

Fort Lewis College

Economic Impact Report

September 2004

A Product of

**Office of Economic Analysis
& Business Research
Fort Lewis College
Durango, CO**

**Ray Schudde
Editorial Assistance
Instructor
Fort Lewis College**

Prepared by

**Deborah Walker
Assistant Professor of Economics
School of Business Administration
Fort Lewis College**

**Megan Klocek
Student Research Assistant
Fort Lewis College**

Economic Impact Highlights

Fort Lewis College Contributes to the Local Economy

The college contributes \$101 million of personal income to the local economy. The college's expenditures in the local area accounted for 40.3 percent of the college's total economic impact. Approximately 44.7 percent of the college's economic impact can be attributed to its students.

Fort Lewis College Creates Job Opportunities

Fort Lewis College employs over 500 people. An additional 2,581 jobs are created by the additional income the college generates. Therefore, the college creates 3,084 job opportunities in the local community. This translates into 12 percent of La Plata County's employment.

Fort Lewis College Benefits its Students

For the student, the benefits of higher education are most obvious: the student sacrifices tuition and current earnings for a lifetime of higher earnings and intellectual awareness.

Fort Lewis College Contributes to its Local Community

Often overlooked in impact analysis are the indirect benefits a college provides to its community. Having a college in the community makes it possible for more local citizens to obtain a college degree. According to the American Council on Education, Center for Policy Analysis, "a college education is related to many activities and characteristics associated with good health, intellectual stimulation, and active community participation." This not only translates into associated dollar savings (avoided costs) for taxpayers, but also into a better quality of life and a more educated workforce for the community.

Taxpayer Investment in Fort Lewis College Creates High Returns

Taxpayers can claim a portion of the benefits of a more educated workforce as well. For example, taxpayers benefit from the additional tax revenues generated by an educated workforce's higher earnings. Similarly, the active, healthy lifestyle influenced by Fort Lewis College's culture provides some healthcare-related taxpayer savings to the state and local government subsidy of the health sector. Reduced incarceration and welfare expenses can be counted as well (to the extent that these are provided at state and local government expense).

The College

Fort Lewis College is a state-assisted, liberal arts college. The college directly impacts the lives of its students, faculty and staff, and indirectly impacts Durango and La Plata County economies and the State of Colorado economy.

This study describes and analyzes Fort Lewis College's impact on the area economy and focuses on the important economic variables of employment, income, expenditure, and rental real estate. The college's effect upon state and local government tax revenues and expenditures, as well as on bank deposits and credit creation, is noted but is beyond the scope of this study.

History and Trends

Fort Lewis College takes its name from a U.S. Army post built southwest of Durango more than one hundred years ago. The army post became a federal Indian school in 1891 and a state-supported high school of agriculture in 1911. Fort Lewis evolved into a junior college by 1933, moved to its Durango campus in 1956, and began offering a four-year liberal arts degree program as a senior college in 1962. Throughout its history Fort Lewis College has been notable for its gradual and sustained growth.

Fort Lewis College is exclusively an undergraduate liberal arts institution with professional programs in business and education. The College offers 26 degree programs in the School of Arts, Humanities and Social Sciences, the School of Natural and Behavioral Sciences, and the School of Business Administration. The college expects gradual growth during the next 5-6 years until it reaches a maximum enrollment of 5,000 Full-Time-Equivalent (FTE) students. The information in Table 1 shows the college gradual enrollment growth since the early 1990's. The recent dip in enrollment can be attributed to an increase in entrance qualifications. As better-qualified students enter the college, the long-term impact will be higher enrollments due to increased student retention.

This year Fort Lewis College has entered a new era of change and growth with not only a new organizational structure, but also a new President, Dr. Brad Bartel. The face of Fort Lewis College has also changed in the last three years as four new buildings and the clock tower were dedicated. With new leadership and state-of-the-art campus facilities, Fort Lewis College has positioned itself to become the finest public liberal arts college in the West.

Table 1 Fort Lewis College Student Enrollment

<u>Year</u>	<u>Enrollment</u>
1993-94	4,279
1994-95	4,109
1995-96	4,363
1996-97	4,456

1997-98	4,440
1998-99	4,314
1999-00	4,357
2000-01	4,287
2001-02	4,441
2002-03	4,347
2003-04	4,182
2004-05	4,190

Source: Fort Lewis College, Registrar's Office, Durango, CO.

Economic Environment of the College

Fort Lewis College performs its mission within a multi-dimensional economic environment. International and national events, national economic trends and policies, and fluctuations within the state and local economies have had significant effects on the college. During the past two decades, major increases in energy prices and other necessary costs have had dramatic effects on the college's budget. Also, changing economic conditions in other regions of the United States have caused major population shifts. The State of Colorado and La Plata County, as well as Fort Lewis College, have felt the de-stabilizing effects of these events. Most recently, tourism, very important to the state and local economies, has been sensitive to both national and local events. The September 11, 2001, terrorist attacks, the many area forest fires with their accompanying national media coverage, and the continuing droughts all negatively impacted the local economy. However, almost sectors of the local economy remain strong and some of the negative effects felt by the tourist industry have subsided and/or have been partially offset by increases in the area's construction industry, as well as by industrial activity (especially in the energy sector).

How We Measure Impact

Fort Lewis College's (FLC's) impact on the local economy is measured as the total economic activity generated by FLC. To measure impact we identify not only the direct expenditures and employment created by operating an institution of higher education, but also the indirect economic activity that is created by the college as well. By use of a standard economic model, we estimate the total activity generated.

Clearly, FLC has positive effects on the local economy. These can be categorized as either demand-side or supply-side effects. The demand-side effects of the college on the local economy are based on the various goods and services that FLC and its employees, students, and visitors purchase locally. **For example, college students are an important part of the total demand for residential rental units in Durango and La Plata County. Given that about two-thirds of the students enrolled at Fort Lewis live off campus, it can be estimated that between 2,400-2,800 students rented in La Plata County in the year 2003, with an average rent per student of \$450-\$500 per month.**ⁱ

The supply-side effects are the effects that the college has on the local economy based on resources it offers to the area. **For example, the presence of a large pool of college students provides labor to local businesses.** Furthermore, after students graduate, some engage in local entrepreneurial endeavors that create income and jobs for others. And finally, both students and faculty of FLC are active in community service.

There are many additional economic and social benefits provided by FLC that are even more difficult, if not impossible, to measure. For example, by providing access to a library, noncredit courses, and cultural and athletic events, FLC enhances the quality of life for the citizens of the area.

Demand-Side Effects

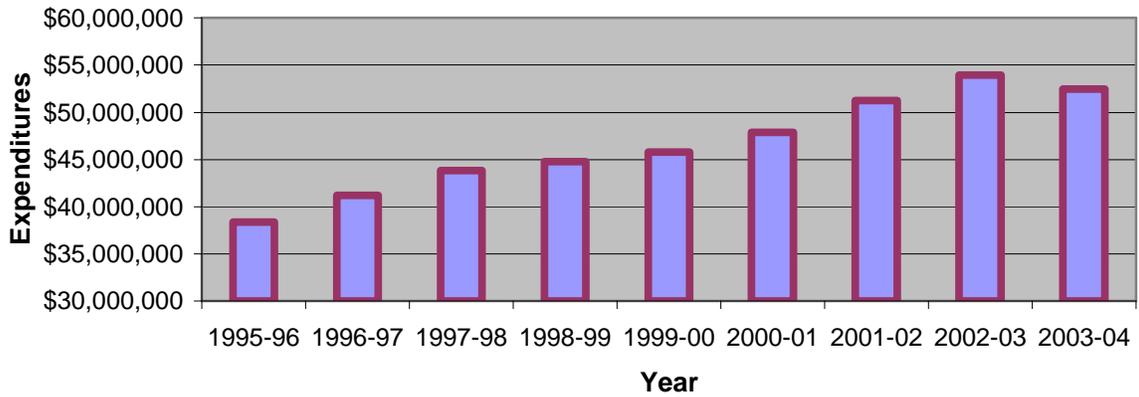
EXPENDITURES

Along with tourism, FLC is an important part of La Plata County's economic base. The college provides a service, higher education, received by its students, many of whom are from outside of the immediate area. **In a sense, FLC exports its service and imports income to the county. A substantial proportion of the students are from areas outside of La Plata County.** These students pay for the college's service and pay for other services and products purchased locally, with money earned in other parts of the state and nation. "New," or "outside," money circulates in the local economy, providing increased income and employment La Plata County.

Upon graduation, students leave FLC to join or rejoin the out-of area workforce. At the same time, many students stay in Durango and the surrounding area after they graduate from Fort Lewis College. Their added skills translate to higher earnings and a larger local economy.

College expenditures provide income and employment for faculty and staff as well as sales revenues for many local businesses (see table below). Students spend large sums of money for housing and other consumer goods and services. State and local government derive revenues from the income and expenditures of people associated with the college. Bank deposits and the supply of credit are increased because of the college. As can be seen by the graph below, expenditures by FLC have been growing since 1995, translating into an increase in the economic impact of the college on the local economy.

Fort Lewis College Expenditures



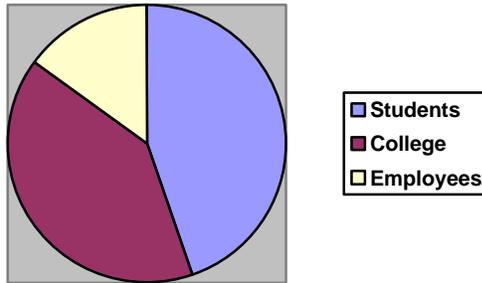
Source: Fort Lewis College, Financial Statements, Fiscal Years 1995-96 through 2003-04, Fort Lewis College Budget Office

Demand-Side Effects Measured by Expenditures

	Estimated Expenditures in La Plata County	Estimated Total Contribution to La Plata County's Personal Income
College expenditures (not including wages and salaries)	\$54,130,493.00	
Paid in La Plata County	\$27,065,246.50	\$40,597,869.75
Employee expenditures in La Plata County	\$10,111,314.00	\$15,166,971.00
Student expenditures in La Plata County	\$30,228,737.00	\$45,343,105.5
Fort Lewis College Related Expenditures - Total	\$67,405,297.50	\$101,107,946.00

The numbers in the table above show that the direct and induced economic impacts were \$67,405,297.50 (the sum of college, employee, and student expenditures). Note that 44.7 percent of the direct and induced economic impacts of the college were the result of student expenditures. College budgetary expenditures were 40.3 percent of the direct and induced economic impacts, and employee expenditures were 15 percent.

Direct and Induced Economic Impacts



Including the multiplier effect, the college’s total estimated economic impact was \$101,107,945. Some perspective may be gained by recognizing that this figure is equal to about 7.6 percent of the 2002 Personal Income of La Plata County. **Also, it is important to recognize that the bulk of student expenditures occur during the period from September through April, the same time period when local tourism expenditures tend to be lower.** Therefore, student expenditures tend to offset seasonal declines in the local economy.

EMPLOYMENT

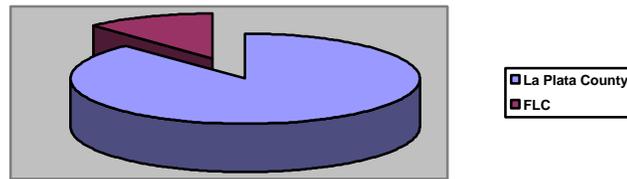
Another substantial economic effect of FLC is the jobs it creates. This is measured not only by its direct employment (over 500 jobs). It must include the additional jobs created from the demand for goods and services generated by the FLC workforce and students. The figures for FLC’s employment impact are shown in the table below.

Employment Impact (in numbers of jobs) FY 2003-04

Direct Employment - Total existing Full-Time Equivalent FLC positions	503
Jobs Attributable to Additional Expenditures by the college, employees, and students	2,581
Total Job Opportunities Created by FLC	3,084

The impact of FLC on county employment is quite impressive. While Full-Time Equivalent (FTE) positions at the college number 503, additional jobs attributable to the college and its expenditures number 2,581. This latter number is qualified by the following: approximately one-half of average college-related expenditures by students go to rental housing, and the manufacturing sector in La Plata County is not large. Consequently, it would be prudent to regard the figure of 3,084 jobs as a reasonable “upper limit” estimate of the total job opportunities in La Plata County attributable to FLC. These 3,084 jobs represent approximately 12 percent of the total employment in La Plata County during 2003 – a large slice of the employment pie.

Fort Lewis College’s Contribution to Employment in La Plata County



Supply-Side Effects

WORKERS AND ENTREPRENEURS

Although it is difficult to quantify the supply-side effects attributable to FLC, the local economy certainly benefits from having a college in the area. FLC students provide a pool of workers for the large tourist industry in the county. After they graduate, many students from other parts of the country decide to stay in the area, contributing to the educated work force and to the entrepreneurial spirit in the area. FLC faculty and students also contribute their time and resources to many local charities and community organizations.

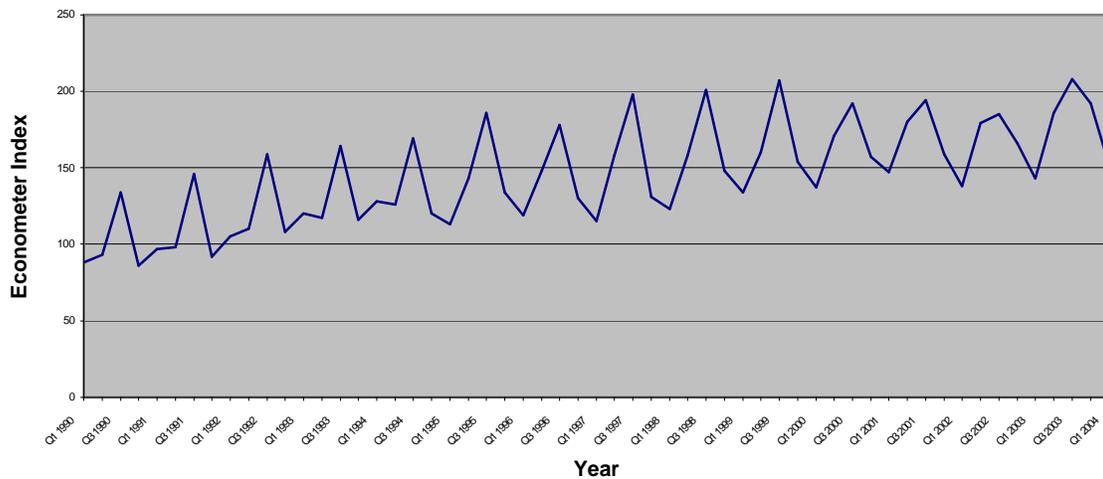
Supporting and Diversifying the Economy

OFFSETTING THE TOURIST ECONOMY

The La Plata County economy is highly seasonal. This seasonality is related to the tourism's impact on the local economy. Although there is significant winter tourism, associated with winter sports, most La Plata County tourism occurs during the summer. This summer concentration of tourism causes a third quarter seasonal upswing in economic indicators such as retail sales and employment each year.

The Office of Economic Analysis and Business Research in the School of Business Administration at FLC measures and reports on economic activity in La Plata County in a quarterly publication, *The Econometer*. The *Econometer* Index, which is presented in each issue of the *The Econometer*, is a composite index of the La Plata County economy which represents changes in personal income in La Plata County. The base year for the *Econometer* Index is 1990. The average value for the index in 1990 is 100. The graph below illustrates the marked seasonality of the La Plata County economy and the concentration of economic activity during the summer months. The information in the graph also shows that the La Plata County economy has grown significantly since 1990.

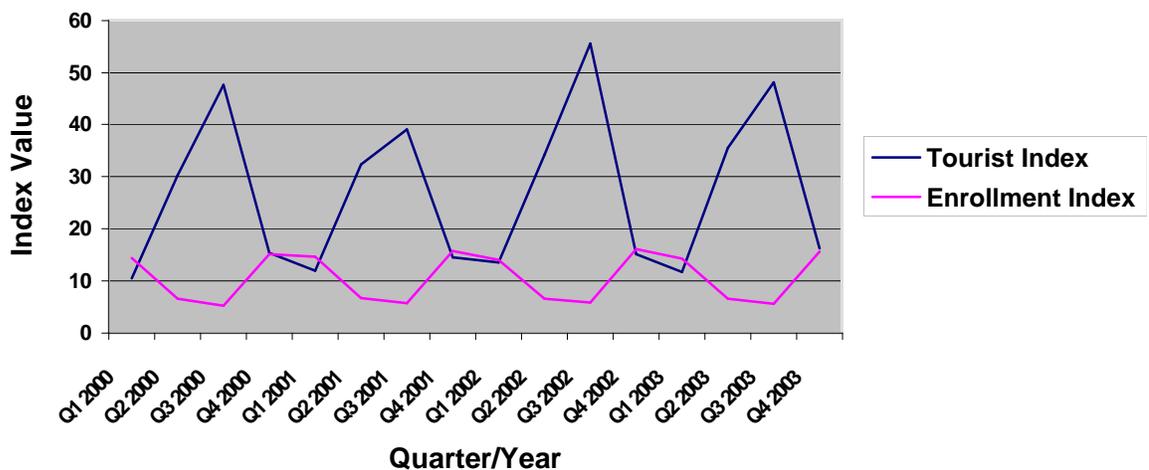
Econometer Index La Plata County



Source: Office of Economic Analysis, School of Business Administration, Fort Lewis College, *The Ecometer*, (1990-2004).

It is important to recognize that FLC provides both long-term stability and short-term, or seasonal, stability to the local economy. Seasonal stability occurs because most the college’s students are attending classes and present in La Plata County from September through April, when tourist activity is relatively low. The presence of the students and their expenditures moderates the seasonal decline in the local economy. It is also important to recognize the college’s role in attracting an inflow of outside money that stimulates the local economy. This can be easily seen in the graph below, which demonstrates that as the Tourism Index, from the *Ecometer Index*, declines, the Enrollment Index (enrollment at FLC) increases and vice versa.

Inverse Seasonality of Tourism and Fort Lewis College Enrollment



Source: *The Ecometer*, Q1 2000 – Q4 2003, Office of Economic Analysis and Business Research, School of Business Administration, Fort Lewis College.

Comparison With Earlier Studies

This study updates three earlier studies that determined Fort Lewis College's impact on the local economy. Since the same basic methodology was used in all of the studies, it is revealing to see that Fort Lewis College's impact on the local economy has increased over the last 14 years.

Table 11 Comparison of Economic Impact Studies of Fort Lewis College

Comparison Category	1990	1994	1998	2004
Total Direct Economic Impact (Income Generated)	\$23,941,519	\$37,020,560 or \$31,837,816 in 1990 dollars. A 32.9% real increase from 1990.	\$55,071,200 or \$42,955,536 in 1990 dollars. A 34.9% real increase from 1994.	\$67,405,297 or \$47,857,760 in 1990 dollars. A 11.4% real increase from 1998.
Total Indirect Economic Impact (Income Generated)	\$35,912,279	\$55,530,840 or \$47,756,522 in 1990 dollars. A 32.9% real increase from 1990..	\$82,606,800 or \$64,433,304 in 1990 dollars. A 34.9% real increase from 1994.	\$101,107,945 or \$71,786,640 in 1990 dollars. A 11.4% real increase from 1998.
Percent of Total Income in La Plata County	8.5% of the 1988 Personal Income	9.3% of the 1992 Personal Income.	9.4% of the 1996 Personal Income	7.6% of the 2002 Personal Income
Total Jobs Attributed to FLC	1,279	1,827 A 42.8% increase in job creation from 1990.	2,559 A 40% increase in job creation from 1994.	3,084 A 20.5% increase in job creation from 1998.

The Value of Higher Education

Higher education is the major predictor of an individual's lifetime earning potential. The more education the individual has, the higher the lifetime earnings. In 2002, Bachelor of Arts degree holders on average earned 88 percent more than high school graduates, up from twenty years ago when college graduates earned 61 percent more. In 2002 dollars, this means that, on average, a high school graduate earned \$27,280, while a bachelor's degree holder earned \$51,194. Furthermore, college graduates also benefit in many non-pecuniary ways from their time on campus.

Unmeasured Benefits

Not all the benefits of a college like FLC are easily measurable. For example, the benefits to society of having a more highly educated population are great, but no attempt has been made to measure them in this study. These include:

1. public economic benefits, such as the fact that an educated workforce with a lower unemployment rate can translate into less dependence on welfare assistance and diminished demand for other government-provided services;
2. private social benefits, such as better health;
3. public social benefits, such as an increase in community involvement, concern for the quality of life, and caring for the social well-being of the members of the community benefit the educated individual and others.

Definitions of Economic Terms

Demand-Side Effects

The effects that the college has on the local economy based on what goods and services it and its employees, students, and visitors purchase locally.

Supply-Side Effects

The effects that the college has on the local economy based on the resources it offers to the local economy, such as labor.

Direct Impacts

Direct economic impacts result from income generated by the college, leading to college job creation.

Indirect and Induced Impacts

Indirect impacts consist of the additional jobs and income created when Fort Lewis College purchases goods and services from the many diverse businesses. The indirect impacts include both an increase in income and/or jobs for these supporting businesses and the additional income and jobs created when employees and owners of the support businesses spend their additional income throughout the local economy.

Induced impacts consist of additional income and jobs created throughout the economy when Fort Lewis College employees spend their personal incomes on consumer goods, other property, services, and taxes. Fort Lewis College students are also responsible for induced impacts through the additional income and jobs when they spend their personal incomes in the community.

Economic Multipliers

Multipliers are typically used to estimate indirect impacts that represent the “ripple effects” of money in the economy as it is traded and traded again, generating wealth and income. For example, a multiplier of 1.5 would mean that for every dollar of payroll that an industry pays to its own employees, an estimated \$0.50 in additional economic value or income is generated in other industries. It is important to remember that multipliers are *estimates* of the ripple effect. Economists do not always agree on what the multiplier for a specific industry or type of business should be.

The Bureau of Economic Analysis (BEA), using a Regional Input-Output Modeling System (RIMS), has determined industry multipliers for specific regions in the country. Each industry is assigned a different multiplier based on several factors, including workforce residency, average wages paid, and economic sector maturity. For example, a mature support sector (typical of large cities) will stimulate more spending locally with less leakage of dollars outside the region. Conversely, an underdeveloped (immature) support sector (typical of smaller communities) will hold dollars locally for a shorter period as residents make many of their purchases outside of the community.

Acknowledgments

The publication was produced with the assistance of Megan Klocek, student assistant to the Office of Economic Analysis and Business Research, Michele Peterson, Director of Budgets and Kathy Kendall, Assistant Registrar, all at FLC. Ray Schmutde, visiting instructor at FLC, provided invaluable editorial assistance. The basic methodology for this study was provided by earlier studies conducted by retired Fort Lewis College economics professor, Vernon E. Lynch, Jr..

Appendix A

Survey Form

1. College expenditures	\$54,130,493
2. Percentage of college expenditures—	
a. in county	50%
b. in state	25%
c. out-of-state	25%
3. Number of college employees	
a. full-time	433
b. part-time	108
c. TOTAL NUMBER	542
d. FTE for above	503
4. College employees who live--	
in La Plata County—	
a. full-time	417
b. part-time	105
c. TOTAL NUMBER	522

d. FTE for above	485
In State--	
a. full-time	431
b. part-time	106
c. TOTAL NUMBER	537
d. FTE for above	500
5. Total disposable income available to employees	\$18,861,674
6. Number of students--	
a. full-time	3388
b. part-time	558
c. TOTAL	3941
7. Average annual college-related expenditures by full-time students (living allowances, weighted thirty-three percent resident on-campus, sixty-seven percent resident off-campus ⁱⁱ)	\$8,249
8. Average annual college-related expenditures by part-time students	\$4,125

Appendix B

Preliminary Data for Detail Worksheet

(This Appendix should be read with Appendix C)

For Part B: Estimate of percentage of employee expenditures in county by employees living in La Plata County ⁱⁱⁱ	50%
For Part C: Total number of out-of-county--	
Full-time employees	16
Part-time employees	3
Total number of out-of-state--	
Full-time employees	2
Part-time employees	2

Estimate of percentage of employee expenditures in county by employees living outside of La Plata County	5%
For Part D: Census data:	
Percentage who rent in county	31.6%
Median monthly rent in county	\$655
For Part J: Multiplier effect	1.5
For Part M: Multiplier for jobs related to college ^{iv}	0.0000383

Appendix C

County-Wide Data for Fort Lewis College

A. College expenditures in county	\$27,065,246
B. Disposable income of in-county employees spent in-county on non-housing items	\$9,053,603
C. Expenditures of out-of-county employees in-county on non-housing items	\$21,983
D. Rental expenditures by full-time college employees living in county	\$1,035,728
E. Total employee expenditures (sum of B, C and D)	\$10,111,314
F. Total expenditures by full-time students	\$27,947,612
G. Total expenditures by part-time students	\$2,281,125

H. Total expenditures by students (sum of F and G)	\$30,228,737
I. Total Direct and Induced economic impacts of the college on the county	\$67,405,297
J. Multiplier effect	1.5
K. Total estimated economic impact	\$101,107,945
L. FTE employees	503
M. Jobs related to college	2,581
N. Total full-time employment related to college (sum of L and M)	3,084

End Notes

ⁱ Based on an average rent of \$655 in La Plata County (Bureau of the Census, 2000, <http://censtats.census.gov/data/CO/05008067.pdf>), and the fact that most students have roommates.

ⁱⁱ Fort Lewis College, Resident Life and Housing, http://www.fortlewis.edu/prospective_students/housing/default.asp

ⁱⁱⁱ Estimate based on an approach suggested in *Sales and Marketing Management*, Vol. 139, No. 6 (June, 1986).

^{iv} *Regional Multipliers: A User Handbook*, **Bureau of Economic Analysis**.

References

American Council on Education, Center for Policy Analysis, http://www.acenet.edu/resources/higheredfacts/fact_sheets/returns.pdf.

-
- Colorado Department of Labor and Employment, Labor Market Information,
<http://www.coworkforce.com/lmi/ali/2003laus.htm>.
- Colorado Department of Labor and Employment, Labor Market Information,
<http://www.coworkforce.com/lmi/es202/2003PDF/2003Annual.pdf>.
- Colorado Division of Local Government, State Demographer's Office,
<http://dola.colorado.gov/demog/PopulationTotals.cfm#County%20Level>.
- Colorado, Fort Lewis College, Financial Statements, Fiscal Years 1995-96 through 2003-04, Fort Lewis College Budget Office.
- Colorado, Fort Lewis College, Resident Life and Housing,
http://www.fortlewis.edu/prospective_students/housing/default.asp.
- Colorado, Fort Lewis College, School of Business Administration. Office of Economic Analysis and Business Research, *Econometer*, 1991-2004).
- Colorado, Fort Lewis College, School of Business Administration. Office of Economic Analysis and Business Research, Vernon E. Lynch, Jr., Fort Lewis College Economic Impact Reports, 1990, 1994, 1998.
- Interviews with Fort Lewis College budget official, July 2004.
- Sales and Marketing Management*, Vol. 139, No. 6 (June, 1986).
- U.S. Department of Commerce, Bureau of the Census, 1980 Census of Population and Housing, Population and Housing Unit Counts, Colorado, p. 15.
- U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System, <http://www.bea.doc.gov/bea/regional/reis/action.cfm>.
- U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System, <http://www.bea.doc.gov/bea/newsrel/SPINewsRelease.htm>.
- U.S. Department of Commerce, Bureau of Economic Analysis, Regional Multipliers: A User Handbook for the Regional Input-Output Modeling System (RIMS 2). March 1997.
- U.S. Department of Labor, Bureau of Labor Statistics, www.bls.gov/cps/home.htm.
- U.S. Department of Labor, Bureau of Labor Statistics,
[ftp://ftp.bls.gov/pub/suppl/empst.ceseeb3.txt](http://ftp.bls.gov/pub/suppl/empst.ceseeb3.txt).