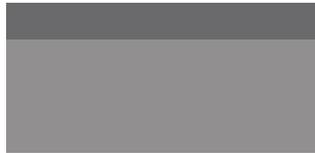


The Economic Impact of Fort Hays State University on the Local Economy: Fiscal Year 2018

Dr. Emily Breit, Dr. Tom Johansen,
and Dr. Samuel Schreyer



**FORT HAYS STATE
UNIVERSITY**

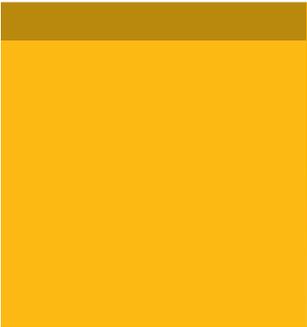
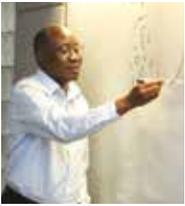
Forward thinking. World ready.

Greetings from Fort Hays State University.
I hope you will take a moment to review
this report on the significant economic
impact created by our faculty, staff,
students, alumni and friends across
Western Kansas in 2018.

Warmest Regards,

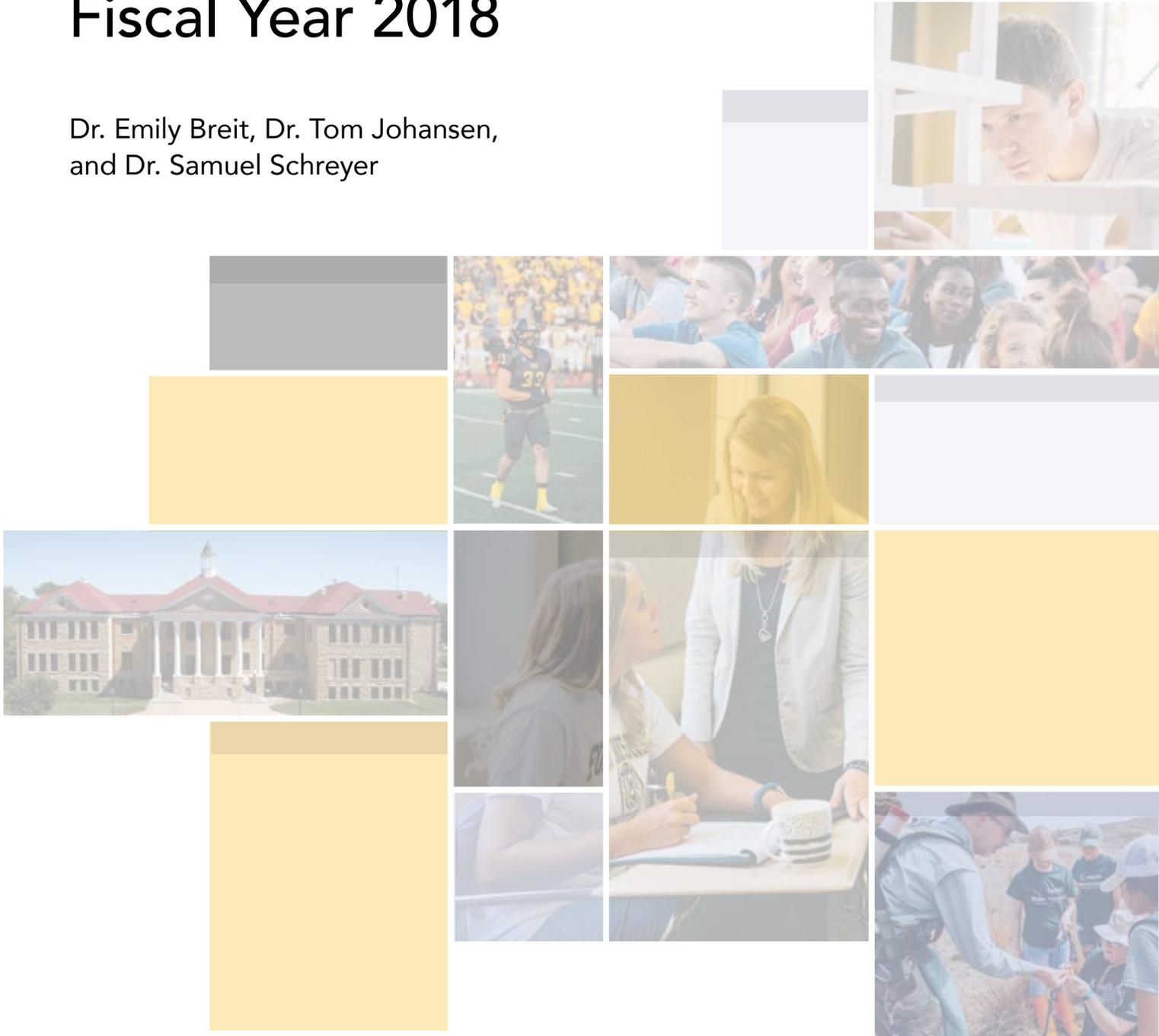


Tisa Mason
President



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UNIVERSITY**

Forward thinking. World ready.

The Economic Impact of Fort Hays State University on the Local Economy: Fiscal Year 2018

A university education alters the path of people's lives. It helps them fulfill their aspirations to become artists, business and organizational leaders, teachers, health care professionals, and more. A university education is widely recognized as an investment that pays a lifetime of dividends in the form of better jobs and higher incomes.

This study provides an analysis which examines the jobs and incomes created as the money spent by Fort Hays State University is circulated through the regional Ellis County economy. The economic impact reported in this study was estimated, using two approaches to measure the demand-side effects. The Caffrey-Isaacs method produced a total economic impact estimate of **\$233,710,726**. The IMPLAN method produced an estimate of **\$175,280,975**.

The total economic impact of the university upon the local economy is determined by combining a direct impact with an indirect impact and an induced impact.

- The direct impact is the sum of all local expenditures associated with the university, which was estimated to be **\$129,839,292**.
- The indirect impact is the additional business spending to support the initial expenditure, which was estimated to be **\$25,967,858**.
- The induced impact is the additional expenditures resulting from the incomes created by the direct impact, which was **\$77,903,575**.

The total economic impact for FY 2018 (the fiscal year starting July 1, 2017, and ending June 30, 2018) is estimated between \$175,280,975 and \$233,710,726.

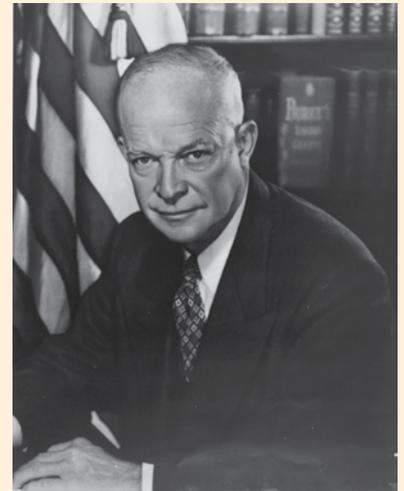
The Economic Impact of Fort Hays State University on the Local Economy: Fiscal Year 2018

Dr. Emily Breit, Dr. Tom Johansen, and Dr. Samuel Schreyer

INTRODUCTION

"The wide open spaces of the Kansas prairie provide a splendid background for the educational institutions there. The region, stimulating in its climate and in its distant horizons, free of the many afflictions that accompany great concentrations of populations, permits concentration on physical, mental, and moral development that is scarcely possible in the crowded conditions of many other sections.

The attitude of Kansas toward initiative and achievement and excellence fosters effort; from the date of its founding, the entire state has been dedicated to high standards of education and to individual self-reliance, responsibility, and progress. Today, therefore, young people maturing in the colleges of western Kansas are enjoying opportunities, almost unique, to learn and to live by timeless traditions of the human greatness that is possible to all who earnestly and perseveringly use their talents and their energies for worthy goals."



"To students of Fort Hays Kansas State College go my best wishes that they may strive, in the spirit of their forebears, for the betterment of themselves and their communities of Kansas and the Republic."

A handwritten signature in cursive script that reads "Dwight D. Eisenhower". The signature is written in dark ink on a light-colored background.

Dwight D. Eisenhower

This tribute to Fort Hays Kansas State College from 1966, now Fort Hays State University (FHSU), describes the university, students, and graduates today. Since the beginning of the university in 1902, FHSU has supported the betterment of "Kansas and the Republic." This betterment includes the economic impact that is created because of the existence of FHSU.

The purpose of this study is to estimate the short-term magnitude of the economic impact of Fort Hays State University on the local economy of Hays and Ellis County for fiscal year 2018. The estimation models used in this study follow a demand-side methodology.

The Caffrey-Isaacs approach utilizes linear cash flow modeling to track the flow of institutional funding. The IMPLAN methodology combines the U.S. Bureau of Economic Analysis (BEA) input-output tables with other data to track funding flow.

A more thorough discussion of economic impact theory and methodology, as well as the university-related expenditures used to estimate the economic impact, are identified and discussed in the following section. The spending estimates, data sources, and assumptions are presented for each of the FHSU spending units. The total of these expenditures, the direct impact, is the primary source of Fort Hays State University's economic impact on the regional and local economy.

ECONOMIC ANALYSIS

Nearly a decade has passed since the U.S. economy emerged from the 2007-09 recession. Although the effects of this recession lasted years afterward, the U.S. economy appears to be expanding at a vigorous pace in recent years. Real gross domestic product (GDP) measures the inflation-adjusted market value for all of the goods and services produced in the U.S. economy. Real GDP expanded by 2.9% from 2017-18, exceeding its 2010-17 average of 2.2%. According to the Bureau of Economic Analysis, the growth in 2018 was widespread, with 19 of the 22 industries it tracks contributing to the increase. A measure related to GDP is personal income, which measures income received by persons from all sources. On a per capita basis, personal income in the U.S. grew by 3.8% from 2017-18 to nearly \$53,697.

High rates of production and income growth portend tight labor markets and inflationary pressures. The nation's unemployment rate dropped to 3.6% in April 2019, a level not experienced since November of 1969. However, the U.S. labor force participation rate of 62.8% in April 2019 – which measures the percentage of adults who are working or wishing to work – has yet to rebound from its level of approximately 66% in the mid-2000s. Lastly, consumer inflation was 2.4% from 2017-18, notably higher than the 2010-17 average of 1.7% and higher than the U.S. Federal Reserve's 2% inflation rate target.

The Kansas economy experienced more modest growth than the U.S. economy over the past decade. Real GDP for the state expanded by 1.9% from 2017-18, outpacing its 2010-17 average of 1.4%. According to the Bureau of Economic Analysis data, the industries contributing most to the recent advances in real GDP were durable goods manufacturing, wholesale trade, and nondurable goods manufacturing. Similarly, per capita personal income grew from 2017-18 by 3.2% to \$50,155, which ranked as the 23rd highest per capita income among the U.S. states. In 2018, the unemployment rate in Kansas reached 3.4%, a low not seen since 1999. Based on the most recent nonfarm payroll data collected by the U.S. Bureau of Labor Statistics, about 19% of Kansans are employed in industries related to trade, transportation, and utilities; 18% employed in government; and 14% employed in education and

health services. The state's labor force participation rate was 66.7% in 2018, down from its level of about 71% in the mid-2000s. A related point is that the Kansas labor force in 2018 consisted of nearly 1.5 million persons, about 18,000 fewer persons than the previous decade.

Economic indicators reveal a mixed picture for Ellis County in recent years. Based on the limited data that is available, real GDP in Ellis County increased each year, on average, by 6.3% from 2012-15 – the 5th highest increase among the 105 counties in the state. By 2015, Ellis County's real GDP was estimated to be \$1.56 billion, accounting for 1.1% of the state's total output. Ellis County ranked 13th among the 105 counties with the largest real GDP. The growth in real GDP, however, has not translated into increases in personal income. The most recent estimate is for Ellis County's per capita personal income is \$43,446 in 2017, a figure that is lower than each of the preceding six years.

The local economy consists of jobs distributed over the agriculture, energy, manufacturing, health, retail, and government sectors. Hays is the regional retail center for Northwest Kansas, and the agricultural and energy sectors continue to be mainstays of Ellis County. The agricultural industry in the area is comprised of nearly 750 farms and remains the highest oil-producing county in the state.

The labor markets in Ellis County have been characterized in recent years by low unemployment and a contracting labor force. Following a pattern similar to that of the state, the 2018 unemployment rate in Ellis County reached 2.4%, a low not seen since 1999.

The county's labor force consisted of 16,868 persons in 2018, a figure that is lower than each of the preceding twelve years. The labor force contraction mirrors that of the county's population. The resident population of Ellis County grew from 2005 to 2012 when it reached 29,074 persons, and it has since decreased to the most recent estimate of 28,689 in 2017. These demographic changes present a challenge to the local economy and underscore the vital role of Fort Hays State University.

THE THEORY AND METHODOLOGY OF ECONOMIC IMPACT

Short-Run Approach

Economic impact is defined as “the difference between existing economic activity in a region given the presence of the institution and the level that would have been present if the institution did not exist.” (Beck, Elliott, Meisel, and Wagner, 1995). Many studies have been completed estimating the short-run economic impact of educational institutions. Two methods that are often used to assess the economic impact of colleges and universities are input-output analysis and the Caffrey-Isaacs approach. These methods are short-run multiplier approaches that utilize a specific economic activity contributed by the university to the economy of the region. The multipliers and the specific economic activities differ between the methods. A summary of these methods is provided by Stokes and Coomes (1998).

Caffrey-Isaacs Approach

The Caffrey-Isaacs approach was developed in 1971 for the American Council of Education to provide a framework for estimating the economic impact of universities. Economic information required by this model includes spending by faculty, staff, students, the university, and constituents. Other economic activities occurring because of the university location and facilities are also estimated. Local government income and spending resulting from the existence of the university adds to the impact. The multiplier depends on local business effects, the value of property related to the university, the costs and benefits to the local government, and wages and jobs created. In practice, multipliers are often estimated based on similar studies or averages. Previous Fort Hays State University economic impact studies utilized the Caffrey and Isaacs method. FHSU expenditures are associated with the following categories: the university, faculty and staff, students, visitors, food service, the bookstore, the Memorial Union, the FHSU Foundation, and the Athletic Association. Expenditures for FY 2018 are associated with spending to local businesses in the Ellis County economic region.

Input-Output Approach

An alternative methodology to the Caffrey-Isaacs approach is input-output analysis using the IMPLAN system. Figure 2 illustrates the historical economic impact estimates for FHSU using the two methodologies. Estimating the economic impact is not an exact science; results may vary. The key difference between these two estimates is the methodology. In the Caffrey and Isaacs estimates, the methodology used was based on several assumptions (as discussed in the previous section) and an average multiplier. The average multiplier, which has been used for several years, is based on multipliers used at other universities. In the IMPLAN estimates, Bureau of Economic Analysis data are utilized, and the multipliers are based on economic data specific to the region in question. With this data, spending patterns can be designated and fairly precise conclusions can be made about the economic impact. The Caffrey and Isaacs estimates are more assumption driven while the IMPLAN estimates are more data driven.

Input-output analysis was developed by Wassily Leontief in 1936. For this work, Leontief won the Nobel Prize in Economics. Input-output (I-O) models estimate inter-industry relationships in a region by measuring the distribution of input purchased and output sold by each industry. The I-O models calculate how the impact of one dollar “ripples” throughout the regional economy, creating additional expenditures and jobs. This is more commonly referred to as the “multiplier effect.” A matrix of industry transactions, including industry production, final demand and value added, is developed in order to determine multipliers. Because industries are related through the transactions matrix, economic activity by sectors affects every other sector.

IMPLAN was utilized to quantify the economic interaction among FHSU and various industries, businesses, and other institutions in the Ellis County regional economy. The Ellis County regional economy is defined as Ellis County and the four contiguous counties of Rooks, Russell, Rush, and Trego. The IMPLAN software and database is a system that produces appropriate multipliers for each county in the state of Kansas. IMPLAN total effect multipliers measure changes in output, income, employment, and value added for FHSU on the regional economy.

Data is provided for 536 specific industries corresponding to the Standard Industrial Classifications (SIC codes). This data is produced for each county in the state of Kansas in calculating multipliers to assess the economic interaction with FHSU for a specified time period.

IMPLAN analysis is built on what is referred to as Social Accounting Matrices (SAMS), which describe the structure and function of a specific economy. The SAMS include the business transactions as reported by all business and government agencies for a given year. These include non-market transactions – for example, taxes and unemployment benefits – and are thus better measures of economic flow relative to the traditional I-O accounts. To estimate the impact of a given change in a given region or local economy, multiplier models are constructed, built directly from the SAMS. These multiplier models will therefore reflect the unique structure and trade flows of the region or local economy under consideration. The multiplier models estimate the amount as well as the distribution of economic impact.

Total effect multipliers can be divided into a direct effect, an indirect effect, and an induced effect. The direct effect is the amount of money that FHSU spends in the regional economy; that is, FHSU purchases goods and service from firms located in the region. Those businesses that receive money from FHSU also purchase goods and services and hire

people who will spend their wages and salaries in the regional economy. This additional amount of spending by businesses that receive income as a result of FHSU spending is the indirect effect. Employees of FHSU and employees of FHSU vendors also spend a portion of their wages and salaries locally; that is, the induced effect. Essentially, dollars “ripple” through the economy, producing this multiplier effect. For example, if the output or spending multiplier is 2, then for every dollar that FHSU spends in the region, an additional \$2 of spending is produced in the Kansas economy. IMPLAN provides additional analysis of total effect multipliers by calculating Type I, Type II, and Type SAM multipliers. Type I multipliers include the direct effect and the indirect effect and measures how well FHSU is integrated with other industries and institutions in the region. Type II multipliers add in the induced effect to reflect consumer spending or demand. Type SAM multipliers include an additional amount to reflect commuting, social security taxes, individual income taxes, and savings. By breaking down the total effect multipliers, the relationship between FHSU and the regional economy can be better analyzed. Economic impacts that take place outside of the local economy, referred to as leakages, are excluded from estimating the local economy impacts. These lower the multiplier effect. The local economy characteristics, in particular location and population size, affect the size of the leakage since they influence the decision to purchase locally.

CAFFREY-ISAACS APPROACH

Data Estimation

University Expenditures (Other Than Employment)

University operating expenditures, obtained from FHSU financial statements, were **\$61,895,661** for FY 2018. Next, the proportion of these expenditures spent locally is applied. Some university expenditures are required to use state contracted vendors, so these expenditures are not likely to be local. Currently, computer access to data that track expenditures by vendor address or zip code is unavailable. For this report, 55% of expenditures are assumed to be local expenditures. This percentage is consistent with that used in other studies. This gives a figure of **\$34,042,614** in local expenditures.

Faculty and Staff Expenditures

This estimate includes total spending on local purchases of goods and services by university faculty and staff. Payroll records were used to calculate

employee net pay. Only those faculty and staff who reside in the local area were considered in this study; that is, those who live within Ellis County and the four contiguous counties – Rooks, Russell, Rush, and Trego. Net pay to faculty and staff is defined as the gross pay minus all deductions, which results in the paycheck received by the employee. Payroll deductions include required withholdings such as federal and state income tax, social security, Medicare taxes, and the required state retirement employee contribution. Health and supplementary life insurance is deducted, and employees can elect to have voluntary tax-sheltered supplementary retirement annuity payments withheld. Other voluntary deductions may include: deferred compensation, flexible spending accounts, medical and dependent care, long-term care insurance, parking fees, organizational dues, athletic ticket payments, United Way donations, Foundation donations, Learning Quest, and Savings Bonds.

The total net pay for each classification of employee, living in the Ellis County economic region, is presented in Table 1.

Table 1: FHSU Employee Net Pay

Employee Type	Number of Employees	Net Pay
Faculty	284	\$12,571,553
Academic (Non-faculty)	41	\$2,534,412
Virtual College Faculty	47	\$652,145
Adjunct	32	\$278,187
Staff - UPS	381	\$10,737,773
Staff - USS	171	\$3,624,937
Total Facult/Staff Net Pay	956	\$30,399,007

Source: University Payroll

The category of Temporary Staff employees must also be considered. A Temporary Staff employee is a part-time employee who may work in a variety of capacities for the university, including secretarial, clerical, maintenance, custodial, etc. The total net pay for Temporary Staff with a local address (73 employees) was **\$278,761**. The Senior Companion and Foster Grandparent Program employees working locally had a total net pay of **\$343,165**. Added to the net pay for FHSU employees identified in Table 1, the total net pay for all employees at FHSU is **\$31,020,933**.

It was assumed for this study that all of net pay was spent, and no additional savings were withheld. Faculty and staff have available the opportunity to participate in voluntary tax-sheltered savings programs at FHSU that would be payroll deducted and thus not included in net pay.

The proportion of faculty and staff disposable income that is spent locally is an empirical question. During the spring of 2019, we conducted a survey of all faculty and staff and students about their spending patterns. The percentage of income spent locally was estimated based on the results of this survey. Previous FHSU economic impact studies have used 90% as the percentage spent locally. The spring 2019 survey gave slightly different results. With the increased use of online purchasing, our new estimate of the average percentage spent locally was reduced to 85%. The gravity model concerning expenditure patterns predicts that a higher percentage of disposable income is spent locally when competitive businesses are farther away. Hays is the center of a trade area with little competition for goods and services in

close proximity. Salina, which is 101 miles away, is the closest larger trade center. With lower average gas prices, consumers tend to travel more to shop and spend disposable income.

Full-time employees who were covered by health insurance were also responsible for purchase of local health services and medications covered by insurance. Health insurance premiums are deducted from gross pay for the employee and are not included in the net pay figures. Insurance payments to local providers of health care goods and services are associated with the employee and must be included as a part of expenditures. The Kansas Health Policy Authority has the ability to identify organizations such as FHSU in their claims database. They were able to identify the dollars spent for FHSU members to providers in Hays for the 2009 fiscal year. Adjusting for the number of employees and assuming a regional annual inflation rate of 1.56%, the FY 2018 expenditures were estimated to be **\$5,863,780**.

Assuming that 85% of spending is local, total FHSU employee expenditures are estimated to be **\$31,352,005**.

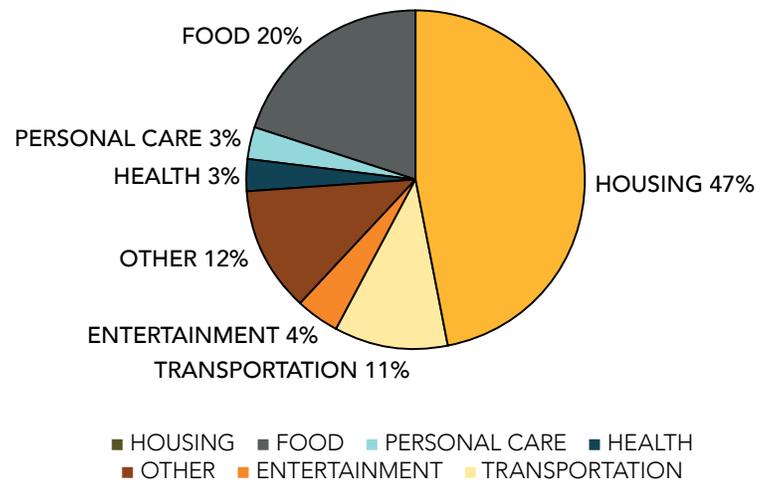
Student Expenditures

Spending by university students is another major source of the economic impact of the university. The on-campus headcount is the enrollment figure relevant for direct student spending. For the academic year 2017-18, the average on-campus headcount was 4,468 students. The summer of 2018 on-campus headcount was 548.

Table 2: Student Enrollment for Academic Year 2017–18

Students	On-Campus Head Count		Students Living in Residence Halls
Fall 2017	4,650		1,666
Spring 2018	4,285		1,553
Average F/S Combined		4,468	1,610
Summer 2018	548		

Figure 1: Student Expenditures



Virtual College enrollment also significantly impacts the economy by increasing university revenues and thus university expenditures. This component is included in both the university spending and in faculty/staff spending.

There are students who reside in university owned facilities such as residence halls, students who live off campus in the community, and students who live outside the local community.

Residence Hall Students

These students do not purchase local housing services, and most of their food expenditures are related to a university meal plan. It would not be appropriate to count either of these student expenditures, because they are considered revenue to this university activity. From this revenue, university housing services make expenditures that are included in the university operations expenditures model. Nevertheless, they purchase a variety of goods and services in the local community, including entertainment, food, beverages, clothing, school supplies, hygienic needs, insurance, medical and dental care, dry cleaning, and many other items.

Local Off-Campus Students

Some students will reside in group housing, such as fraternities or sororities; some students will rent private quarters, living alone or with a roommate(s); and some students will live at home with parents. The expenditure patterns for these students will vary, depending upon the circumstances.

Students Living in Other Communities

Students who commute to campus from surrounding areas will likely make some local expenditures on gasoline, food, and other items. Students associated with online courses and programs may not come to the university, and thus may not make any local purchases.

Student spending data were collected for on-campus students as part of a survey conducted during the spring of 2019. The survey was administered to all FHSU students, then filtered to provide results for on-campus students. Detailed data were collected on such things as student income, expenditures, housing, visitors, and employment. Figure 1 shows the pattern of student monthly spending for seven spending categories: housing (including utilities), food, transportation, health, personal care (including clothing, footwear, laundry/cleaning), entertainment, and other (e.g., school supplies, child care, etc.). Tuition and fees are not included in measuring the local economic impact of students because they are a revenue component that funds spending that is accounted for in the university's operation budget.

Estimating local expenditures by students requires adjustments for students who live in university owned facilities such as residence halls. Students who live in such facilities do not purchase local housing services, and most of their food expenditures are related to a university meal plan. About 36% of the average nine-month student on-campus headcount resided in university housing during the 2017-18 school year. FHSU students who did live in halls were estimated to spend an average of \$570 per month in 2018. The student survey allows for the identification of students

**Table 3: Student Expenditures Less Tuition
Average for Fall 2017 – Spring 2018***

Students Living in Residence Halls	1,610
Average Monthly Student Expenditures	\$570
Average 9-Month Student Expenditures	\$5,130
Total 9-Month Student Expenditures	\$8,256,753
Students Not Living in Residence Halls	2,858
Average Monthly Student Expenditures	\$1,365
Average 9-Month Student Expenditures	\$12,285
Total 9-Month Expenditures for On-Campus Headcount	\$35,110,530
Summer Session	548
Average 3-Month Summer Student Expenditures	\$4,094
Total 3-Month Summer Student Expenditures	\$2,244,060
Total FY 2018 Student Expenditures	\$45,611,325

*All figures are rounded to the nearest dollar.

who live in halls and provides a basis for making adjustments to the housing and meal expenditures for those students. The average on-campus headcount for students not living in residence halls was 2,858. FHSU students who did not live in halls were estimated to spend an average of \$1,365 per month in 2018.

Total FHSU student spending for the 2017-18 school year (including the summer session) was adjusted

for students living in residence halls. Total student spending was estimated to be **\$45,611,325**, as summarized in Table 3. The percentage of income spent locally was estimated, based on the results of this survey. Previous FHSU economic impact studies have used 90% as the percentage spent locally. Our new estimate of the average percentage spent locally is 71%. Assuming that 71% of spending is local, total FHSU student expenditures are estimated to be **\$32,384,041**.

Visitor Expenditures

Many people visited Fort Hays State University's campus in FY 2018 as prospective students and their parents, as conference and commencement attendees, and as audiences for cultural and sporting events. These events have an economic impact on Hays and Ellis County because they are sponsored and/or supported by FHSU. This report estimates the expenditures of visitors who attend the various events. These groups include visitors attending special athletic events, events held at the Memorial Union on the FHSU campus, those who come to Hays to visit university students, and those who come to visit FHSU faculty and staff.

Special Events. The economic impact of high school state sporting events and other outside sponsored events hosted at FHSU has been studied for the year 2018 by the Hays Convention and Visitors Bureau (CVB) and the FHSU Athletic Department. Many events were hosted by FHSU during 2018, including state volleyball, state football, state basketball, state wrestling, Special Olympics, and the High Plains Music Camp. It is estimated that in Hays and Ellis County, visitors attending these various events spent a total of approximately **\$2,639,775**. Only overnight visitors are included in the estimates; therefore, the estimates are conservative in that day visitors also spend money in the community. Day visitor information cannot be reliably estimated.

Special Memorial Union Events. The Memorial Union on the FHSU campus hosts many events during the year from outside organizations. Using past spending data and adjusting for the increase in the price level, as measured by the regional Consumer Price Index, total spending in the local economy for the year 2018 was estimated to be **\$306,710**.

Student Visitors. Not only does student spending impact the economy, student visitors spend a substantial amount that also impacts the economy. Students have visits from friends and family throughout the year. While the primary purpose is to visit the student, some visitors combine the visit with attending some university activity or events. Based on responses from the 2019 student survey, student visitor expenditures were estimated to be **\$17,186,741**.

Faculty and Staff Visitors. Faculty and staff spending data were collected as part of a survey conducted during the spring of 2019. The survey was administered to all faculty and staff at FHSU, and then results were filtered to provide expenditure data for those faculty and staff who reside in the Ellis County area. Detailed data were collected on such things as income, expenditures, housing, visitors, and employment. Based on the 2019 faculty and staff survey, faculty and staff visitor expenditures were estimated to be **\$7,464,865**.

University Bookstore and Food Services

Estimated net salaries and local expenditures for the university bookstore during FY 2018 were **\$169,433** and **\$7,652**. Assuming 85% of payroll was spent locally, the total local expenditure was **\$151,670**.

Estimated total salaries spent locally and the local expenditures for Chartwells, the university food service provider, were estimated to be **\$441,509**. As in the case of university employees, it is assumed that these employees spend 85% of their net pay locally. Therefore, total local spending for Chartwells is estimated to be **\$377,726**.

FHSU Athletic Association

Total spending by the FHSU Athletic Association was **\$3,144,992**. Of this total, local expenditures were calculated to be 85% or **\$2,673,243**.

FHSU Foundation

The FHSU Foundation is a private foundation that supports the university through its fundraising efforts for student scholarships and departmental support money. Foundation spending consists of three areas: employee salaries, operating expenses, and expenditures made by the association on behalf of university departments. Fiscal year 2018 salaries were **\$642,050**, of which it is assumed that 85% is spent locally, amounting to **\$545,742**. Local operating expenses, those expenditures necessary to operate the association, spent locally were **\$337,079**. Fund expenses and reimbursement payments were **\$377,080**. These expenditures do not include money paid out as scholarships. The total direct expenditure for the FHSU Foundation for FY 2018 was **\$1,259,902**.

Table 4: Direct Impact Expenditures*

University Operation Expenditures (Excluding Wages and Salaries)	\$34,042,614
Faculty and Staff Expenditures	\$31,352,005
Student Expenditures	\$32,384,041
Student Visitor Expenditures	\$17,186,741
Faculty and Staff Visitor Expenditures	\$7,464,865
Food Services	\$377,726
University Bookstore	\$151,670
Memorial Union Events	\$306,710
FHSU Athletic Association	\$2,673,243
Special Athletic Events	\$2,639,775
FHSU Foundation	\$1,259,902
Total	\$129,839,292

*All figures are rounded to nearest dollar.

Total FHSU Direct Economic Impact

The total direct impact of spending related to Fort Hays State University on the local economy is the sum of the spending components previously discussed. A summary is presented in Table 4.

Indirect and Induced Spending Impacts

For FY 2018, the direct impact of FHSU on the local economy was **\$129,839,292**. This direct impact produces an indirect impact, as local business

establishments purchase materials and supplies from other local enterprises to support their sales. The indirect impact is estimated to be 20% of the direct impact, or **\$25,967,858**. The income received by local residents from the initial dollars spent is partially spent within the local economy, thus creating additional sales. This induced impact is estimated to be 60% of the direct impact, or **\$77,903,575**. Using the Caffrey-Isaacs approach, the total economic impact of Fort Hays State University on the local economic region is **\$233,710,726**. These impacts are summarized in Table 5.

Table 5: Direct, Indirect, and Induced Impacts*

Direct Impact	\$129,839,292
Indirect Impact	\$25,967,858
Induced Impact	\$77,903,575
Total Economic Impact	\$233,710,726

*All figures are rounded to nearest dollar.

IMPLAN

An alternative methodology to the Caffrey-Isaacs approach, which has been employed in previous economic impact studies of FHSU, is the input-output methodology using the IMPLAN data. IMPLAN was also utilized to quantify the economic interaction between FHSU and various industries, businesses, and other institutions. Figure 2 illustrates the historical economic impact estimates using the two methodologies.

This study customized the IMPLAN model for FHSU spending. The impacts of FHSU operating costs and employee compensation were estimated using institutional spending patterns for state and local government, education sector. The impacts of all the

other categories of expenditures were examined using industry spending patterns. All impacts were for 2018. Four categories of impacts were calculated which reflects the contribution of FHSU to the region.

These are:

- Output – overall contribution
- Employment – jobs created due to the presence of the university
- Labor Income – contribution to earnings in the state
- Taxes – contribution to state and local tax collections.

The estimates from IMPLAN are summarized in Table 6 below.

Table 6: FHSU Economic Impact: IMPLAN

Impact Type	Output	Employment	Labor Income	Local Taxes
Direct Effect	\$111,953,798	2,316	\$94,525,861	
Indirect Effect	\$2,022,733	14	\$491,244	
Induced Effect	\$61,304,444	524	\$17,448,656	
Total Effect	\$175,280,975	2,854	\$112,465,761	\$5,372,848

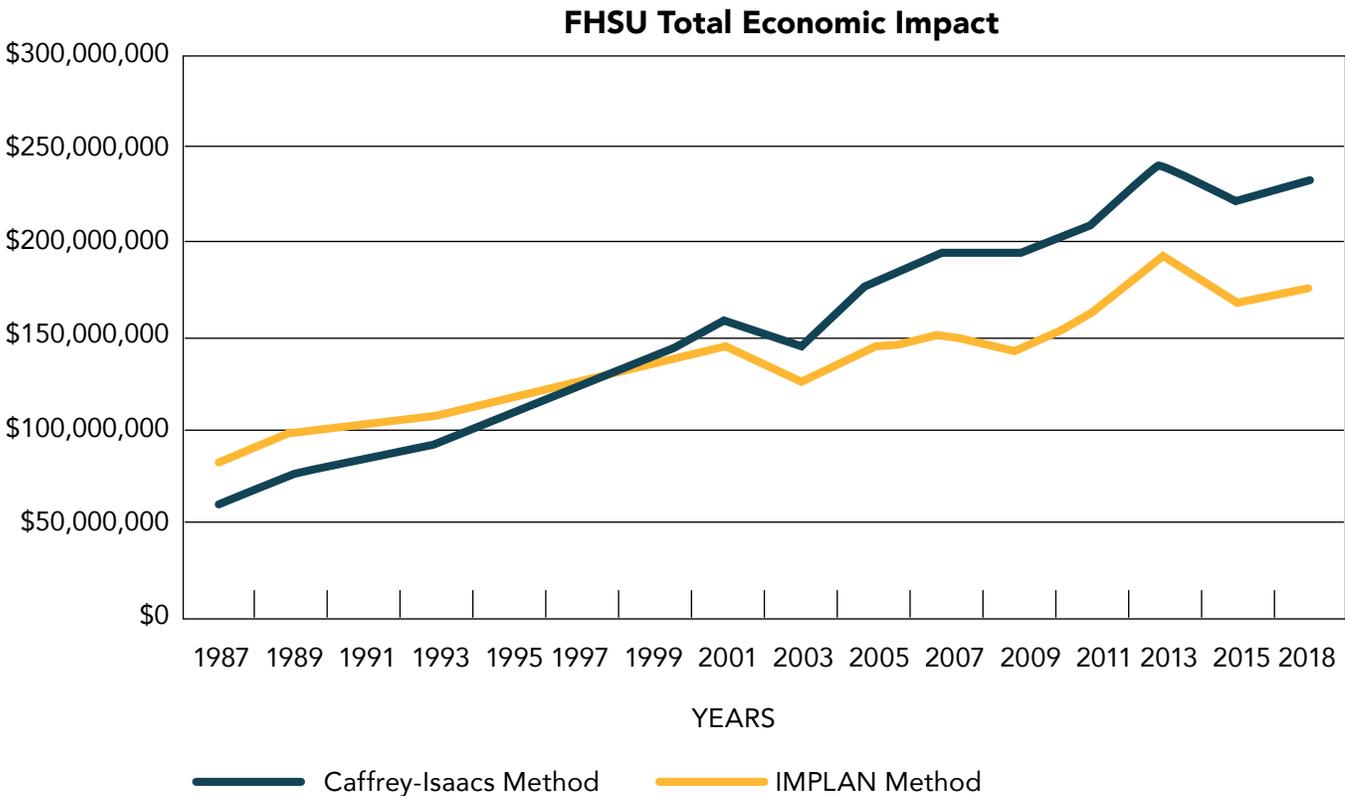
For FY 2018, the IMPLAN direct impact of FHSU on the local economy produced an indirect impact estimated at \$2,022,733. The induced effect was estimated to be \$61,304,444. The total IMPLAN estimated economic impact of FHSU on the Hays and Ellis County region is **\$175,280,975**. The number of jobs created in the local economy due to the presence of FHSU is associated with employment opportunities at the university and jobs created by business enterprises resulting from university related expenditures. The total impact of FHSU in terms of employment was **2,854** jobs in the Hays and Ellis County region. The contribution to wages and salaries of workers in the region was **\$112,465,761**. The effect of FHSU upon local tax revenues was also estimated.

The contribution to total local tax revenues due to FHSU was estimated to be **\$5,372,848**.

Historical Total Economic Impact

Fort Hays State University has had a positive economic impact on Hays and the Ellis County region for many years. Figure 2 summarizes graphically the economic impact study results since 1987. As the economy has grown, so has the economic impact of FHSU. However, the economic impact of FHSU is cyclical with the economy. The economic impact grows with an expanding economy and contracts with a recessionary economy.

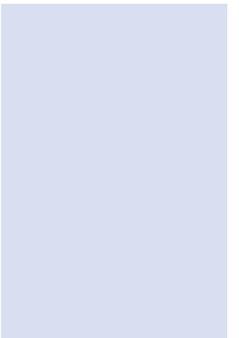
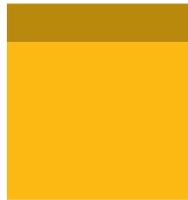
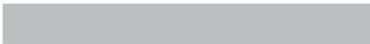
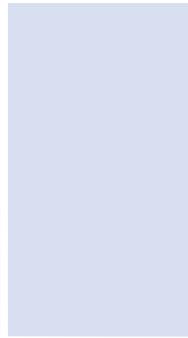
Figure 2: FHSU’s Impact on the Regional Ellis County Economy



The Economic Impact of Fort Hays State University

This study estimates a significant contribution by FHSU to the local economy. The actual economic impact of Fort Hays State University is likely larger than the value estimated in this study due to the conservative spending estimates. This study only estimates the short-term economic benefit. FHSU also benefits the regional economy because of the development of human capital, which has long-term economic benefits. These benefits include a better educated state workforce that results in both productivity and earnings gains. There is a consistent

positive correlation between the education level within a state and the per capita income for that state. Specifically, the primary impact of FHSU in the long run is the large number of job-ready graduates produced each year who make lifelong contributions to the economy of the Ellis County region and the state of Kansas. Estimating the long-term economic impact using the human capital approach is beyond the scope of this report. The long-term economic impact was estimated in a study by Johansen and Arano (2010).



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