5.7 percent from fall 2019 to fall 2025. The economic impact of Student Spending associated with the Western Integrated University is projected to increase at similar levels during these periods. The projected total Student Spending economic impact increases by 8.9 percent from the 2022-2023 fiscal year to the 2025-2026 fiscal year. The Student Spending economic impact increases by 5.8 percent from the 2019-2020 fiscal year to 2025-2026 fiscal year, as shown in Table 54.

Table 54: Direct, indirect, induced, and total economic impact of student spending for the Western Integrated University

	Fall Enrollment	Direct Impact	Indirect Impact	Total Impact	Period over Period Change	FY2020 to FY2026 Change
FY 2020	16,191	\$182,926,312	\$47,981,572	\$230,907,884		
FY 2023	15,665	\$177,566,813	\$46,575,775	\$224,142,588	-2.9%	
FY 2026	17,111	\$193,446,822	\$50,741,102	\$244,187,924	8.9%	5.8%

<sup>40</sup> Discounted using 2 percent annual price change.

## TAXES ATTRIBUTABLE TO EMPLOYEES OF THE WESTERN INTEGRATED UNIVERSITY

Consistent with the change in total Faculty and Staff Spending, the projected income taxes and local payroll taxes are projected to increase by 5.4 percent from the 2022-2023 fiscal year to the 2025-2026 fiscal year, as shown in Table 55. From the 2019-2020 fiscal year to the 2025-2026 fiscal year, overall tax payments are expected to decrease by 1.9 percent.

Table 55: Income tax revenue attributable to employees of the Western Integrated University

	State Tax Withholdings	Local EIT	Local Services Tax	Unemployment Tax	Total Tax Payments	Period over Period Change	FY2020 to FY2026 Change
FY 2020	\$4,736,025	\$1,714,569	\$179,454	\$91,258	\$6,721,306		
FY 2023	\$4,410,574	\$1,595,889	\$167,352	\$84,958	\$6,258,773	-6.9%	
FY 2026	\$4,648,293	\$1,682,807	\$176,130	\$89,567	\$6,596,797	5.4%	-1.9%

The total state sales tax revenue, attributed to the Western Integrated University is presented in Table 56 and shows a 7.5 percent increase in sales tax revenue from the 2022-2023 fiscal year to the 2025-2026 fiscal year.

Table 56: Sales, income, and total State tax revenue attributed to employees of the Western Integrated University<sup>41</sup>

	Total Faculty, Staff, and Student Spending	Spending subject to tax	Sales Tax Revenue	Period over Period Change	FY2020 to FY2026 Change
FY 2020	\$401,902,597	\$91,911,016	\$5,514,661		
FY 2023	\$383,353,952	\$87,669,131	\$5,260,148	-4.6%	
FY 2026	\$412,015,043	\$94,223,630	\$5,653,418	7.5%	2.5%

<sup>41</sup> Pennsylvania's sales tax rate is 6.00 percent.

## Appendix A



## **Appendix A: Data Analysis Methodologies**

To prepare the analysis for each of the 14 universities of Pennsylvania's State System of Higher Education, as well as System-wide Functions and Services, the following primary data categories were utilized:

- Publicly sourced documents;
- Subscription based information; and
- Information provided directly from the State System.

The purposes of this section and the information contained herein are intended to provide a listing of the documents and information relied upon, as well as the analytical procedures and methodologies utilized to ascertain the economic impact of State System universities on the Commonwealth of Pennsylvania, individually and in the aggregate.

This particular methodology was selected and utilized because it is consistent with previous economic impact estimates and because it is considered by numerous economists to provide highly accurate and valid results. While, there are other acceptable methods to conduct an economic and employment impact of a university or system of universities, we have chosen and employed the Bureau of Economic Analysis RIMS II model, as discussed below.<sup>1</sup>

For the purposes of this appendix, certain examples of the analytical procedures will be reproduced for illustrative purposes. Unless otherwise noted, the examples described herein will be applicable to all of the universities within the State System, as well as to System-wide Functions and Services.<sup>2</sup>

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<sup>1</sup> Similar economic studies include alumni spending as a factor of total economic impact. This was excluded from the State System's analysis based on our discretion.

<sup>2</sup> The use of Bloomsburg University as an illustrative example is based solely on Bloomsburg's position in alphabetical order of the State System universities.

## **Economic Impact Study Analysis and Methodology**

This study's key components include:

- Total economic impact of the State System's universities on the Commonwealth of Pennsylvania;
- The employment impact of the State System's universities upon the Commonwealth of Pennsylvania;
- Economic Development Inventory impacts of each university; and
- An analysis of the Geo Spatial data for the State System's universities' employees, students, and alumni.

Multiple data sources were reviewed and relied upon for the purposes of this analysis. The data relied upon was used to generate the specific databases applicable to the following key categories:

- Institutional Spending;
- Faculty and Staff Spending;
- Student Spending; and
- Capital Expenditures.

Please see the accompanying narrative text in this appendix for a detailed discussion of the data relied upon and the analytical procedures employed to quantify the direct, indirect, and induced economic impacts for each category. Calculations throughout this analysis are subject to rounding.

## **Bureau of Economic Analysis – RIMS II Data<sup>3</sup>**

The Regional Input-Output Modeling System (RIMS II), a regional economic model, is a tool used by investors, planners, and elected officials to objectively assess the potential economic impacts of various projects. This model produces multipliers that are used in economic impact studies to estimate the total impact a project has on a region. The idea behind the results of RIMS II is that an initial change in economic activity results in other rounds of spending or economic activity.

RIMS II is based on a set of national industry input-output (I-O) accounts that show the goods and services produced by each industry and the use of these goods and services by industries and final users. Like most other regional I-O models, RIMS II adjusts these national relationships to account for regional supply conditions.

Regional I-O multipliers, such as those provided in the RIMS II data, share similarities with other macroeconomic (Keynesian) multipliers in that both types of multipliers provide a way to estimate the total impact that an initial change in economic activity has on an economy. They are both based on the idea that an initial change in economic activity results in diminishing rounds of new spending. Spending diminishes because of “leakages” from the economy in the form of savings, taxes, and imports.

## **Geospatial Analysis**

The use of geocoding was used in this study to assess the distribution of employees, students, and alumni of each of the State System universities. The goal of the address geocoding process is to locate various features according to a specific address. The process involves matching the address of an observation to a specific address location within the target geographic area.

In this study, the observations (employees, students, and alumni) were geographically identified based on the postal zip codes associated with the address of their permanent residence.

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<sup>3</sup> Sections excerpted from the RIMS II Users Guide, [https://www.bea.gov/regional/pdf/rims/rimsii\\_user\\_guide.pdf](https://www.bea.gov/regional/pdf/rims/rimsii_user_guide.pdf).

The residential address data that was geocoded in this study represents the complete population of each subgroup of the State System's employees, students, and alumni as of 2014. In recognition of potential problems that may result from inaccurate or unavailable data, the following steps were undertaken:

- Employees and staff - in instances where postal code data was not available, postal codes associated with the municipality in which local earned income tax was paid by the employee was used as a proxy for their permanent residence. In addition, if local municipality earned income tax data was not available and the employee was subject to Pennsylvania income tax withholdings, the postal code of the university at which the employee worked was used as a proxy. These instances were limited in number and do not materially affect the outcome of the analysis.
- Further, in the instances for students and alumni where postal code information was unavailable from the information provided, these individuals were considered to be outside of the Commonwealth of Pennsylvania. As a general observation, this issue was limited to the alumni data, which was obtained from the State System's living alumni database for all of the State System universities.

After the geocoding procedures were completed, the university employees were stratified based on the distance of their permanent residences relative to the postal code of the respective university. Specifically, this analysis began with the employee addresses located within a 10 mile radius of the university center and continued outward to include employees between 10 to 25 miles from the university center, and then finally to include all employees living greater than 25 miles from the university center.

The concept of measuring the distance of students or alumni from the university site does not represent a significant measure of the impact on the local community and economy. Rather the focus of the analysis of the State System's alumni is designed to measure the distribution of alumni after graduation and demonstrates the retention of the State System's alumni post-graduation within the Commonwealth of Pennsylvania. Specifically, the analyses show the

spread of alumni within the regional economies of the Commonwealth. The alumni were geocoded and then tabulated, for each university, by the county in which they reside.

The student population for each university was analyzed in a similar manner to the alumni data. Specifically, the student data was geocoded and then tabulated on a county by county basis. The resulting data represent the counties from which the students were drawn throughout Pennsylvania. The distribution of students at each of the State System's universities illustrates the significant impact that the State System plays in the education of the local population. This is consistent with the State System's mission to provide instruction for undergraduate and graduate students in the disciplines of liberal arts and sciences. Further, the universities within the State System aim to provide diverse, dynamic, meaningful experiences to inspire learners to grow both intellectually and personally to enable them to contribute positively to local and global communities.

Analytical procedures were applied to arrive at total spending (direct impacts) for each university. The direct impact attributable to each university for the fiscal 2019-2020 year can be broken down into the following four categories:

- Institutional spending;
- Faculty and staff spending on goods and services;
- Student spending on goods and services; and
- Capital expenditures.

### **Institutional Spending Analysis**

The institution spending for each university was aggregated from the operation budgets for the 2019-2020 academic years. The spending data included all direct spending of the universities, exclusive of all salary and wages paid to faculty, staff, and student employees. The spending data, however, does include employee benefits and the capital spending that stems from the university's operating funds.

To avoid a potential double counting of the indirect economic benefits derived from the institutional spending, an allocation of the spending attributable to out-of state students is required, as is discussed in the example below. The delineation is necessary because the indirect benefits attributable to the in-state students, as well as in-state faculty and staff, are already captured in the Pennsylvania household spending multiplier. Specifically, this distinction is made to prevent overstatement of the Type I and Type II multiplied effect.<sup>4</sup>

A white paper authored by the Bureau of Economic Analysis provides guidance on the proper use of multipliers in the analysis and determination of the economic impacts that universities have on a surrounding region. Specifically the white paper states:<sup>5</sup>

- Most regional I-O models produce two types of multipliers. Type I multipliers account only for the “inter-industry” (direct and indirect) effect of an initial change in economic activity. Type II multipliers account for both the inter-industry and “household-spending” (induced) effects associated with an initial change in economic activity. Most university contribution studies are based on Type II multipliers, which are more difficult to use in a manner that avoids double-counting.
- Even though regional I-O multipliers have traditionally been used to estimate the economic impact of an incremental change in economic activity, such as an increase in the provision of educational services, these multipliers have increasingly been used to estimate the contribution of an entire industry, such as an institution (academic university) to a regional economy.

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<sup>4</sup> The Type I and Type II effect of the institutional spending captures all of the economic impacts of in-state consumers of the State System universities good and services

<sup>5</sup> Sections excerpted from “University Contribution Studies Using Input-Output Analysis” by Zoe O. Ambargis, Charles Ian Mean, & Stanislaw J. Rzeznik (May 3, 2013)

- The value of university output should exclude any university services that are purchased by businesses inside the region. If using a Type II university multiplier, the value of university output should also exclude purchases of university services by households in the region. Not following these practices will result in double counting and inflated results.
- If a Type II university multiplier is used in the analysis, the value of the university output needs to be adjusted to exclude university output that is purchased by households in the region because the impact of their purchases is captured in the Type II multiplier. This adjustment can be made by prorating the measure of university output by the percentage of students that come from outside the region.

Further, the paper provides a step-by-step methodology to ascertain the contribution a university has on a region. The steps are as follows:

1. Calculated university output (Direct spending of the university);<sup>6</sup>
2. Prorate university output by the share of non-local students;
3. Separately multiply the pro-rated output by the Type I and Type II multipliers for universities; and
4. Subtract the result calculated with the Type I multiplier (total indirect less induced) from the result calculated with the Type II multiplier (total indirect) to separately identify the household-spending effect.

For illustrative purposes the analysis for Bloomsburg University has been reproduced below:

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<sup>6</sup> The direct spending of the university excludes the payroll for faculty, staff, and students.

<b>Bloomsburg University:</b>	<b><u>Amount</u></b>
Institutional Spending (Excluding Payroll)	\$65,557,686
Capital Improvements	15,737,969
Sub total	<u>81,295,655</u>
Employee Benefits	41,437,254
Total Institutional Spending (Total Direct Spending)	<u>\$122,732,908</u>
Institutional Spending prorated by % of out of state students (8.30%)	\$10,184,190
Type 1 Multiplier	1.3015
Type 1 Effect: (Total Indirect – Induced Effect)	\$13,254,723
Type 2 Multiplier	1.9541
Type 2 Effect <sup>7</sup> (Total Indirect Spending)	\$19,900,926
Induced Effect <sup>8</sup> (Type 2 Effect - Type 1 Effect)	<u>\$6,646,202</u>
Total Impact of Institutional Spending (Total Direct Spending + Indirect Spending + Induced Spending)	<u>\$142,633,834</u>

### **Faculty and Staff Spending Analysis**

To ascertain the effect of the faculty and staff spending the Type II household spending multiplier was applied to an estimate of faculty and staff spending on a university-by-university basis.<sup>9</sup>

An estimation of faculty and staff spending was based on spending data provided by the Bureau of Labor and Statistics (“BLS”) Consumer Expenditure Survey for 2019. The BLS data provided a detail of the average consumer spending for the separate categories which are as follows:

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<sup>7</sup> Indirect effects are defined as the changes in sales, income or jobs in sectors within the region that supply goods and services to a specific sector.

<sup>8</sup> Induced effects are defined as the increased sales within the region from household spending of the income earned supporting in a specific sector.

<sup>9</sup> Household spending multiplier for Pennsylvania obtained from the Bureau of Economic Analysis.

- Groceries
- Restaurants
- Housing
- Apparel and Services
- Transportation
- Health Care
- Entertainment
- Cash Contributions
- Personal Insurance and Pensions
- All Other Expenditures

The BLS data allowed for a spending analysis to be completed based on income stratification, estimating average spending by category over nine income ranges. The annual income ranges begin at less than \$15,000 and work up incrementally to \$200,000 and greater. Accordingly, gross wages paid to faculty and staff was sorted by income level to which the applicable spending percentages were applied for each category.

For illustrative purposes the analysis for Bloomsburg University has been reproduced below:

<b>Bloomsburg University:</b>	<b><u>Permanent</u></b>	<b><u>Other<sup>10</sup></u></b>	<b><u>Total</u></b>
Income (wages)	\$ 71,316,547	\$ 5,209,918	\$ 76,526,465
Groceries	4,711,724	722,417	5,434,142
Restaurants	3,363,553	433,141	3,796,694
Housing	20,125,136	3,016,237	23,141,373
Apparel and Services	1,783,658	239,899	2,023,557
Transportation	10,873,495	1,361,281	12,234,775
Health Care	5,241,982	742,287	5,984,269
Entertainment	2,796,401	334,661	3,131,062
Cash Contributions	1,749,580	194,366	1,943,946
Personal Ins & Pensions	6,254,710	365,961	6,620,671
All Other Expenditures	3,696,115	538,783	4,234,898
<b>Total Consumption</b>	<b>\$60,596,301</b>	<b>\$7,949,062</b>	<b>\$68,545,363</b>

<sup>10</sup> Other employees include temporary and part-time employees, however all student wages are excluded.

Note that the reproduced analysis illustrates total spending for faculty and staff, in the aggregate, across all income ranges. Further, for the purposes of this analysis, payroll data was filtered to exclude student wages, as student spending was captured in a separate analysis, described below.

Continuing with the Bloomsburg University example, the total estimated consumption spending for faculty and staff was then used as the basis for the application of the Pennsylvania Type II household multiplier, which is reproduced below:

<b>Bloomsburg University:</b>	<u><b>Amount</b></u>
Faculty & Staff Spending - Direct	<u>\$68,545,363</u>
Household Multiplier (Type II)	<u>1.2623</u>
Total Faculty & Staff Spending Impact	86,524,812
Faculty Spending - Indirect Impact (Total less Direct Impact)	<u>\$17,979,449</u>

### **Student Spending Analysis**

The third element of the direct economic impact analysis applicable to all of the State System’s universities is an estimation of student spending.<sup>11</sup> This analysis was based on the fall 2019 enrollment data for each university, which segregated the student enrollment into three broad categories, as follows:

- Students living on campus in university housing or university affiliated private housing;
- Student’s living off campus in private, non-affiliated housing; and
- Students living off campus with parents.

In order to capture the amount of student spending resulting from students who live in affiliated university housing, an aggregate of privatized housing fees for each university was obtained. A percent was then calculated to determine the amount of room and board fees that were collected by affiliates, rather than the universities, and subsequently applied to the total number of students living in affiliated university housing. Average cost estimates for room, board, books, and

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<sup>11</sup> System-wide Functions and Services was not included this analysis.

supplies, and other expenses were then applied to the students who live off-campus and pay for room and board to parties other than the university directly.<sup>12</sup> In the other instances in which students lived in on-campus housing or with a parent, only books and supplies and other expenses were included in the aggregated total. This was done in order to avoid double counting room and board expenditures that have already been accounted for in other aspects of the analysis.

To calculate the total direct student spending, the Pennsylvania Type II household multiplier was applied to the total amount spent by all students, the results of which are reproduced below:

<b>Bloomsburg University:</b>	<b><u>Amount</u></b>
Student Spending – Direct	<u>\$79,174,860</u>
Household Multiplier (Type II)	<u>1.2623</u>
Total Student Spending Impact	99,924,426
Student Spending - Indirect Impact (Total less Direct Impact)	<u>\$20,767,566</u>

### **Direct Composite Employment Impact**

In addition to an economic impact, there is an employment impact that arises from direct institutional, faculty and staff, and student spending or, what is referred to in the report as direct composite spending. By applying the Pennsylvania Type II Employment Output multiplier to the total direct composite spending, the amount of jobs supported as a result of the university's expenditures can be calculated. Specifically, for every additional million dollars of composite spending by a university, approximately 15.9 jobs are supported.

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<sup>12</sup> Average cost estimates were supplied on a university by university basis by the State System.

For illustrative purposes, the direct composite employment impact of Bloomsburg University is reproduced below:

<b>Direct Institutional Spending</b>	<b>Direct Faculty and Staff Spending</b>	<b>Direct Student Spending</b>	<b>Direct Composite Spending</b>
\$122,732,908	\$68,545,363	\$79,174,860	\$270,453,131
	<b>Direct Composite Spending</b>	<b>Jobs Output</b>	<b>Employment Impact</b>
	\$270,453,131	15.94	4,310

### Capital Expenditures Analysis

The last component of the State System’s total direct economic impact is the capital expenditures of each university. As mentioned previously in the report, Pennsylvania’s State System of Higher Education receives funding from the Governor’s Budget Office for its capital investments; as a result, the impact of these projects is segregated from the institutional spending impact. The following provides an overview of how the capital expenditures impact was calculated.

Historical data was obtained for the funding received for capital investments and the deferred maintenance. The capital projects, on average, take approximately four to five years to be executed, and therefore, a five-year weighted average was calculated for each university, with the most weight being placed on 2019-2020 fiscal year. This amount was combined with the funding per university provided for deferred maintenance to arrive at the total directly spent on capital expenditures.

The Pennsylvania Type I and Type II construction multipliers were then applied, in the same manner as applied on institutional spending, to calculate the indirect and induced effect of the capital expenditures.<sup>13</sup>

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<sup>13</sup> The construction multiplier was chosen because, as indicated by the State System, the majority of the funding is spent on renovations and additions. The construction multipliers assume that construction is being performed by a firm in the region and has enough spare capacity to take on the job without forcing up prices or demand. It also assumes that there is some amount of leakages from the local economy because of inputs of supplies or services that cannot be provided locally.

For illustrative purposes, the economic impact of Bloomsburg University’s capital expenditures is displayed below:

<b>Bloomsburg University:</b>	<b><u>Amount</u></b>
Capital Improvements (5-year Weighted Average)	\$5,636,667
Key ‘93 Deferred Maintenance	1,490,281
Total Capital Expenditures (Total Direct Spending)	<u>7,126,948</u>
Type 1 Multiplier	1.5774
Type 1 Effect (Total Indirect – Induced Effect)	\$11,242,047
Type 2 Multiplier	2.3869
Type 2 Effect (Total Indirect Spending)	\$17,011,311
Induced Effect (Type 2 Effect - Type 1 Effect)	<u>5,769,264</u>
Total Impact of Capital Expenditures	<u><u>\$17,011,311</u></u>

**Direct Capital Expenditures Employment Impact**

In calculating the direct capital expenditures employment impact, it is important to note that because a different type of multiplier is being used, the jobs output multiplier utilized is 15.36. In other words, for each additional million dollars spent on capital expenditures approximately 15.36 jobs are supported.

For illustrative purposes, the employment impact of Bloomsburg University’s capital expenditures is displayed below:

<b>Direct Capital Expenditures</b>	<b>Jobs Output</b>	<b>Employment Impact</b>
\$7,126,948	15.36	109

In the aggregate, the total economic impact for Bloomsburg University is quantified as follows:

<u>Category</u>	<u>Direct</u>	<u>Indirect</u>	<u>Induced</u>	<u>Total</u>
Institutional Spending	\$ 122,732,908	\$ 13,254,723	\$ 6,646,202	\$142,633,834
Faculty Spending	68,545,363	17,979,449	-	86,524,812
Student Spending	79,174,860	20,767,566	-	99,942,426
Capital Expenditures	7,126,948	4,115,100	5,769,264	17,011,311
Total	<u>\$ 277,580,079</u>	<u>\$56,116,837</u>	<u>\$12,415,467</u>	<u>\$346,112,383</u>

### Commonwealth of Pennsylvania Sales Tax Revenue

An additional element of the economic impact on the Commonwealth as a result of the State System universities' presence is the sales tax revenue generated from the purchase of taxable goods and services. This analysis is based on the aggregate total of the direct and indirect consumption expenditures for faculty, staff, and students. To this total, a factor of approximately 23.9 percent was applied to estimate the amount of total consumption expenditures spent on taxable goods and services within Pennsylvania.<sup>14</sup>

The derivation of the taxable goods and services factor is shown as follows:

<u>Description</u>	<u>Amount</u>
Pennsylvania Gross Domestic Product	\$ 808,737,500,000
Sales Tax Base	<u>\$ 184,950,001,000</u>
Percentage of Pennsylvania GDP which is Taxable	<u>22.87%</u>

The taxable goods and services factor was applied to the sum total of all consumption spending to estimate the sales tax receipts due to Pennsylvania. The estimated sales tax receipts for Bloomsburg University are reproduced below:

<sup>14</sup> This factor was calculated by dividing the 2019 Pennsylvania sales tax base, as reported in the Commonwealth of Pennsylvania Comprehensive Annual Financial Report for the Fiscal Year Ended June 30, 2020 by Pennsylvania's 2019 Gross Domestic Product, \$808.7 billion, as reported in the 2019 Bureau of Economic Analysis, to arrive at the percentage of state gross domestic product taxable, 22.87 percent.

<u>Total Spending</u>	<u>Imputed % of Taxable Spending</u>	<u>Spending subject to tax</u>	<u>Sales Tax Rate</u>	<u>Sales Tax Revenue</u>
\$186,467,238	22.87%	\$42,643,152	6.0%	\$2,558,589

Institutional spending was not considered in this analysis as it would not be subject to Pennsylvania sales tax.

## Appendix B



## **Appendix B: Multiplier Comparison**

Common to many economic impact studies, the basis of methodology was rooted in the utilization of multipliers which were then applied to produce total impact numbers for each campus. This particular methodology was selected and utilized because it is considered by numerous economists to provide highly accurate and valid results. The multipliers used were formulated from the Regional Input-Output Modeling System (“RIMS II”) of the Bureau of Economic Analysis (“BEA”).

The BEA established a method of estimating regional multipliers (RIMS II) which is a valuable tool for estimating the total economic impact of a project, or in this case, institution, on a region. This Input-Output Modeling System provides multipliers that are intended to capture the total economic impact – inclusive of the direct, indirect, and induced effects – on the defined region. Specific to this study, the multiplier is used to calculate direct, indirect, and induced economic impacts and employment impacts of each institution, as well as the impacts of faculty and staff, student, and capital expenditures. The analysis is focused on the counties in which a State System university has a presence, whether that is a main campus or satellite, and on an overall state-level.

RIMS II multipliers are updated on an annual basis and this study utilizes the most recent RIMS II multipliers available. The current multipliers incorporate the latest industry-to-industry spending patterns and latest information about the Commonwealth’s economy. These current RIMS II multipliers differ in magnitude from the vintage of RIMS II multipliers that were available for, and used in, the 2015 study. The current multipliers specify that the total economic impact supported by the State

System's spending is less than the amount specified by the multipliers available for the prior study.

## Details of RIMS II Multiplier Used in 2015 Study vs. Current Study

When discussing or comparing RIMS II multipliers, one must clarify the following aspects of the multiplier, including:

1. the “vintage” or year of regional economic data used to generate the multipliers,
2. the region of analysis,
3. the industry.

**Table 1: RIMS II Multiplier Details for 2015 Study and Current Study**

	<b>2015 Study</b>	<b>Current Study</b>
<b>Vintage</b>	2010	2019
<b>Region of Analysis</b>	Pennsylvania	Pennsylvania
<b>Industry</b>	<ul style="list-style-type: none"> <li>• 230000 Construction</li> <li>• 611A00 Junior colleges, colleges, universities, and professional schools</li> <li>• H00000 Households</li> </ul>	<ul style="list-style-type: none"> <li>• 2332 Nonresidential structures</li> <li>• 611A00 Junior colleges, colleges, universities, and professional schools</li> <li>• H00000 Households</li> </ul>

- The 2015 study utilized RIMS II multipliers of the 2010 “vintage”. These multipliers were derived from the 2002 national benchmark input-output accounts and 2010 regional economic data. The current study uses latest / current multipliers available from RIMS II are of the 2019 “vintage”. These multipliers were derived from the 2012 national benchmark input-output accounts and 2019 regional economic data.
- In both cases, the region of analysis was identified as Pennsylvania. This simply means the economic impact multipliers are intended to represent the impact within the Commonwealth of Pennsylvania.

- Finally, because the current study utilizes the same methodology as the 2015 study, the industries of interest are consistent between the two studies as well. It should be noted that the “Non-residential structures” construction industry identified in 2019 is the equivalent industry to the “Construction” industry identified for the 2015 study.

The next section compares the actual multipliers used in the two studies.

### Spending Multiplier Comparison

The 2015 study and the current study both use Type II<sup>1</sup> final-demand output multipliers to estimate the total spending in the Commonwealth resulting from university spending as well as worker and student spending. As shown in the table below, the current multipliers are smaller than the multipliers used in the 2015 study.

**Table 2: Final-Demand Output Multipliers for 2015 Study and Current Study**

<b>Activity</b>	<b>2010</b>	<b>2019</b>	<b>Percent Change</b>
University Spending (611A00)	2.332	1.9541	-16.2%
Faculty/Staff Spending & Student Spending (Households)	1.404	1.2623	-10.1%
Capital Investment Spending	2.4656	2.3869	-3.2%

In the 2015 study, \$1.00 million of direct spending by the university would generate \$2.33 million of total economic impact inclusive of the direct, indirect, and induced impacts.

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<sup>1</sup> Type I multipliers quantify the cumulative effects of the direct and indirect rounds of industry spending, while the Type II multipliers quantify the cumulative effects of the direct, indirect, and household (induced) rounds of spending.

Based on the latest multipliers, \$1.00 million of direct spending by the university will generate \$1.95 million of total economic impact inclusive of the direct, indirect, and induced impacts. For the same \$1.0 million in spending, the total economic impact is 16 percent smaller.

Similarly, \$1.00 million in faculty/staff or student spending would generate \$1.40 million in total economic impact for the 2015 study. In the current study the same \$1.00 million of spending generates just \$1.26 million of total economic impact – 10 percent less than the results from the 2015 study.

## Employment Multiplier Comparison

The 2015 study and the current study both use Type II<sup>2</sup> final-demand employment multipliers to estimate the total spending in the Commonwealth resulting from general spending as well as capital investment spending. As shown in the table below, the current multipliers are smaller than the multipliers used in the 2015 study.

**Table 2: Final-Demand Employment Multipliers for 2015 Study and Current Study**

<b>Activity</b>	<b>2010</b>	<b>2019</b>	<b>Percent Change</b>
University Spending (611A00)	21.2563	15.9376	-25.0%
Capital Investment Spending & Student Spending (23 / 2332)	17.9417	15.3565	-14.4%

According to the multipliers used in the 2015 study, \$1.00 million of direct spending by the university would create or support 21.26 total jobs inclusive of the direct, indirect, and induced impacts.

Based on the latest multipliers, \$1.00 million of direct spending by the university will create or support 15.94 total jobs inclusive of the direct, indirect, and induced impacts. The current university final-demand employment multiplier is 25 percent smaller.

Similarly, \$1.00 million in capital investment would generate 17.94 total jobs using the multipliers from the 2015 study. The latest multipliers indicate that \$1.00 million of capital investment spending generates 15.36 total jobs.

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<sup>2</sup> Type I multipliers quantify the cumulative effects of the direct and indirect rounds of industry spending, while the Type II multipliers quantify the cumulative effects of the direct, indirect, and household (induced) rounds of spending.

Because the employment multipliers are based on 2010 and 2019 data, the spending must be converted to 2010 and 2019 dollars, respectively. For this reason, the 2022-2023 and 2025-2026 spending data is discounted to 2019 dollars so that the employment multipliers can be applied properly.

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