

The Economic Impact of Fort Hays State University on the Local Economy: Fiscal Year 2003

Dr. Carl D. Parker



EXECUTIVE SUMMARY



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The economic impact provided in this study is truly an understatement of the value of the university to the community and the State of Kansas.

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

- The direct impact is the sum of all local expenditures associated with the university, which was estimated to be **\$80,507,600**.
- The indirect effect of additional business spending to support the initial expenditure was estimated to be **\$16,101,520**.
- The induced effect of additional expenditures resulting from the incomes created by the direct impact was **\$48,304,560**.

The total economic impact for FY 2003 was **\$144,913,680**.

The University impact can also be viewed from the perspective of its impact on the local community through generation of various tax revenues.

- Total real estate taxes (property tax) paid by FHSU faculty and staff was **\$1,092,863** and fraternities and sororities paid an additional **\$12,446** for a total of **\$1,105,309**.
- Personal property taxes collected from faculty and staff in Ellis County was **\$82,924**.
- The total motor vehicle taxes collected for FHSU employees in Ellis County is **\$163,550**.
- The sales taxes collected by Hays related to the university impact is **\$1,319,702**.

Excluding student workers and part-time employees, the FHSU created **1,372** jobs in the local economy.



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Introductory Remarks

The purpose of this study is to determine the approximate magnitude of the economic impact of Fort Hays State University upon the Hays and Ellis County local economy in FY 2003. The models used in this study are linear cash-flow concepts upon which data can be readily obtained and omitting qualitative issues. These models do not, for example, concern enhancement to the quality of life provided by university activities. There are many important long-term impacts that are not considered in this study. They include: service to community, assistance to businesses, agriculture, governments, and other institutions, an educated citizenry, research and cultural impacts. Programs designed for life-long learning, access to a comprehensive library, community partnerships and outreach programs are not considered.

These models include only university related expenditures. The spending units are identified as: the university, faculty and staff, students, visitors, food service and book store, Endowment Association, and Athletic Corporation. Discussion of spending estimates, data sources, and assumptions are presented below for each of these units.

The total of these expenditures are called the "direct impact," which is the primary source of the economic impact of the university upon its local environment.

The direct impact expenditures generate a multiplier effect within the local economy. Because of the local sales resulting from the direct expenditures, local businesses will purchase local goods and services from

other businesses to support these sales. Previous FHSU impact studies have estimated that, for every dollar of direct expenditures, an additional \$.20 worth of local purchases ultimately occur. This is referred to as indirect effect. An "induced" impact arises from the revenue received by local businesses due to the direct expenditures. Some of these receipts are paid to employees as some form of compensation, such as: wages, salaries, commissions, or profits. This compensation will fuel a second round of spending, part of which will be local expenditures. This process could again repeat itself, setting off a third round of expenditures and so on. Previous FHSU impact studies have stated that for every dollar of direct expenditures, an additional \$.60 worth of local business activity is ultimately generated. The total multiplier effect has been thus estimated to be 1.8.

There are other measures that also provide a perspective of the economic impact of the university. One model concerns college related revenues received by local governments in the form of taxes and another model concerns the creation of jobs in the local community resulting from college expenditures. The tax revenues considered in this study include real estate taxes, personal property taxes, sales taxes, and motor vehicle taxes. These taxes fund governmental activity at the city and county level as well as provide funding for the school district. The jobs model considers the additional jobs created in the community associated with first round direct expenditures of the university.



EXPENDITURE MODELS

FHSU expenditures are associated with the following categories: the university, faculty and staff, students, visitors, food service, bookstore, Endowment Association, and Athletic Corporation. Expenditures for the fiscal year 2003 are associated with spending to local businesses in Ellis County and the city of Hays. The broader impact of FHSU spending on the region or state is not considered in this study. Assumptions, data sources and other issues are specifically identified in this presentation to assist in making the needed corrections for future economic impact studies.

University Expenditures

This model estimates the level of university expenditures on goods and services purchased from local businesses. University operations expenditures minus wages and salaries and minus internal account transfers and payments are considered. The Office of Budget and Planning provided the figure of \$19,644,318 for FY 2003.

Next the proportion of these expenditures spent locally is determined. 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 tracks expenditures by vendor address or zip code is unavailable. While this issue should be resolved in the future, a rough approximation was required for this 2003 fiscal year. For this report, 55 percent of expenditures are assumed to be local expenditures. This gives a figure of \$10,804,375 for local expenditures.

Faculty and Staff Expenditures

This model estimates total spending on local purchases of goods and services by university faculty and staff. Disposable income is determined as well as the percent of income spent locally to calculate this estimate.

It is believed that the procedure used to calculate faculty and staff expenditures in this study is an improvement over the procedure used in previous FHSU impact studies. Previous studies used gross salaries times some average percentage for salary deductions to obtain net pay. In this study, net pay to faculty and staff is defined as the gross pay minus all deductions that results in the paycheck received by the employee. This information is available in payroll records.

Payroll deductions include required withholdings such as federal and state income tax, social security and medicare taxes. Also withheld was required state retirement employee contribution, which was 8.5 percent for unclassified and 4 percent for classified employees. 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 Dues
- Organizational Dues
- United Way Donations
- Endowment Donations
- Learning Quest
- Savings Bonds

The resulting net pay after these deductions should approximate disposable income for employees.

The total net pay for each classification of employee was determined and is presented in Table 1 below.

Other categories of employees that also have to be considered are:

The Temporary Classified employee is a part-time employee who may work in a variety of capacities for the university including secretarial, clerical, maintenance, custodial, etc. Temporary Unclassified employees are usually associated with teaching responsibilities, either in a part-time capacity teaching on-campus or teaching classes offered through the Virtual College. The total net pay for these two employee classifications, who had a Hays mailing address (149), was \$740,426

The payrolls for two other programs associated with FHSU are: the AmeriCorps program (unclassified) and the Senior Companion/Foster Grandparent Program (classified). The employees working in Ellis County associated with these programs had a total net pay of \$139,528.

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 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 employee expenditures. Estimates of these figures were obtained from the State's Health Benefits Office. Ellis County state employees accounted for \$4,950,000 group insurance benefits payments. Also, Worker's Compensation payments were:

Medical = \$61,830.32

Disability = \$7,942.13.

All of these payments were for the calendar year 2002. The health insurance is contracted for the calendar year rather than the fiscal year. The required assumption is that the rate of payment is similar even though the periods are different. The Health Benefits Office stated that 79 percent of state employees in Ellis County work for FHSU. The total of the above payments times 79 percent is \$3,910,500.

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. A future study of faculty and staff expenditure patterns will provide more insight into the validity of this assumption and any needed adjustments.

It is not known what proportion of faculty and staff disposable income is spent

Table 1: FHSU Employee Net Pay

Employee Type	Number of Employees	Net Pay
Nine-Month Unclassified (Faculty)	231	\$7,130,812.91
12-Month Unclassified	187	\$6,142,190.76
Regular Classified (with benefits)	304	\$5,009,744.13
Total Faculty/Staff Spending	722	\$18,282,747.80

Source: University Payroll

locally. This is an empirical that would properly be based on a faculty/staff survey. The percentage of income spent locally associated with comparable universities may not be useful as guidelines because of the uniqueness of the market area. Hays is the center of a trade area with little competition for goods and services in close proximity. Salina, which is 90 miles away, is the closest larger trade center. The gravity model concerning expenditure pattern would suggest that most of disposable income would be spent locally when competitive businesses are farther away. The previous university impact study used a 90 percent local expenditure figure. This percentage will be used in this study due to lack of any basis for a different figure.

The total of the faculty and staff discussed above equals \$23,128,321 and total local expenditures equal \$20,815,489.

Student Expenditures

This model attempts to estimate local expenditures by students. Complications to the model arise from the fact that there is more than one category of students. There are students who reside in university owned facilities such as dormitories; 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, since 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 such items as: 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 roommate(s); and some students will live at home with parents. The expenditure patterns for these students will vary greatly 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 Internet courses and programs may not come to the university and thus may not make any local purchases. Tuition and fees are not included in measuring the local economic impact of students, since they are included in the instruction cost component of the university's operation budget.

An accurate estimate of local expenditures by the various categories of students requires knowing how many students are in each category and the pattern of expenditures for students in each category. Additionally, expenditure patterns may differ on the basis of gender; undergraduate and graduate status; and if the student is part-time or full-time.

There is no current study at FHSU to provide this needed information. The basis upon which student spending estimates were obtained for previous FHSU impact studies is not known. A future study of student income sources, expenditures and debt is planned by the Department of Economics and Finance.

In the absence of current information, this study used the estimate provided for total student spending in the FY 01 Economic Impact Report and adjusted the figure to reflect the change in the On-Campus Head count and the change in the Consumer Price Index. Using the Fall on-campus head count for 2001 and 2003, the percentage increase was $(4502-4449)/4449 = 1.2$ percent increase. The percentage change in CPI-U (Midwest) 01-03 is a 3.2 percent increase. This gives an adjusted student expenditure of \$34,314,280. Dividing this figure by

the number of students in 2003 (4520) gives a \$7,622 expenditure per student. It might be noted that this figure is not substantially different from the "per student on-campus" figure reported

for Pittsburg State University in its FY 2002 Economic Impact Report of \$7,678.

Visitor Expenditures

Many people visited Fort Hays State University's campus in FY 2003 as prospective students and their parents, as conference and commencement attendees, and as audiences for cultural and sporting events.

While there have been no known recent studies of attendance and resulting local expenditures across all these university activities, some study has been done on selected areas. The economic impact of high school state sporting events hosted at FHSU has been studied. For the football, volleyball, basketball and wrestling state events and economic impact on the community has been estimated to be \$1,900,625 for FY2003. (Study by Jana Jordan)

Since a careful study is needed concerning visitor expenditures resulting from attending various FHSU events, a conservative approach was adopted for the current study. The 2001 estimate was adjusted upward for the increase in the consumer price index over the two-year period. The resulting figure was \$11,610,000. This figure is conservative in that there was no assumed growth in either the number of visitors or the total quantity of items purchased.

University Book Store and Food Services

The university bookstore reported a total payroll of both full-time and part-time employees of \$122,102 and additional local expenditures of \$10,000. Professional food management reported a total payroll of \$433,051 and additional local purchases of \$4,928.

As in the case of university employees, it is assumed that employees spend 90 percent of their net pay locally. Adjusting the payroll to account for withholding amounts and adding the other lo-

cal expenditures gives a total for the University Book Store of \$119, 892 and a total for professional food management of \$286,998. The combined total for the two activities is \$406,890.

Sternberg Museum

Total local expenditures reported for Sternberg Museum were \$100,844. This information was provided from the Sternberg Museum Foundation Profit and Loss Statement. This expenditure is the direct expenditure and not the visitor impact associated with museum attendance.

FHSU Athletic Association

Total spending by the FHSU Athletic Association was \$1,879,544. Of this total, local expenditures were calculated to be 80 percent or \$1,503,635.

Endowment Association

There are four categories of expenditures associated with the Endowment Association: salaries for students and non-students, operating expenses, student scholarship transfers, other department and program payments. Student salaries and scholarship payments are excluded since these payments are a part of students' income and thus show up in student expenditures. Net non-student employee salaries for FY 03 were \$213,185.

If these employees use 90 percent of net pay to purchase local goods and services, local expenditures are equal to \$191,867. Operating expenses were \$213,185.

A 1998 estimate was that approximately 72 percent of these expenditures were made to local vendors. This gives a figure of \$206,303. Department and program payments that did not include scholarship dollars amounted to \$957,853. The 1998 estimate of the percent of these funds applied to local purchases was about 27 percent, which equaled \$258,620. The total local expenditures for all categories are \$656,790.



Total FHSU Economic Impact

The total economic impact upon the local economy is the direct impact combined with the indirect and induced impact. The total direct impact of spending related to Fort Hays State University upon the local economy is the sum of the spending components previously discussed. A summary is presented in the following table.

Table 2: Direct Impact Expenditures

University Operations Expenditures (Excluding Wages and Salaries)	\$ 10,804,375
Faculty and Staff Expenditures	\$ 20,815,489
Student Expenditures	\$ 34,314,280
Visitor Expenditures	\$ 11,610,000
University Book Store and Food Services	\$ 406,890
Sternberg Museum	\$ 100,844
FHSU Athletic Association	\$ 1,503,635
Endowment Association	\$ 656,790

TOTAL	\$ 80,507,600
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For the fiscal year 2003, the direct impact of FHSU on the local economy was \$80,507,600. 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 effect is estimated to be 20 percent of the direct effect or \$16,101,520. The income received by local residents from the initial dollars spent is partially spent within the local economy, thus creating additional sales. This induced effect is estimated to be 60 percent of the direct impact or \$48,304,560. This gives a total impact on the local community of \$144,913,680. These impacts are summarized in the following table.

Table 3: Direct, Indirect and Induced Impacts

Direct Impact	\$ 80,507,600
Indirect Impact	\$ 16,101,520
Induced Impact	\$ 48,304,560

TOTAL IMPACT	\$ 144,913,680
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GOVERNMENT MODELS

This set of models is designed to estimate the effect of the presence of the university upon local government revenues and thus their expenditures. The models presented in this report are limited to real estate property taxes, personal property taxes, and sales taxes paid to local government.

University Related Real Estate Property Taxes

There are two components to this model: real estate taxes paid by faculty and staff, and real estate taxes paid by fraternities and sororities. The amount of real estate taxes paid by fraternities and sororities was obtained directly from Ellis County and the amount for the most recent available year, 2002, was a total of \$12,446.

Unfortunately, there is no direct measure of real estate taxes associated with university faculty and staff and no direct survey data available. From university payroll data, it was determined that there were 548 unique Hays

addresses for full-time faculty and staff. From the Census 2000 Summary File 4, total households reported for Hays were 8,217. Thus FHSU accounts for about 7 percent of Hays households. Taking 7 percent of total property tax receipts for Hays was not judged appropriate because it is believed that the average market value of homes owned by FHSU employees is somewhat above the city average. Dividing the total residential urban valuations in Hays by the number of total parcels gives an average market value of \$99,973. Based on earlier survey work done in the Department of Economics and Finance, it was estimated that the average market value of homes by Faculty and Staff is closer to \$140,000. The following table is based on this value and shows the taxes associated with an average FHSU employee household paid to the City, County and USD 489. The totals are also shown for the 548 FHSU households living in Hays. Total real estate taxes (property tax) paid by FHSU faculty and staff was \$1,092,863.

Table 4: Real Estate Taxes

	City	County	USD 489	TOTAL
Mills	35.438	38.327	50.103	123.868
Ave./person	\$570.55	\$617.06	\$806.66	\$1,994.27
FHSU unique Addition	548	548	548	548
Total Prop. Tax Fac/Staff	\$312,662.39	\$338,151.46	\$442,048.75	\$1,092,862.59



For the 57 FHSU faculty and staff who live in other Ellis County towns, there is a total real estate tax contribution of approximately \$84,500 paid to their respective towns and school districts and Ellis County. In addition, FHSU's faculty and staff who do not own homes provide rental income for local property owners and contribute indirectly to local property taxes through their share of rent payments that the owner uses to pay local property taxes.

It is hoped that a future survey of faculty and staff will provide more precise and accurate information on property values and thus real estate tax payments. Such a survey will also collect information on the next two components: personal property taxes and property taxes associated with automobiles.

Personal Property Taxes

In the City of Hays, \$1,243,418 in personal property taxes was collected, based on a taxable value of \$9,991,623 during the 2002 calendar year. Since there was no basis for direct estimation for university faculty and staff, it was assumed that the proportionate share of taxes was related to the proportion of Hays households accounted for by faculty and staff.

As referenced above, the 548 employees with unique Hays addresses was divided by 8,217 total households to obtain a percentage of 6.7 percent. Total taxes collected times this

percentage is \$82,924. It is possible that FHSU faculty and staff have above average values for personal property that would result in a higher tax estimate.

Property Taxes Associated with Motor Vehicles

The county provided the estimate of the motor vehicle taxes collected. The following table was developed from the Consolidated Motor Vehicle Abstract: Motor Vehicle, Recreational Vehicle, M.V. Rental Excise tables.

As in the case of personal property taxes, FHSU's share of Motor Vehicle Property Taxes is related to the proportion of Hays households accounted for by faculty and staff. The table shows the vehicle taxes paid to the County, City and School District by FHSU faculty and staff. Again, if it can be shown that FHSU employees have either more vehicles or vehicles with higher values than the average for the community, then the estimates would be higher. The assumption implicit in these figures is that FHSU employees own about the same number of vehicles as do other households in the community and that the vehicles owned are of the same average market value as those owned by the average household. The total motor vehicle taxes collected for FHSU employees in Ellis County is \$163,550.

Table 5: Motor Vehicle Property Taxes

	Ellis County	Hays	USD 489	TOTAL
Total Collected	\$948,081	\$674,420	\$829,527	\$2,452,028
FHSU Share (6.67%)	\$63,237	\$44,984	\$55,329	\$163,550



Sales Taxes

The Kansas Department of Revenue reports that total sales taxes distributed back to the city of Hays for fiscal year 2003 was \$5,875,623.78 based on the city 1 percent sales tax. Total community sales are thus calculated to be \$587,562,378. Many of the direct impact expenditures related to the university are not subject to sales taxes. Expenditures from faculty and staff salaries, however, are subject to sales taxes as well as the expenditures associated with the indirect and induced impact. The total of these expenditures is estimated to be \$131,970,200 and the 1 percent sales tax collected by Hays gives sales tax revenue of \$1,319,702.

Jobs Model

The number of jobs created in the local economy due to the presence of the university is associated with employment opportunities at the university and jobs created by business enterprises to support university related expenditures. Previous FHSU impact studies have used an employment multiplier of 1.9, which says that for every full-time job at the university, 0.9 jobs are created in the local economy. Perhaps this is easier to understand by saying that for every 10 university jobs, 9 other jobs are created in the local economy. This employment multiplier is reasonable compared to employment multipliers used in other studies. The range for multipliers in other studies has been from 1.35 to 3.49, with the modal value being 2.24. In FY 2003, there were 722 full-time jobs at FHSU. This would mean that approximately 650 additional full-time equivalent jobs would be created in the local economy for a total of 1,372 jobs.



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