

# The Economic Impact of Dickinson College on Carlisle and Cumberland County, 2010

By

William Bellinger<sup>\*</sup>, Alexandra Bybel, Charles de Cabrol,  
Zachary Frankel, Elizabeth Kosta, Thomas Laffey, Lauren Letko,  
Robert Pehlman, Eric Peterson, Benjamin Roderick, Leo Rose,  
Andrew Schachter, Jue Wang and Matthew Wood



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<sup>\*</sup> William Bellinger is a Professor of Economics at Dickinson College. This project began as a community based research project for an economics department senior seminar, unofficially entitled “The Economics of Dickinson College”. Robert Pehlman and Jue Wang contributed analysis during the summer of 2010, while all other contributors were students in the spring semester senior seminar. Our summer efforts were funded by a Dana summer research grant and a supplementary grant from the administration. The Office of Institutional Research greatly aided the distribution and coding of the employee, student, and alumni spending surveys. The cooperation of the Office of Financial Operations and the Office of Admissions were essential to this project. Additional aid was provided by a list of administrators and staff too numerous to mention here. All conclusions and any errors are solely the responsibility of William Bellinger.

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# Chapter 1: Summary of Findings

## William Bellinger

Economic impact is defined as the added income created within a given geographical area created by an institution or policy action. In addition to income, added earnings and employment are generally included in the analysis. There are three main sources of increased income provided by the existence of Dickinson College. These include (1) income earned by College employees, (2) income provided to businesses and their employees by the local spending of the College, along with its employees, students, summer program participants, and visitors, and (3) the indirect increase in income created when local workers and business owners spend part of their added income locally. The net change in local government spending and tax revenue also has an economic impact. We will review our general conclusions regarding each of these income sources in this summary chapter and provide considerable detail in the full report.

The first source of local income is College employment. By combining Dickinson College budget figures with the reported residence of Dickinson employees, we estimate that Dickinson College employment adds \$28,193,267 to total income in the Carlisle borough, \$37,611,377 to total income in the Carlisle Area School District, and \$54,766,287 for Cumberland County as a whole.<sup>1</sup> The second source of local and county income is the direct off-campus spending by the College and its various component groups. All of this College-related direct spending within the county translates into revenue for local businesses, which pass on a portion as increased labor and owner income. Our findings regarding total direct spending are summarized in Table S-1 below. These

**Table 1-1: Total Direct Spending**

<b>CATEGORY</b>	<b>CARLISLE AREA SPENDING</b>	<b>CUMBERLAND COUNTY SPENDING</b>
Employee Spending	\$21,017,555	\$35,672,600
Student Spending	\$3,041,048	\$3,812,916
Visitor Spending	\$1,816,104	\$2,557,105
Summer Program	\$955,518	\$1,050,718
College Construction	\$13,795,097	\$13,795,097
College Purchases	\$3,560,932	\$7,187,723
Net Government Fiscal Effect: Current Policy	-\$546,571	-\$521,417
<b>Total Spending</b>	<b>\$44,529,458</b>	<b>\$63,859,793</b>

figures indicate that the clear majority of direct spending comes from college purchases, construction projects, and employee spending.

The third source of added income from the College is the indirect income arising from what economists call the multiplier effect. Through this multiplier process Dickinson's spending creates a ripple effect where those receiving income directly from College spending add further to the economy by spending part of that income in the area. Those receiving income from this secondary spending will in turn spend some of their income locally. Theoretically at least, this process continues in an infinite series of smaller and smaller steps.

Our multiplier model for Cumberland County was derived from the RIMS-II input-output model of Cumberland County provided by the Bureau of Economic Analysis of the U.S. Department of Commerce. In this study we group the spending of various groups into general product classes, and then calculate multiplier effects for each product class from the RIMS-II model. Local models are calculated from the County model using the percentage of local to county spending found in our study of Dickinson employees, the Dickinson group most representative of the community at large.

***Total Economic Impact in Dollars of Income***

The total economic impact of the College equals the combined values of the employment income, direct spending, and multiplier effects generated by Dickinson College. For the Carlisle area this total economic impact equals \$92,911,840. This total includes \$37,611,377 of income for Dickinson College employees. For Cumberland County, the college's total economic impact in terms of total direct and indirect income equals an estimated \$150,431,937.

The distribution of this economic impact by program or spending source may also be of interest. Table 1-2 below summarizes estimates for the effects of spending by employees, students, visitors, summer program participants, college purchases and construction, college effects on local government, and an implicit value estimate for college student and employee charitable activity. As seen in Table 1-2, employee income and spending, along with construction, represent the most significant college contributions to local income. Table 1-2 also includes two alternative values based on different assumptions about the College's fiscal impact on local government, one based on the net effect on tax revenue and spending under current policy, and one including an estimate of foregone property tax revenue.



**Table 1-2: Economic Impact by Source**

<b>CATEGORY</b>	<b>CARLISLE AREA DIRECT SPENDING</b>	<b>CARLISLE IMPACT</b>	<b>COUNTY DIRECT SPENDING</b>	<b>CUMBERLAND COUNTY IMPACT</b>
Employee Income*		\$37,611,377		\$54,766,287
Employee Spending	\$21,017,555	\$26,338,107	\$35,672,600	\$53,125,784
Student Spending	\$3,041,048	\$3,772,101	\$3,812,916	\$5,562,097
Visitor Spending	\$1,816,104	\$2,286,987	\$2,557,105	\$3,830,268
Summer Programs	\$1,088,857	\$1,412,705	\$1,214,405	\$1,925,335
College Construction**	\$13,795,097	\$17,646,688	\$13,795,097	\$21,430,683
College Purchases	\$3,560,932	\$4,513,125	\$7,187,723	\$10,882,931
Implicit Volunteer Labor	\$756,436	\$756,436	\$756,436	\$756,436
Net Govt. Fiscal Effects, current policy	-\$546,571	-\$870,278	-\$521,417	-\$870,278
Govt. Fiscal Effects Including Foregone Taxes	-\$1,088,048	-\$1,425,686	-\$1,136,489	-\$1,847,884
<b>Total: Current Policy</b>	<b>\$44,529,458</b>	<b>\$93,467,248</b>	<b>\$64,474,865</b>	<b>\$151,409,543</b>
<b>Total: With Foregone Tax Revenue</b>	<b>\$43,987,981</b>	<b>\$92,911,840</b>	<b>\$63,859,793</b>	<b>\$150,431,937</b>

\*Employee income in the Carlisle area is based on employees living in the Carlisle Area School District.

\*\*Construction is based on a local spending estimate below the total cost and a five year average. Annual figures vary widely.

\*\*\*Government includes the Carlisle Borough, Carlisle Area School District, and Cumberland County government. The local estimate does not include the County government.

In addition to the alternative figures provided for different assumptions regarding Dickinson's impact on local government, alternative estimates were also calculated based on different assumptions regarding College construction spending. Our preliminary analysis in the spring of 2010 was based a set of construction figures ending in fiscal year 2009. During that year reported construction spending based on the total spending on projects completed that year totaled over \$42 million dollars, based primarily on the completion of the Rector Science Building and work on the Althouse building. At that time we decided to include a multi-year average in our economic impact analysis in order to provide a more reliable or typical figure. The figures in Table 1-2 rely on the 5 year average construction figure based on that decision. The recently reported 2010 annual figure was \$8.9 million, about 1/5 of the 2009 figure. Applying the 2010 annual figure for construction produces a county economic impact of \$13,755,655 and a local impact of \$11,326,832. These figures would reduce the total county impact by about \$8 million and the local impact by about \$6 million compared to the reported figures above. The proper interpretation of these alternative estimates is that the actual impact of Dickinson College should be defined as a

range rather than a single number. On this basis Dickinson’s economic impact for Cumberland County ranges from about \$140 to \$159 million, and the Carlisle area impact ranges from about \$85 to \$95 million. All these figures are substantial.

**Table 1-3: The Effect of Alternative Construction Estimates**

<b>Construction Estimate</b>	<b>Area Construction Spending</b>	<b>Total Local Impact*</b>	<b>Total County Impact*</b>
2010 Annual	\$7,471,530	\$85,581,950	\$141,547,179
2008-2010 Avg.	\$18,082,848	\$99,155,948	\$158,031,861
5 year Average	\$13,795,097	<b>\$93,467,248</b>	<b>\$151,409,543</b>

*\*These figures are comparable to the current policy estimates in Table S-2.*

***Total Impact on Employment and Earnings***

Dickinson College’s impact on local employment arises from exactly the same forces as its impact on income. Dickinson creates jobs directly through its own employment opportunities, and indirectly through the effect of its spending on local businesses. This employment estimate is based on the RIMS-II model’s ratio of college employment to total employment for Cumberland County, the employment version of the spending multiplier. This direct employment to total employment multiplier takes the value 1.4043. The formula for applying this value is very straightforward, *total employment = Dickinson employment x 1.4043*. Dickinson College employs a total of 900 individuals. According to the formula, this employment alone would produce total employment for the county of 1,264. Adding the full year equivalent employment from the non-Dickinson summer programs hosted by the College produces an estimated total gain of 1,407 jobs in Cumberland County due to the existence of Dickinson College.

There are three alternative methods of estimating the College’s effect on total labor earnings in the county. The first is based on the relationship between the College’s total impact on income and earnings, In the RIMS-II program the ratio of total impact to earnings is .4741 for Cumberland County. Multiplying our \$155,001,837 impact estimate by .4741 produces an estimated impact on labor earnings of **\$73,486,371**. The second method is based on Dickinson’s payroll, which can then be applied to a direct payroll to earnings multiplier of 1.3907. Dickinson’s total earnings (payroll minus benefits) equaled \$45,523,486 for fiscal year 2010. Multiplying this total by the direct payroll to earnings multiplier produces an estimate of **\$63,309,512** for the College’s impact on county earnings. The third method accounts for the estimated earnings of other members of Dickinson households. Based on survey results for household income, we estimate an average

earned income for Dickinson households of \$71,380, and total earned income of \$61,743,700. This figure includes reported earnings for other employed members of Dickinson households.

Multiplying this higher earnings estimate by the earnings multiplier produces a high-end estimate of **\$85,866,964** for total earnings in the county. The intermediate figure of **\$73,486,371** is recommended though the relatively large range of these estimates should also be noted.

### ***Alternative Calculations***

While this study provides the only recent estimates of Dickinson's local and county impact, the Association of Independent Colleges and Universities of Pennsylvania estimated Dickinson's statewide impact for fiscal year 2009. Their estimate of \$183 million for Dickinson's state-wide economic impact is quite consistent with our somewhat smaller but more localized impact estimates for fiscal year 2010. We also calculated a simple impact estimate from the college's total operating expenditures net of financial aid and the RIMS-II multiplier for higher education (1.6961) to check the reasonableness of our detailed estimates. For fiscal year 2010, expenditures net of financial aid totaled \$102,954,779. Subtracting transfers and debt service produced current operating expenses of \$93,768,148. Multiplying this total by the higher education multiplier for Cumberland County (1.6961) produces a county impact estimate of \$159,040,156, which is quite close to our detailed estimates. While it would be erroneous to interpret our recommended number as exactly accurate, its consistency with these alternatives suggests that it lies within a reasonable range.

### ***Changes from 2002***

There are two primary changes since the 2002 study. One is that the somewhat larger college budget creates a larger impact figure. The 2002 impact figures were \$58.9 million for the Carlisle area and \$103.1 million for the County. Correcting for inflation, the 2002 impact figures in 2010 dollars equal \$123 million for Cumberland County and \$70.4 million for the Carlisle area. These comparable 2002 figures indicate that we have seen a 36 % real increase in Dickinson's local impact and a 24% increase in Dickinson's impact on the county. Another interesting change is that employee and student spending are far more concentrated in the Carlisle area than was true during the 2001-2002 school year, a time during which local retail services were at low ebb and much of the non-food and non-auto spending took place elsewhere in the County. Despite more diffuse college purchases this year, possibly due to more detailed and accurate information, this creates the larger impact increase for the local area.

## ***Conclusion***

This summary omits a great deal of potentially useful information that appears in later chapters of the report. For instance, the analysis of student spending in Chapter 4 includes information about changing student preferences among downtown stores, and indicates substantial progress in establishing a more productive relation between downtown and the Dickinson campus. Separate chapters on visitors and summer program participants may be valuable in planning marketing efforts toward these groups. Chapter 8 provides an estimate of over 100,000 hours of annual volunteer activity by the Dickinson community. Finally, Chapter 9 of the report contains a detailed analysis of the gains and losses to local government due to the existence of Dickinson College, an issue that is almost never analyzed seriously in university impact studies.

The impact numbers reported in Table 1-2 provide the most general overview of the study's conclusions. However, the importance of Dickinson College to the local economy might be better understood by comparing these results to the total employment, income, and earnings of the Carlisle area. According to the 2000 census, Carlisle and its four surrounding townships had a total population of 52,477, total employment of 25,531, aggregate household income of nearly 1.2 billion dollars, and aggregate earnings of just over 900 million dollars. Based on our findings, Dickinson College provides the nearly 8 percent of the total income in the Carlisle area, 5 to 6 percent of the total jobs, and just over 8 percent of the total earnings in the Carlisle area. Using any of these measures Dickinson College's contribution to the local economy is significant and substantial. As stated in the last paragraph of the study, the most significant challenge for the authors, and perhaps for the reader, is to imagine what Carlisle would be like without its more than two-hundred year association with Dickinson College. Such a thought clarifies the challenges associated with completing this type of study and the interesting issues arising from its conclusions.

## **Endnotes**

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<sup>1</sup> Dickinson employee income is based on the reported employee compensation total of \$59,919,351 for fiscal year 2010. According to our survey results 47.05 percent of college households reside in the Carlisle Borough, 62.77 percent reside in the Carlisle Area School District, and 91.4 percent reside in Cumberland County. These figures do not include the earnings of other family members or from other employment for part-time Dickinson employees.

## **Chapter 2: Economic Impact Theory and Method**

### **William Bellinger**

The economic impact of any non-profit institution such as Dickinson College on a local community involves both benefits and costs. The primary dimensions that define an economic impact study involve the basic definitions of benefits and costs as well as where and to whom these benefits and costs apply. The economic impact of any college or university institution is comprised of three general components: (1) the earnings and related income of Dickinson employees residing in the area, (2) income provided to others in the community through the spending of the college, its employees, its students, and its guests and (3) the multiplier effect of this local spending. The multiplier effect occurs because those who receive income from the college's spending in turn spend some of that income in the area. This secondary round of spending also provides additional income for the local economy, and leads to further rounds of added income and spending. These rounds of added spending and income continue at a declining rate, and can be quantified based on macro-economic theory and models of the local economy.

Economists generally define relevant benefits and costs using the concept of opportunity cost, or the cost of foregone alternatives. The opportunity cost concept is based on the principle that the impact of the college is found by comparing current revenues and expenditures to those which would occur if the college did not exist. One important example of this concept is the method by which foregone tax revenue from the College's tax exempt property is estimated. The concept of opportunity cost suggests that this cost should be based on the average value of Carlisle property, rather than the actual appraised value of college buildings, because if the college did not exist the buildings would not exist in their present form. Because different studies take widely differing approaches to this issue, alternative estimates of foregone tax revenue will be provided in this study.

The geographic area which is analyzed in an economic impact study varies with the purpose of the study and the size of the institution. Economic impact studies often measure statewide benefits and costs in order to provide relevant information for state

funding decisions (Bluestone). Others are local in scope, measuring the impact of a college on its local community (Miklaussen, Sann, Simmons). This study is of the latter type, with its analysis limited to the Carlisle area and Cumberland County.

The analytical framework for the study is relatively straightforward. In essence, the economic impact of the college, like that most of Carlisle's institutions, arises by exporting goods and services to other parts of the nation and the world. Dickinson is an exporter of educational services. Our survey of students found that only 2 respondents said they currently would be residing in Cumberland County if they were not attending Dickinson. One of those said she would attend Messiah College, and one said she would not be attending college. Since in the absence of the college nearly all Dickinson students would be attending school elsewhere, it is reasonable to suggest that all local college-related spending represents a net increase in local income. Similarly, with the exception of the college's local property, most of its assets and non-tuition income arise from non-local sources. Because of these two factors, nearly all of the revenue flowing to the college comes from outside of the Carlisle area. This makes Dickinson a significant source of funds for the Carlisle area. Of course, the same could be said about the Carlisle Barracks, Carlisle Syntech, the Dickinson School of Law, the national trucking concerns with terminals in the Carlisle area, and others.

Once one knows the percentage of revenue or employment which is based on exported educational services, the direct and indirect income and employment effects of the college can be calculated. Calculating the direct impact of Dickinson on the income of Carlisle requires an estimate of the percentage of the college's payroll and other expenditures which flow to Carlisle residents and firms. This estimate will be based on information gathered from surveys of Dickinson employees, students, participants in various summer programs, and direct information regarding college payroll and purchases.

In addition to the direct effects of the College on the local economy, there are indirect or "multiplier" effects which should not be ignored. In simple terms, every dollar spent locally by a college employee or student produces income for a Carlisle business or resident. This resident in turn will spend some of that added income locally, providing additional income for another resident, etc. This cycle of income and spending repeats

many times, and is known as the multiplier effect, a fundamental concept from macroeconomic theory (See Figure 2-1). The specific values of the multipliers used in the study require care, because the multiplier effects will vary with tax rates, rates of saving, and with the type of good or service purchased. The general multiplier formula is:

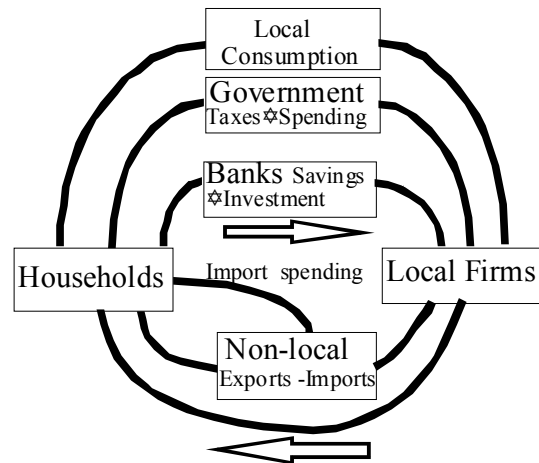
$$Income = initial\ spending [1 / (1 - marginal\ propensity\ to\ spend\ locally)].^1$$

The marginal propensity to spend locally (MPC<sub>L</sub>) equals the change in local spending divided by the change in income. For county level analysis this ratio is nearly always less than 40 percent, with correspondingly smaller ratios for local spending.

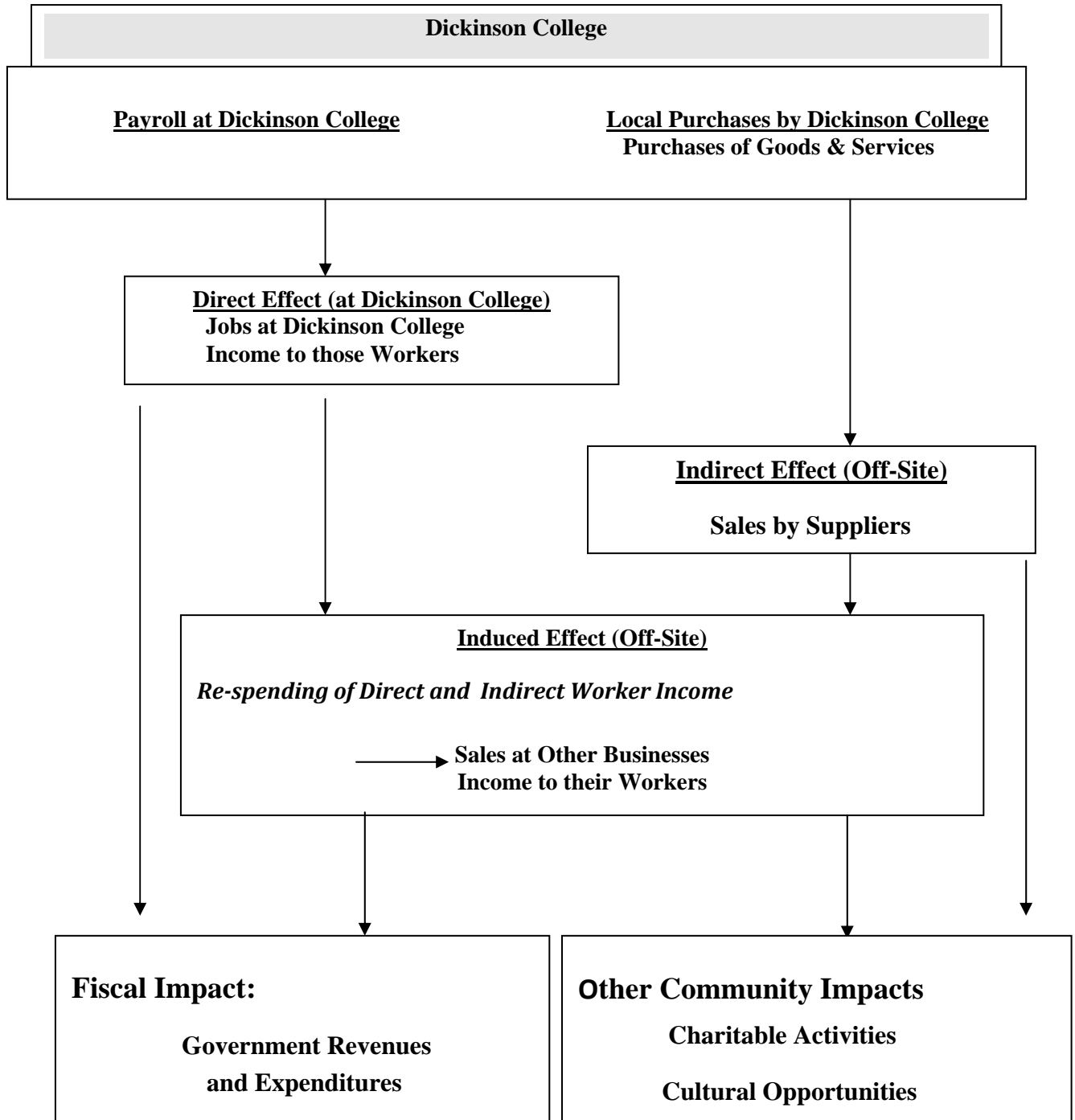
Our multiplier values are based on the RIMS-II regional input-output model of Cumberland County produced by the Bureau of Economic Analysis of the U.S. Department of Commerce.<sup>2</sup> This model provides a series of income, earnings, and employment multipliers for 490 detailed industries at the county level.<sup>3</sup> Our general approach is to estimate direct spending for various product categories, use the product-specific multipliers to measure economic impact for that spending category, and then add across categories. This differs somewhat from the 2002 study, when direct spending estimates were calculated, combined into a total direct spending figure, then combined with the higher education multiplier (see Table 2-1) to arrive at final impact estimates. We feel that our current method is more accurate, although the multipliers used will be somewhat lower than the 2002 approach in nearly all cases.

The local multipliers are calculated by adjusting County multipliers based on the finding from our Dickinson employee survey that 61.26 percent of all spending in Cumberland County occurs in the Carlisle area. Our reasoning for this particular adjustment is that the secondary rounds of spending are undertaken by area employees and small business owners, who are likely to have spending patterns similar to those of

Figure 2-1: Local Income Flow



**Figure 2-2: Elements of the Economic Impact Process**



Dickinson employees. The multipliers for various product categories are then combined with spending data from various components of the College, such as employees,



purchases, students, summer programs, and visitors, to produce impact figures based on different elements of their local spending. The final impact on area income is then compiled by adding the estimated income gains, or economic impact, from this

**Table 2-1: RIMS-II Cumberland County and Carlisle Area Multipliers**

<b>Product Category</b>	<b>RIMS-II County Multiplier</b>	<b>Local Multiplier</b>
Office, and Commercial Construction	1.5535	1.3254
Maintenance and Repair	1.5333	1.3152
Electric Services (utilities)	1.2504	1.1601
Cable and other Pay Television	1.3857	1.2372
Hotels (More specific)	1.4765	1.8750
Retail Services except eating and drinking	1.4101	1.2506
Eating and Drinking Places	1.5315	1.3142
Automotive Repair shops and Services	1.414	1.2527
Doctors and Dentists	1.5471	1.3221
Colleges and Universities	1.6961	1.3942
Religious Organizations	1.5907	1.3438
Child Care	1.4812	1.2884
State and Local Government	1.5116	1.3040
Elementary and secondary schools	1.6262	1.3612
Business Services	1.5141	1.3053
Depository and Non-Depository financial	1.4429	1.2683
Real Estate (housing sales)	1.1599	1.1050

spending and also from the earned income of College employees.

We also provide an analysis of the College’s impact on local government, including the Borough of Carlisle, the Carlisle Area School District, and the government of Cumberland County. The impact of the college on local government includes costs such as lost tax revenue on those college properties used for educational purposes, which by law are tax exempt. We also estimate added government expenditures such as education and fire protection to Dickinson employees and their families. These costs must be balanced against the positive impact of Dickinson's employment on local tax revenue, property taxes paid on Dickinson's taxable properties, the college's payments to

the borough in lieu of taxes, and other contributions to the borough and the school district.

Overall, it is not unreasonable to find that while most parties benefit substantially from the presence of a college, some others may lose. While I doubt that any college or university economic impact study finds a negative economic impact for the community as a whole, local government might suffer minor net losses due to the tax-exempt status of educational institutions. However, all of the recent educational impact studies we analyzed in preparing for this project ignored all of the possible negative financial effects on government. Such studies are not legitimate. According to our findings using our preferred method, only the Carlisle Area School District suffers a noteworthy net loss due to the existence and tax status of Dickinson College, while the Borough and County governments experience very minor net fiscal effects.

The following sections of this report will present our findings for the economic impact and other aspects of employee spending, student spending construction and purchases by Dickinson College, as well as the spending of visitors, summer program participants, and the charitable and cultural contributions of the College to the Carlisle community. While the document is more lengthy than most, its unusual detail may prove enlightening to the dedicated reader.

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## Endnotes

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<sup>1</sup> This simple formula is based on an infinite series of declining rounds of added income. The derivation of the formula may be of interest to some readers. Using the letter  $m$  to represent the marginal propensity to consume locally,  $Y$  to represent income,  $C$  to represent the initial round of spending by the College community, and numbers to represent the rounds of added income and spending the infinite stream of added income produced by an initial round of spending will appear as follows:

$$(1) \Delta Y = \Delta C + m \Delta C + m^2 \Delta C + m^3 \Delta C + \dots + m^\infty \Delta C.$$

Multiplying this equation by the marginal propensity to consume ( $m$ ) produces

$$(2) m \Delta Y = m \Delta C + m^2 \Delta C + m^3 \Delta C + m^4 \Delta C + \dots + m^\infty \Delta C.$$

Subtracting (2) from (1) leads to the following simplification, where most items cancel;

$$(3) (1-m) \Delta Y = \Delta C.$$

Dividing both sides by  $1-m$  produces the final formula,

$$(4) \Delta Y = \Delta C [1/(1-m)].$$

<sup>2</sup>For a basic description of the RIMS-II model, see Bureau of Economic Analysis, U.S. Department of Commerce "Regional Multipliers: A User Handbook for the Regional Input-Output Modeling System (RIMS II), Third Edition, (Washington: U.S. Government Printing Office, 1997).

<sup>3</sup> The Bureau of Economic Analysis describes the process for calculating multiplier values as follows:

"The RIMS II model and its multipliers are prepared in three major steps. First, an adjusted national industry-by-industry direct requirements table is prepared. Second, the adjusted national table is used to prepare a regional industry-by-industry direct requirements table. Third, a regional industry-by-industry total requirements table is prepared, and the multipliers are derived from this table. (Bureau of Economic Analysis, "Data Sources and Methods" (Washington: RIMS II Help File (Compact Disk)).

## **Chapter 3: The Economic Impact of Dickinson Employees**

### **Ben Roderick, Leo Rose and William Bellinger**

With the occasional exception of construction spending, annual spending by Dickinson employees has the largest economic impact on the area of any aspect of Dickinson College. This is not surprising since most employees live in or near the borough year-round, nearly all live off campus, and many are part of multi-person households. In this chapter, we analyze the results of an employee spending survey along with other information to estimate the impact of employee spending in the Carlisle area and in Cumberland County as a whole. We also report on the characteristics of the survey respondents compared to the population of Dickinson College employees, investigate more detailed elements of employee retail preferences such as the most frequently visited stores, and draw comparisons to the 2002 economic impact study, which took place under very different local retail conditions. One important conclusion is that a much larger percentage of employee spending in 2010 takes place within the Carlisle area than in 2002, primarily because of the redevelopment of our peripheral retail locations such as the Carlisle Commons/M.J. Mall area, and the development of new retail centers such as the Target-based complex in eastern Carlisle.

#### **The Employee Survey**

Dickinson College employs 757 full time and 143 part time employees for a total of 900. In the spring of 2010 all employees were given access to both print and electronic versions of a survey regarding their spending patterns, employment category, residence, household characteristics, income, savings, and other information. The employee survey is provided in the appendix to this document. 255 employees responded for a relatively strong 28% participation rate. The respondents' job classifications match well to the actual employment categories at Dickinson, suggesting relatively unbiased results based on job or income. Evidence for this fit is presented in the next section. After looking at the general characteristics of Dickinson employees we use the survey results to estimate the size and location of employee spending. We will take these results and apply RIMS-II multipliers for Cumberland County and calculated multipliers for the Carlisle area to estimate the local and county economic impact of employee spending.

**Employee Characteristics**

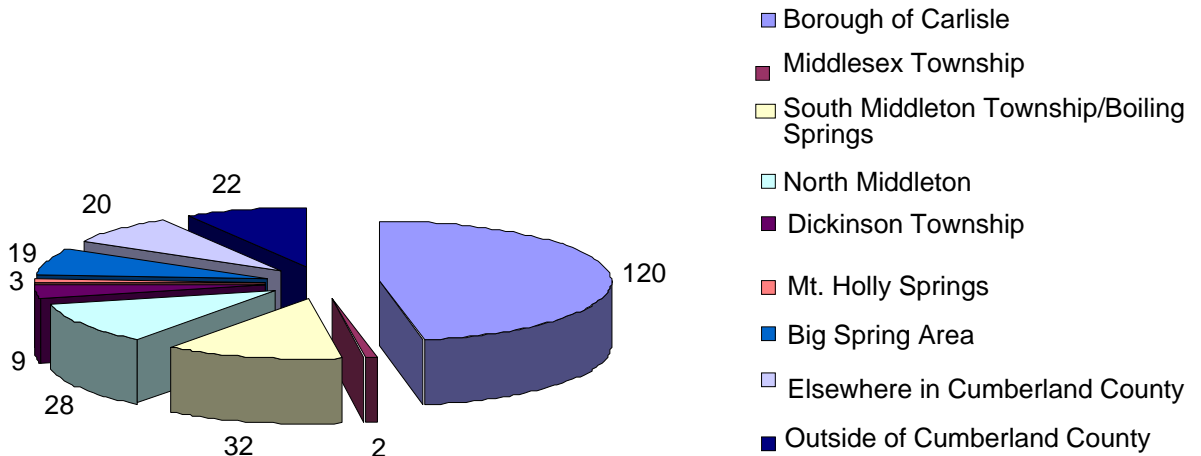
Place of residence is an important element of the survey. It affects where taxes are paid, where people shop, and where children attend school. Figure 1 shows respondents’ residence by local jurisdiction. A plurality of survey respondents live in the Borough of Carlisle, while many also live in South and North Middleton Townships. For accuracy, the percent of all full-time faculty members living in the Borough was obtained from the administration. This figure, 70.5 percent, was extremely close to the 69.3% of faculty survey respondents who live in the Borough. Also, 91.4 percent of respondents live in Cumberland County.

Our respondents also report an average of 2.62 persons per household. Over half of the households have no school-age children, and of those that do, the majority have a single child. Employees who did not answer the question about children are assumed to have no children in their homes. Table 3-1 shows the number of people in each household, while Table 3-2 shows

**Table 3-1: Employee Household Size**

Number in Household	Frequency
One	41
Two	95
Three	60
Four	39
Five	18
Six or more	2

**Figure 3-1: Employee Residence from Survey**



**Table 3-2: Children per Household\***

School Age	Frequency	Preschool	Frequency
None	174	None	218
One	43	One	30
Two	29	Two	7
Three or more	9	Three or more	0
Total	255	Total	255

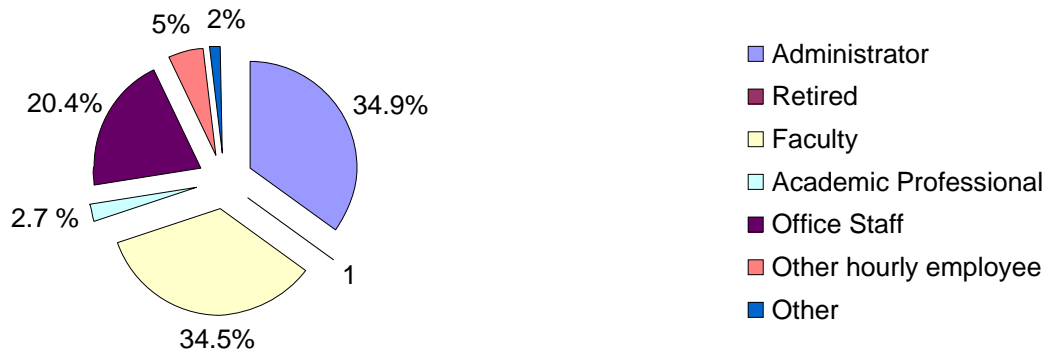
*\*We assume zero children for non-respondents to these questions*

the number of school-age and pre-school-age children.

***Employment, Income, and Savings***

Of the 255 employees that responded to the survey, 89, or 34.9% of survey respondents, were administrators; 88 (34.5%) were faculty; 7 (2.7%) were academic professionals; 52 (20.4%) were office staff; 13 (5.1%) were other hourly employees; one (0.4%) was retired; and there were five (2%) others. The distribution of employees by job category is shown in Figure 3-2. For the college as a whole 29% of employees are administrative, 29% are faculty, and 42% are support staff. As one can see, the administration and faculty are slightly over-represented in the sample, but not to a large enough degree to skew the survey numbers.

**Figure 3-2: Employee Job Categories from Survey**



Household income is important because of its correlation to spending and to government revenue. Dickinson employees' average household income by job category is shown in Table 3-3 below. The overall average household income of \$86,553 is a weighted average taking into account the number in each employee category. The estimate for total employee household

**Table 3-3: College Employment and Household Income**

	<b>Average Household Income</b>	<b>Number of Employees</b>	<b>Total Household Income</b>
Administrator and Academic Professional	\$ 96,213	346	\$ 8,094,313
Faculty	\$ 97,412	292	\$ 25,521,944
Support Staff	\$ 61,693	262	\$ 21,345,893
Total	\$ 86,553	900	\$ 74,868,345

income, \$74,868,345, is derived by multiplying the household average of \$86,553 by the total of 865 households with at least one Dickinson employee. The modest difference in the employee and household totals is worth reviewing briefly. Ten of the 255 survey respondents lived in households with at least two Dickinson employees. If we extrapolate, 35 of the 900 employees share a household with another Dickinson employee.

### **Employee Spending**

Employee spending is analyzed separately for housing expenditures and general consumption spending. Consumption spending is broken down into the following categories: clothing, groceries, restaurants and bars, entertainment, automobile expenses, day care, religious and charitable contributions, health and education, and other retail spending. Table 3-4 below details employee spending by product category and location. The ratio of local to county spending is an important aspect of the impact analysis to follow.

#### ***Housing Expenses***

Housing comprises a significant portion of employee spending. Assuming that most landlords live within the area, rent payments will contribute directly to the Carlisle and Cumberland County economies. The local and county impacts of mortgage payments are more difficult to gauge, as they largely depend on bank locations. So, to predict the economic impacts of mortgages by location, we will use the 2002 estimates of mortgage income flow. According to the 2010 survey results, 18% of employees rent their homes while 82% own homes. Of the renters, 80% live in Carlisle, with an additional 17.78% in other parts of Cumberland County. A far lower percentage of homeowners (40%) live in the Carlisle borough.



Among employee renters, monthly rental payments ranged from \$375 to \$1,600. The average monthly payment of \$736 is nearly \$200 above the \$557 reported in 2002. To find the total rent paid per month we multiply the total number of households times the percent that rent multiplied by the average monthly rent. Doing so, we find that 865 households x .18 x \$736 equals \$114,561 per month. Multiplying by 12 months produces annual rental payments of \$1,374,732. Multiplying by the 91.4 percent of respondents living in the county the county figure is \$1,256,505. Using the 80 percent figure for Carlisle residence, we find that \$1,005,204 of this rent is paid in Carlisle.

Using similar logic we can find the monthly and annual mortgage payments. The survey results found that the average monthly mortgage was \$1,238. Calculating the total monthly mortgage payments for all employees, total households (865) x percent who own (.82) x the average payment (\$1,238) produces a monthly total of \$878,109, or \$10,537,313 per year. The geographical distribution of mortgage dollars is unclear because it depends on the location of the bank that gave the mortgage. The 2002 impact study included a question regarding the identity of the homeowner's mortgage lender. Of the relatively few respondents that answered this question, 43.3 percent borrowed from institutions with branches in Cumberland County. Thirty of the 91 bank offices in Cumberland County (33%) are located in Carlisle. On the other hand, we identified 8 regional or main offices in Cumberland County, 5 of which are located in Carlisle. Giving greater weight to these offices seems appropriate. Our informal weighing of these components produces a local spending estimate of about 40 percent of the total county figure. We will use this percentage as our estimate for local mortgage spending. Therefore our estimated total direct spending for mortgage payments in Cumberland County is 43.3% times \$10,537,313 times the 91.4 percent living in the county, or \$4,170,268. The local mortgage spending would then be 40 percent of the county estimate, or \$1,668,107. Adding rent and mortgage payments, housing spending totals \$5,426,773 for the county and \$2,673,311 for the Carlisle Borough.

Spending on utilities is the other major expense category associated with housing. The survey revealed that monthly utility payments for renters and homeowners average \$265 and \$442 respectively. The annual average figures are \$3,181 for renters and \$5,308 for

homeowners. To find the total annual utility payment figures we multiply the annual averages by the number of employees who rent or own. The total annual utility payment for renters,  $\$3,181 \times (865 \times .18)$ , is  $\$495,343$ . Along the same lines, the total annual utility payment for homeowners is  $\$5,308 \times 865 \times .82$ , or  $\$3,765,263$ . Adding homeowners and renters, utility payments total  $\$4,260,606$ . Multiplying this by the 91.4 % of respondents that live in Cumberland County gives us a total of  $\$3,894,194$  in county direct spending on utilities.

Calculating the estimates of where utility payments go is difficult due to the fact that there are multiple utility services with different degrees of local and county employment. At the county level RIMS-II multipliers are relatively low for regional utilities. For example the Cumberland County multipliers are 1.2504 for electricity and 1.3857 for cable and other pay television, respectively. Therefore we will assume that all utilities spending for county residents can be applied to these multipliers. The local component is strictly our best guess, however. Based on the location of utilities offices, we assume that about half of the total utilities spending can be counted as local. This is consistent with the 2002 study.

### ***Other Consumption Spending***

Average household spending on consumer goods is found by adding the mean monthly spending reported to take place in Carlisle, Cumberland County not including Carlisle, and outside of Cumberland County. Each figure is then multiplied by 12 to calculate annual spending. By doing this, we find that on average each employee annually spends  $\$13,723$  on housing,  $\$4,916$  on utilities, and  $\$21,091$  on consumer goods. These numbers yield the average total direct spending of  $\$39,730$  by employees in all locations,  $\$35,004$  of which takes place in Cumberland County. The ratio of local to county spending is highest for other retail, day care, groceries, and health and education. Overall, the local to county spending ratio is far higher than the 47.3 percent figure in the 2002 study. This occurs despite the lower local estimate for housing.

However, there is a modest and predictable bias in these results. We estimate that survey respondents underestimated their spending, as the following analysis will demonstrate. The average Dickinson employee's household income before taxes is  $\$86,553$ . Averaging the

payments by payer type (single, married filing jointly, married filing separately, head of household) from the IRS's 2009 federal tax table for this income level, we find average federal tax payments for this income level to be \$16,447<sup>1</sup>. The Pennsylvania income tax is 3.07% and the total state and local tax burden is 10.2%<sup>2</sup>. Subtracting the federal and state taxes along with the mean property tax reported in the survey, we find that the average after tax income per employee household is \$56,177. Average total direct spending accounts for 70.72% of this after tax figure, which is lower than the estimate of 95% of disposable income spent nationally.

Adjusting for this probable underreporting involves first subtracting the average reported savings of \$10,251 per household from the after tax income figure.<sup>3</sup> The adjusted consumption figure is therefore \$56,177 - \$10,251, or \$45,926. The other leakage is non-county spending, which averaged \$4,686 per year. The final estimated county spending figure is therefore \$41,240 per household, or \$35,672,600 for all 865 households. The adjusted figures are 1.233 times the reported figures. For completeness employee impact estimates will be provided for both reported and adjusted total spending figures.

The estimates for total direct spending by employees can now be estimated from the survey results. For average housing expenditures, we add the total amount spent by renters to the total amount spent on mortgages and divide that number by the sum of renters and homeowners. We estimate utility expenditures from the mean monthly figure from the survey results times 12. Results are presented in Table 3-4 for each spending category. The local to county spending ratio is important due to its role in estimating our Carlisle area multiplier values. The figure we use for these calculations is the .6126 ratio of total local to county spending, which includes housing.

**Table 3-4: Employee Spending\***

Location	Carlisle Area	Elsewhere in Cumberland County	Total Cumberland County	Local/County Spending Ratio
Clothing	\$423,262	\$422,378	\$845,640	.5005
Groceries	3,341,416	1,182,185	4,523,601	.7387
Restaurants and bars	1,117,560	520,612	1,638,172	.6822
Entertainment	204,948	119,603	324,551	.6315
Automobile payments, fuel and maintenance	2,131,680	824,667	2,956,347	.7211
Day care	789,338	221,838	1,011,176	.7806
Religious and charitable contributions	705,820	796,185	1,502,005	.4699
Health and education (excluding Dickinson)	814,795	312,028	1,126,823	.7231
Other retail	297,954	35,327	333,281	.8940
<b>Total Consumption</b>	<b>\$9,826,773</b>	<b>\$4,434,823</b>	<b>14,261,596</b>	<b>.6890</b>
<b>Housing</b>	<b>\$5,314,711</b>	<b>\$5,487,794</b>	<b>10,802,505</b>	<b>.493</b>
<b>Utilities</b>	<b>\$1,947,097</b>	<b>\$1,947,097</b>	<b>\$3,894,194</b>	<b>.50</b>
<b>Total Spending</b>	<b>\$17,088,581</b>	<b>\$9,135,382</b>	<b>\$28,928,148</b>	<b>.6126</b>
<b>Adjusted total</b>	<b>\$21,017,555</b>	<b>\$11,263,926</b>	<b>\$35,672,600</b>	<b>.6126</b>

### Employee Economic Impact

The next step in the analysis is to estimate the local multipliers for each product category, which can then be combined with the direct spending estimates to produce economic impact estimates. As noted in Chapter 2, this process involves adjusting each county multiplier for the average employee local to county spending ratio for total spending (.6126 for all spending categories), and then multiplying each local multiplier by the aggregate local spending estimate. The local and county multipliers are listed in Table 3-5. The employee local to county ratio is the most relevant information we have for estimating the amount of local spending produced by other local employees and store owners in subsequent rounds of the multiplier process.

**Table 3-5: Local and County Multipliers**

Product Category	RIMS II County Multiplier	Local Multiplier
Clothing	1.4126	1.2179
Groceries	1.6061	1.3007
Restaurants and bars	1.5282	1.2686
Entertainment	1.5254	1.2674
Automobile payments, fuel and maintenance	1.4126	1.2179
Day care	1.4812	1.2485
Religious and charitable contributions	1.5907	1.2945
Health and education	1.5161	1.2635
Other spending	1.5254	1.2674
Utilities	1.3402	1.1841
Housing	1.4936	1.2538

*\*housing is an unweighted average of banking and residential construction*

The impact estimates for each product category can now be calculated and combined using these multipliers. Table 3-6 below displays the county and local direct spending and impact estimates for Dickinson employees. Using the reported results, employee direct spending totals \$17,043,864 to the Carlisle economy and \$28,928,148 to Cumberland County, while the adjusted figures are 23 percent higher. These figures are far higher than the \$10 million local impact and \$26 million county impact estimated for employee spending in 2002, even without considering the adjustment for reporting bias. This difference arises from several causes, including an increase from 766 to 900 employees, higher average incomes, and substantially greater local spending.

**Table 3-6: Local and County Employee Economic Impact**

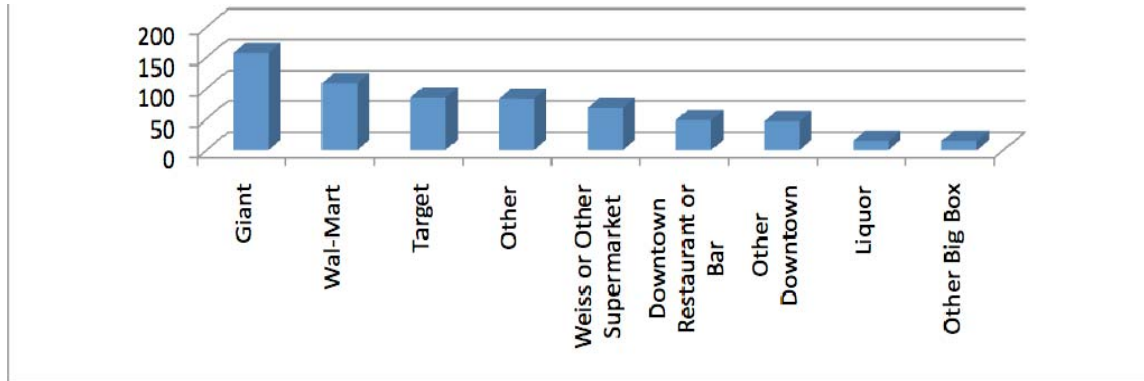
Category	Cumberland County Spending	Cumberland County Impact	Carlisle Direct Spending	Carlisle Economic Impact
Clothing	\$845,640	\$1,194,551	\$423,262	\$515,491
Groceries	4,523,601	7,265,356	3,341,416	4,346,180
Restaurants/bars	1,638,172	2,503,454	1,117,560	1,417,737
Entertainment	324,551	495,070	204,948	259,751
Automobile	2,956,347	4,176,136	2,131,680	2,596,173
Day care	1,011,176	1,497,754	789,338	985,488
Religious and charitable contributions	1,502,005	2,389,239	705,820	913,684
Health and education	1,126,823	1,708,376	814,795	1,032,671
Other spending	333,281	538,387	297,954	377,627
<b>Total Consumption</b>	<b>\$14,261,596</b>	<b>\$21,768,323</b>	<b>\$9,826,773</b>	<b>\$12,444,802</b>
Housing	10,802,505	16,134,621	5,314,711	6,663,585
Utilities	3,864,047	5,178,596	1,902,380	2,252,608
<b>Total Spending</b>	<b>\$28,928,148</b>	<b>\$43,081,540</b>	<b>\$17,043,864</b>	<b>\$21,360,995</b>
<b>Adjusted Total</b>	<b>\$35,672,600</b>	<b>\$53,125,784</b>	<b>\$21,017,555</b>	<b>\$26,338,107</b>

***Distribution of Spending***

Despite the fact that the total consumer spending figures are likely to be moderately underreported, the location of employee spending offers interesting insights when compared to the 2002 report. For instance, we found that on average an employee spends \$1,321 per month on consumer goods in Cumberland County, which is lower than the 2002 estimate of \$1,413. However, we found that employees spend a significantly higher percentage of the total in Carlisle than in 2002, 68.9% and 47% respectively. The decrease in average spending and increase in the percentage spent in Carlisle could be due to two changes since the last report, as employee residence remains relatively constant between the two dates. First, our economy is currently at a low level of activity, which reduces consumer confidence and spending. Second, there has been an increase in local shopping options, such as the Target shopping center built in 2006, which keeps more spending within the Carlisle area.

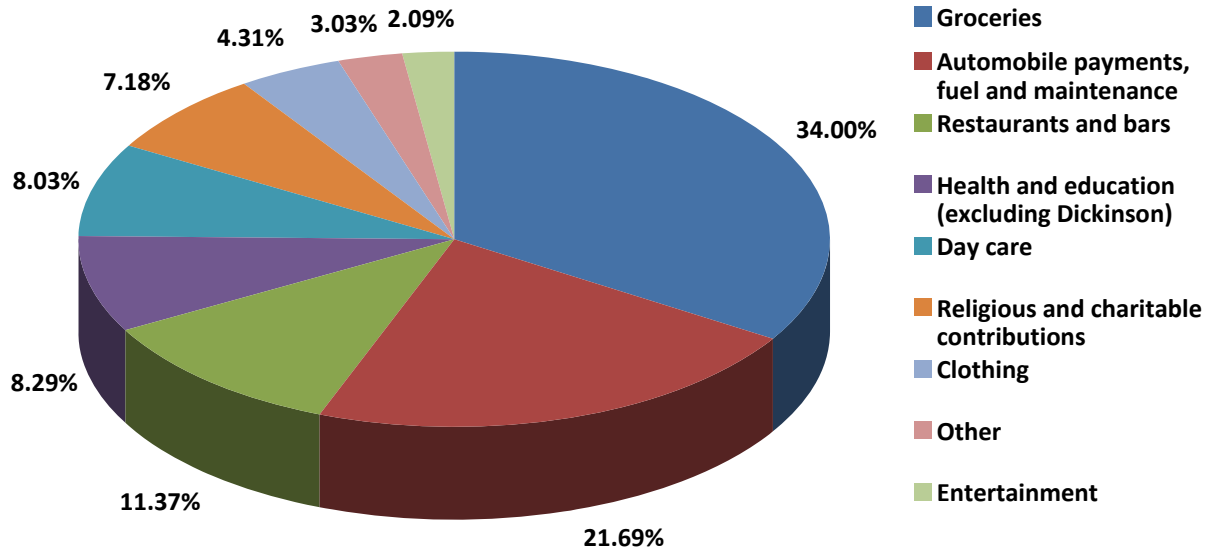
The survey also asked employees to list 4 stores from which they most often made purchases and to describe their number of visits and spending per trip for each store. Popular responses were then categorized. Results are presented in Figure 3-3 below.

**Figure 3-3: Employee Retail Choices**

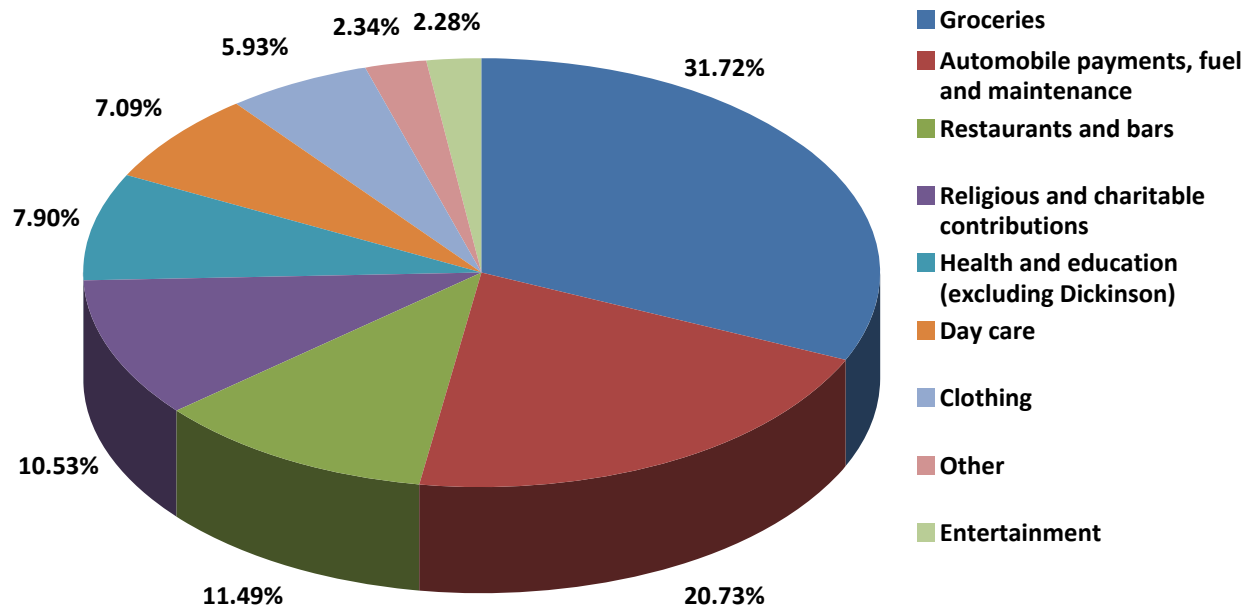


As expected, grocery stores and big box establishments are the most popular shopping locations for employees.

**Figure 3- 4: Estimated Monthly Spending in Carlisle**



**Figure 3-5: Estimated Monthly Spending in Cumberland County**



We also examined the distribution of spending by product categories. Similar to the 2002 survey, grocery and automobile expenses dominate the percentage spent in both Carlisle and Cumberland County, combining for more than 50% of total spending for each area. These figures are displayed in Figures 3-4 and 3-5 above. Overall, the distribution of spending by product category is quite similar in the two areas, though the larger local percentages for groceries and auto expenses are expected.

### **Conclusion**

Employee spending in Cumberland County has risen substantially since 2002 due to an increase in total College employment. Furthermore, while average household spending is a bit lower this year, it is far more concentrated in the Carlisle area. Employee spending is relatively concentrated in supermarkets and other big-box retail establishments. Downtown spending takes place for a significant number of households, but on a less routine basis.



## Endnotes

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<sup>1</sup> United States Internal Revenue Service. <http://www.irs.gov/pub/irs-pdf/i1040tt.pdf>

<sup>2</sup> *Tax Research Areas: Pennsylvania*. The Tax Foundation [Web Site]. Retrieved May 12, from <http://www.taxfoundation.org/research/topic/54.html>

<sup>3</sup> Savings were reported by categories in the survey. Each category except for the highest was assigned its midpoint value. Four of the five respondents in the \$50,000 or greater savings category were assigned a somewhat arbitrary 60,000 value, while the 5<sup>th</sup> reported actual savings of \$74,000 in a follow-up question. Respondents who didn't answer the savings question were assigned a savings value of zero.

# **Chapter 4: The Economic Impact of Dickinson Students**

## **Andrew Schachter and William Bellinger<sup>1</sup>**

During the months Dickinson College is in session students contribute a significant amount of spending and income to the local economy. While much of this spending is concentrated in the Carlisle area, students also spend in other parts of Cumberland County. By measuring the spending levels of Dickinson's student population the geographic distribution and economic impact of this spending can be calculated. While students' economic contributions aren't as great as those of employees, they make a noteworthy impact on Carlisle and Cumberland County.

### **Survey Information**

In order to gather information on student spending patterns, a survey was sent out by e-mail to all Carlisle area students during the spring semester of 2010. The survey received a total of 572 responses, or about 30% of the local student population. In terms of breakdown by class, first year students had the most responses (178), while the juniors had the lowest response total (109). However, when comparing the response rates to local enrollment by class, the responses are an accurate representation of the student population. The low number of junior responses is partly attributable to students currently studying abroad, which means there are proportionally fewer juniors on campus. By gender, female responses (401) greatly outnumbered responses by males (161). This translates into about 70% female and 30% male. Proportionally, this is a moderately female-heavy response rate, with Dickinson College being about 60% female. Most student respondents lived in college-owned housing (544), with comparatively few responses from students living in non-Dickinson housing (24). However, the 96 percent of responses from on-campus residents is quite consistent with the 94 percent of the total student population who live in Dickinson-owned housing.

Table 4-1 shows the number and percentage of survey respondents and total students broken down by class. Comparing these percentages demonstrates the highly representative nature of our survey sample. There are 35 current students that are not classified with a graduation year. These are mostly international students attending for a single year. They have been equally distributed between the sophomore and junior

**Table 4-1: Student Population by Class**

<b>Class Year</b>	<b>Student Sample</b>	<b>Percent of Sample</b>	<b>Student Population</b>	<b>Percent of Population</b>
<b>First Year</b>	178	31.10%	583	28.69%
<b>Sophomore</b>	139	24.30%	578	28.44%
<b>Junior</b>	109	19.10%	351	17.27%
<b>Senior</b>	146	25.50%	520	25.59%
<b>Total</b>	572	100%	2,032	100.00%

classes. When looking at the spending numbers, it is important to consider that all spending and impact numbers as net gains for the local area. This is because only 2 student survey respondents said they would be residing in Cumberland County if they were not attending Dickinson.

### **Student Direct Spending**

Direct spending is the amount of money spent by students that goes immediately into the local economy. The five main categories of spending that the survey examined are food and drink, clothing, entertainment, automobile maintenance, and other expenses. According to the survey, students spent far more in Carlisle than in the rest of Cumberland County, with an estimated annual total of \$3,041,048 spent in Carlisle, \$771,868 spent in the rest of Cumberland County, and \$3,812,916 spent in all of Cumberland County. The 2010 local/county spending ratio of 79.8 percent is significantly higher than the 43.2 percent local to county spending ratio for students in the 2002 impact study. This increase is primarily due to the opening of multiple big box retail sites since 2002.<sup>2</sup>

Estimated total student spending is calculated as follows. Students were asked to provide total spending in a typical month in the various spending categories. Answers were reported as ranges of spending. The number of respondents in each spending range was then multiplied by the calculated median in each spending range to find the total spending per month. The average spending per month was found by dividing the total spent by the number of respondents. The average spending per year is found by multiplying the average spending per month by the eight months in an academic year. Average figures are reported in Table 4-2.

**Table 4-2: Average Student Spending by Class Year**

<b>Average Student Spending/Year In Carlisle</b>					
Spending Category	First Year	Sophomore	Junior	Senior	Total
Food, Drink, Groceries	\$373	\$633	\$833	\$911	\$687
Clothing	\$243	\$131	\$198	\$171	\$186
Entertainment	\$183	\$167	\$206	\$211	\$192
Automobile Expenses	\$24	\$478	\$489	\$359	\$337
Other	\$86	\$166	\$143	\$167	\$140
<b>Total</b>	<b>\$908</b>	<b>\$1,575</b>	<b>\$1,868</b>	<b>\$1,818</b>	<b>\$1,542</b>

<b>Average Student Spending/Year elsewhere in Cumberland County</b>					
Spending Category	First Year	Sophomore	Junior	Senior	Average
Food, Drink, Groceries	\$134	\$48	\$107	\$74	\$91
Clothing	\$127	\$56	\$137	\$82	\$101
Entertainment	\$73	\$45	\$75	\$35	\$57
Automobile Expenses	\$5	\$142	\$177	\$91	\$104
Other	\$25	\$23	\$147	\$17	\$53
<b>Total</b>	<b>\$364</b>	<b>\$314</b>	<b>\$643</b>	<b>\$299</b>	<b>\$405</b>

Total annual spending is then found by multiplying the average spending per student by the total number of students in each class year, adding across classes, and multiplying by the 8 months students typically reside in Carlisle. For example, on automobile expenses the sophomore class spends \$59.79 per student per month x 578 students x 8 months, for a total of \$276,476.67. Total annual student spending figures are summarized in Table 4-3 below.

**Table 4-3: Total Student Spending by Class Year**

<b>Total Student Spending/Year In Carlisle</b>					
<b>Product</b>	<b>First Year</b>	<b>Sophomore</b>	<b>Junior</b>	<b>Senior</b>	<b>Total</b>
Food, Drink, Groceries	\$217,217	\$365,595	\$292,393	\$473,556	\$1,348,761
Clothing	\$141,501	\$75,514	\$69,556	\$88,899	\$375,470
Entertainment	\$106,774	\$96,472	\$72,132	\$109,699	\$385,077
Automobile Expenses	\$14,149	\$276,477	\$171,489	\$186,466	\$648,580
Other	\$49,971	\$96,179	\$50,028	\$86,982	\$283,160
<b>Total</b>	<b>\$529,612</b>	<b>\$910,237</b>	<b>\$655,597</b>	<b>\$945,601</b>	<b>\$3,041,048</b>
<b>Total Student Spending/Year Elsewhere in Cumberland County</b>					
	<b>First Year</b>	<b>Sophomore</b>	<b>Junior</b>	<b>Senior</b>	<b>Total</b>
Food, Drink, Groceries	\$78,095	\$26,947	\$35,881	\$38,355	\$179,278
Clothing	\$73,915	\$32,333	\$48,254	\$42,797	\$197,299
Entertainment	\$42,525	\$25,881	\$26,325	\$18,219	\$112,949
Automobile Expenses	\$3,144	\$82,204	\$61,988	\$47,249	\$194,586
Other	\$14,484	\$13,052	\$51,480	\$8,740	\$87,756
<b>Total</b>	<b>\$212,163</b>	<b>\$180,417</b>	<b>\$223,928</b>	<b>\$155,360</b>	<b>\$771,868</b>
<b>Total Student Spending/Year in All of Cumberland County</b>					
	<b>First Year</b>	<b>Sophomore</b>	<b>Junior</b>	<b>Senior</b>	<b>Total</b>
Food, Drink, Groceries	\$295,312	\$392,543	\$328,274	\$511,911	\$1,528,039
Clothing	\$215,416	\$107,847	\$117,810	\$131,696	\$572,769
Entertainment	\$149,299	\$122,353	\$98,457	\$127,918	\$498,026
Automobile Expenses	\$17,293	\$358,681	\$233,476	\$233,715	\$843,166
Other	\$64,456	\$109,231	\$101,508	\$95,721	\$370,916
<b>Total</b>	<b>\$741,777</b>	<b>\$1,090,655</b>	<b>\$879,525</b>	<b>\$1,100,961</b>	<b>\$3,812,916</b>

These tables provide a detailed breakdown of spending by class year. Seniors spend the most money per year, followed by the sophomores, juniors and first years. However, the average spending by juniors in Carlisle is highest, followed by the seniors, sophomores and freshman. This skewing is caused by the relatively low percentage of the junior class studying in Carlisle. In all cases the category with the highest spending numbers in Carlisle was food and drink. Junior and senior spending on food and beverages is significantly higher on average than for underclassmen. The legal drinking age is probably a major factor in this difference. Also, seniors living off-campus in non-Dickinson owned housing may not have an on-campus meal plan, which means they

spend more money on food than campus residents. First year students, however, spend by far the most on clothing. This clothing pattern could be caused by a relative lack of preparedness for college clothing needs among first year students.

In the rest of Cumberland County juniors have the highest total spending numbers, followed by first years, sophomores and seniors, respectively. In terms of average spending juniors again spend the most, followed by first years, sophomores and seniors. The first years' spending figures are interesting in this category, as a significant number do not have cars on campus. It is also interesting to see that the juniors have the highest total spending elsewhere in the county, given that there are relatively few of them compared to the other classes. Also surprising is the very low spending numbers for seniors outside of Carlisle, as one would think they would be the most likely to venture out of town.

There are a few possible biases to be taken into account when looking at direct spending. One possible bias is the first year automobile spending figure. Because first years are generally not allowed to have cars on campus (only eight of the 178 first year respondents had cars), their auto spending figure was calculated differently. Their average spending per month was calculated by dividing the total spending by the number of total first year respondents, not just those with cars. This is equivalent to recording all non-car first years as having zero auto expenses. Thus, when that average was used to calculate total spending the total spending number was much more representative of the number of first years with cars on campus.

As noted earlier, an important result involves the relatively high percentage of total student spending taking place in the Carlisle area in 2010. In the 2002 impact study, students reportedly spent more in the rest of Cumberland County than in Carlisle. In 2010, however, students spend an average of \$1,542.37 per year in Carlisle and \$404.87 per year in the rest of Cumberland County. When totaled, students' direct spending is \$3,041,047.91 in the Carlisle area, \$771,868.08 in the rest of Cumberland County, and \$3,812,915.99 in Cumberland County as a whole. The current ratio of local to county spending is 79.8 percent, which is significantly higher than the 43% ratio in 2002. Students now apparently have more appealing options to them in Carlisle than the surrounding area.

### *Distribution of Local Student Spending*

Students were asked in a campus-wide survey which four establishments in the Carlisle area they most often visited. The results of these questions are summarized in the following table. As in the 2002 impact study economic impact, survey results indicate

**Table 4-4: Most Common Student Spending Locations**

<b>Location</b>	<b>Store 1</b>	<b>Store 2</b>	<b>Store 3</b>	<b>Store 4</b>	<b>Total</b>
Wal-Mart	271	77	28	8	384
Downtown Restaurant or Bar	39	62	64	19	184
Target	33	70	27	5	135
Giant	65	30	16	1	112
Misenos	20	33	19	8	80
Other Big Box	0	27	22	9	58
Other Downtown	15	16	5	3	49
Liquor Stores	10	17	22	6	55
Deli Creations	11	18	14	4	47
Weiss or Other Supermarket	9	4	0	2	15
Coffee, Doughnuts, Ice Cream	3	4	6	1	14
Other	18	52	47	19	136
Carlisle Theatre	3	4	8	8	23
<b>Total</b>	<b>497</b>	<b>414</b>	<b>289</b>	<b>93</b>	<b>1292</b>

that local student spending is somewhat more concentrated near the campus or in downtown Carlisle than is true for employees (see Chapter 3). Also, compared to the 2002 study where the three establishments visited most often were Giant, K-Mart, and the Gingerbread Man, students are now opting more often to dine at downtown restaurants. Overall, students go to Wal-Mart most often (Wal-Mart opened after the completion of the 2002 study), while Downtown Carlisle is the second most popular area for students. The most popular downtown establishments among students are Mount Fuji, Issei Noodles, and Café Bruges (see Table 4-5 below). This is a significant shift from the 2002 study when bars were the most popular downtown establishments. It is also noteworthy that all but one of the most frequently mentioned downtown establishments are on West High Street, the main focus of the development efforts of the High-I Partnership and the Borough of Carlisle as envisioned in the CivicVisions report of 2005.<sup>3</sup> Dickinson's efforts in support of this effort have included the development of student housing in the

downtown area and various other cooperative efforts toward retail development and student involvement. This survey provides some evidence of success for this initiative.

**Table 4-5: Popular Downtown Establishments, 2010**

<b>Name</b>	<b>Responses</b>
Mount Fuji	38
Issei Noodles	33
Café Bruges	18
Amy's Thai	17
Alibis	14
Clothes Vine	14

### **The Impact of Student Spending**

Student spending in the Carlisle area and Cumberland County can be used to estimate the total impact on area incomes caused by student spending. As discussed in Chapter 2, we use local and county multiplier values for various product categories to estimate this spending impact. While the actual economic impact estimates are based on the RIMS-II input-output model for Cumberland County, its results can be summarized in a simple spending multiplier equation: *impact = change in direct spending x the local or county multiplier*. Total student spending numbers provide the change in spending, county multiplier values for each product category are provided by the RIMS II model, and local models are calculated by adjusting county figures using local spending ratios from the employee survey (see Chapter 2).

#### ***County Impact***

For our Cumberland County impact estimate student spending is analyzed in two general product categories, retail services not including food and drink, and food and drink providers. This is useful because these two service sectors have different multiplier values. The Cumberland County multiplier for retail services not including food and drink is 1.4101. The direct spending figure for this category in Cumberland County is \$2,284,877.13. This is calculated by subtracting the food and drink totals from the total spending numbers in Table 4-3. Applying this figure to the county multiplier, we arrive at a total impact of  $\$2,284,877.13 \times 1.4101 = \$3,221,905.24$  for the non-food and beverage category. For the food and drink category, the multiplier is 1.5315, the direct spending figure is \$1,528,038.85, and the economic impact estimate is  $\$1,528,038.85 \times$



1.5315 = \$2,340,191.50. Combining the two sectors produces a total impact of \$5,562,096.74 for Cumberland County income from Dickinson College student spending. These results are summarized in Table 4-6 below.

**Table 4-6: Student Impact in Cumberland County**

<b>Retail Services in Cumberland County (not including food/drink)</b>		
Spending	Multiplier	Impact
\$2,284,877	1.4101	\$3,221,905.
<b>Food and Drink in Cumberland County</b>		
Spending	Multiplier	Impact
\$1,528,039	1.5315	\$2,340,192
<b>Total Impact in Cumberland County</b>		
Direct Spending	Multiplier Effect	<b>Total</b>
\$3,812,916	\$1,749,181	<b>\$5,562,097</b>

***Local Impact***

The impact of student spending in the Carlisle area is less than that for the county as a whole due to the smaller local direct spending by students and an additional leakage from the multiplier effect caused by the non-local spending of area employees and store owners (see Chapters 2 and 3). For retail services not including food and drink, the estimated local multiplier is 1.2168. This is multiplied by the direct spending total of \$1,692,287.06 in the Carlisle area to get \$2,059,175 in added income from this category of retail spending. For eating and drinking places the local multiplier is 1.270 and the direct spending number is \$1,348,761. When these are multiplied, the impact on Carlisle from student spending on food and drink is found to be \$1,712,926. Overall, there is a total impact of \$3,772,101 from student spending in Carlisle. These findings are summarized in Table 4-7.

**Table 4-7: Student Economic Impact in the Carlisle Area**

<b>Retail Services in Carlisle (not including food/drink)</b>		
Spending	Multiplier	Local Impact
\$1,692,287.06	1.2168	\$2,059,175
<b>Food and Drink in Carlisle</b>		
Spending	Multiplier	Impact
\$1,348,760.85	1.270	\$1,712,926
<b>Total Student Impact in Carlisle</b>		
Direct Spending	Indirect Spending	Impact
\$3,041,048	\$731,053	\$3,772,101

***Comparison to 2002***

According to survey results, 2002 student off-campus spending in Cumberland County was reported to be nearly \$6 million compared to \$3 million this year. However, the percentage of that spending occurring in the Carlisle area is substantially higher this year, with 79.8 percent of total county spending taking place in the Carlisle area versus 43 percent in 2002. Overall, the estimated direct spending in Carlisle is just over \$3 million this year, versus less than \$2.6 million in 2002. This shows the significance of the improvement in the retail options in Carlisle over the past eight years.

**Conclusion**

The numbers acquired from the student survey show that Dickinson College students add nearly \$3.8 million to Carlisle area incomes and over \$5.5 million to Cumberland County incomes through off-campus spending. Despite lower reported spending county-wide compared to 2002, the far greater percentage of spending occurring in the Carlisle area leads to a higher local economic impact from student spending in 2010. When looking at the student impact as compared to the employee impact, the student impact is much smaller both for the county and the Carlisle area. This is expected, as employee household budgets are much higher than those of students, most of whom are single and live on campus. Overall however, students make a significant contribution to local and county incomes.

## Endnotes

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<sup>1</sup> Charles de Cabrol also contributed to this chapter.

<sup>2</sup> For example, the Carlisle Wal-Mart opened on August 16, 2002, two days after the release of the 2002 impact study.

<sup>3</sup> CivicVisions, “Dickinson-Carlisle: Countering the ‘brain drain’ with amenities and lifestyles.” 2005.

## **Chapter 5: Dickinson College Purchases and Construction Spending**

### **William Bellinger and Matthew Wood**

This chapter will focus on the economic impact of Dickinson College's annual purchases and construction spending. First, we organize Dickinson's purchases geographically by zip code to measure the College's purchases of goods and services in Carlisle and Cumberland County. We then use county and local multipliers for business services to calculate the induced spending and total economic impact of Dickinson's purchases. Next, we examine the effects of construction spending using an annual average from Dickinson's capitalized construction expenditures of the last five fiscal years, along with alternative estimates based on different time frames. After estimating local spending figures from these totals, we use the county and local multipliers for office, industrial and commercial construction to determine the economic impact of Dickinson construction projects.

#### ***College Purchases***

Dickinson College makes a wide variety of purchases each year as part of their operations. These purchases include classroom materials such as educational and office supplies, furniture, paper, textbooks, and computers. Besides classroom spending, the school also incurs other costs throughout the year including payment for third party contractors, utilities, uniforms for staff and athletic teams, property taxes, travel and transportation costs, food, advertising, equipment, repairs, and maintenance. Our data shows that a large portion of the college's purchases are for utilities, classroom and office supplies, and food.

Dickinson College Treasurer Annette Parker and her staff were able to provide us with data for all college purchases for the 2009 and 2010 fiscal years with the corresponding geographic location of each purchase by zip code. This data was very extensive with over 24,000 recorded purchases per year. According to these records, Dickinson College spent \$22,380,140 on equipment, supplies, and contracted services during the 2009 fiscal year and \$19,240,393 for fiscal year 2010. Table 5-1 presents the total spending on purchases, spending outside of Cumberland County, spending in Cumberland County excluding Carlisle, and spending in Carlisle (zip code 17013) and the Carlisle area (zip codes 17007, 17013 and 17015). In 2009 41 percent of total payments were spent in Cumberland County and 24 percent in the

17013 zip code. In 2010 37 percent of total spending occurred in the county and 14 percent in the Carlisle Borough's zip code. Table 5-2 shows the distribution of Dickinson's purchases for these two years.

**Table 5-1: College Purchases, Fiscal Years 2009 and 2010**

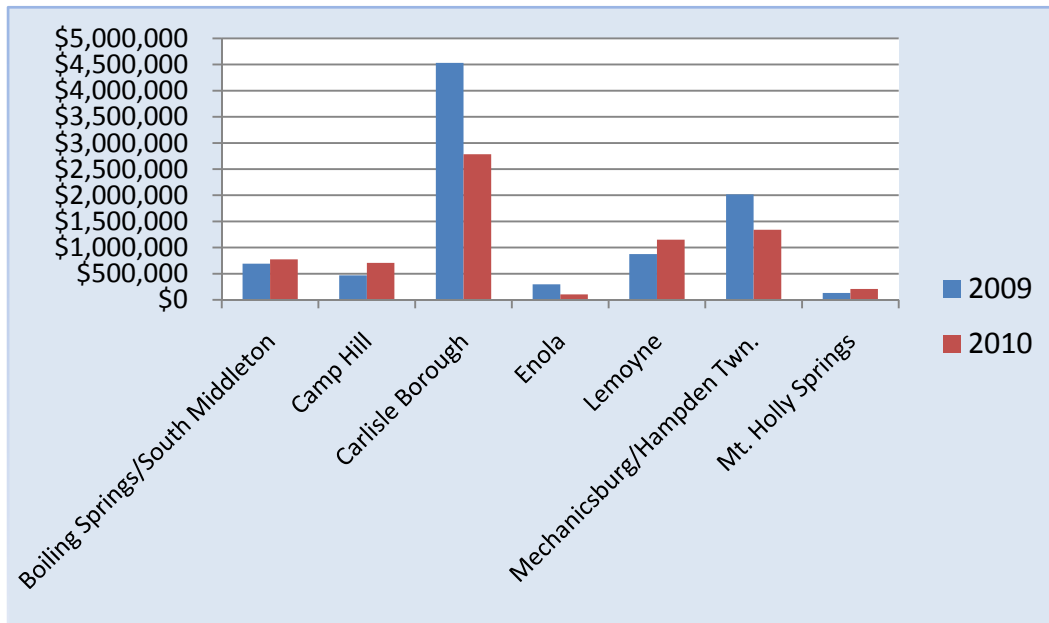
<b>Fiscal Year</b>	<b>Total College Purchases</b>	<b>Outside Cumberland County</b>	<b>Carlisle Borough</b>	<b>Cumberland County</b>
<b>2009</b>	<b>\$22,380,140</b>	<b>\$13,043,794</b>	<b>\$4,532,991</b>	<b>\$9,336,345</b>
<b>2010</b>	<b>\$19,240,393</b>	<b>\$12,052,670</b>	<b>\$2,785,499</b>	<b>\$7,187,723</b>

**Table 5-2: Location of College Purchases in Cumberland County**

<b>ZIP CODE(S)</b>	<b>AREA</b>	<b>COLLEGE PURCHASES Fiscal Year 2009</b>	<b>COLLEGE PURCHASES Fiscal Year 2010</b>
17007, 17015	Boiling Springs/South Middleton	\$691,403	\$775,433
17013	<b>Carlisle Borough</b>	<b>\$4,532,991</b>	<b>\$2,785,499</b>
The Codes Above	<b>Carlisle Area</b>	<b>\$5,224,394</b>	<b>\$3,560,932</b>
17001, 17011	Camp Hill	\$469,668	\$706,227
17025	Enola	\$297,775	\$105,544
17043	Lemoyne	\$876,341	\$1,149,610
17050, 17055	Mechanicsburg/Hampden Twn.	\$2,015,752	\$1,339,318
17065	Mt. Holly Springs	\$130,797	\$208,253
17241	Plainfield/Newville	\$125,284	\$76,774
17257	Shippensburg	\$20,151	\$22,727
<b>Total</b>	<b>Cumberland County</b>	<b>\$9,336,346</b>	<b>\$7,187,723</b>

Zip code 17013, which includes the Carlisle Borough, North Middleton, and small parts of other jurisdictions, receives 14.5 percent of total purchases and 38.75 percent of purchases within Cumberland County. These are by far the largest percentages for any specific zip code. There are also large direct spending totals in Mechanicsburg/Hampden Township, Boiling Springs/South Middleton Township, Lemoyne, Camp Hill, and Enola. Figure 5-1 will better illustrate the distribution of the college's Cumberland County spending in fiscal years 2009 and 2010.

**Figure 5-1: College Purchases by Town\***



Dickinson College’s total direct spending in Cumberland County during the 2009 fiscal year was \$9,336,345.60, \$4,532,991 of which was spent in the Carlisle Borough area (zip code 17013). The 2010 figures are generally lower and somewhat less localized.

These direct spending figures allow us to calculate the induced impact of that spending to find the total impact of the college’s purchases on Carlisle and Cumberland County. If one includes Boiling Springs and South Middleton Township in a broader definition of the Carlisle area, the total spending for 2009 was \$5,224,394. The corresponding figure for 2010 is \$3,560,932. Using the RIMS II County and local multipliers Business Services (1.5141, and 1.2626 respectively) we find the total impact of Dickinson Purchases on Carlisle area incomes is \$4,513,125. The corresponding figure for the 17013 zip code alone is \$3,530,341. As seen in Table 5-3 below, both figures are substantially below those for 2009. We also find that for Cumberland County the total impact of college purchases was \$14,136,161 in fiscal year 2009 and \$10,882,931 in 2010. Table 5-3 provides these figures as well as the local and county multipliers used to estimate the results.

**Table 5-3: Impact of College Purchases**

<b>Year</b>	<b>2009</b>	<b>2010</b>
Cumberland County Spending	\$9,336,346	\$7,187,723
Carlisle Area Spending	\$5,199,787	\$3,560,932
Carlisle Borough Spending	\$4,532,991	\$2,785,499
County Multiplier	1.5141	1.5141
Local Multiplier	1.2674	1.2674
<b>County Impact</b>	<b>\$14,136,161</b>	<b>\$10,882,931</b>
<b>Carlisle Area Impact</b>	<b>\$6,590,210</b>	<b>\$4,513,125</b>
<b>Carlisle Borough Impact</b>	<b>\$5,745,113</b>	<b>\$3,530,341</b>

### **College Construction**

As with other components of the study, we will first discuss the size and distribution of the college's direct spending on construction, and then discuss the multiplier effects and total economic impact of construction spending for Cumberland County and the Carlisle area.

#### ***Direct Spending on Construction***

Annual construction spending varies substantially across time, with most expenditure accounted for in the year each project is completed. Given the sensitivity of this component of the study to annual changes, we will consider three alternative measures; construction spending in the most recent year, the average of the most recent three years, and the five year average. In the spring of 2010 we decided to consider multi-year averages because the 2009 figure was unusually high and potentially misleading. The far lower figure for fiscal year 2010 significantly reduces that problem, making a single year construction estimate more appropriate. However, the relatively high variability of this spending component still suggests some value in taking a multi-year average as well as the spending figure for any particular year. Table 5-4 shows the construction expenditures for fiscal years 2005-2009. The spending total for 2008-2010 was

**Table 5-4: Annual Construction Spending**

<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>Total</b>
\$15,310,583	\$2,142,533	\$13,328,048	\$42,108,092	\$8,854,622	\$81,743,878

\$64,290,762, producing a 3 year average of **\$21,430,254**. Similarly, the 5 year average is **\$16,348,776**. The annual figure is the usual choice for a one year impact study, but given the high level of variability the intermediate estimate provided by the 5 year average will be emphasized in this report.

The next step is to estimate the amount of direct spending in Cumberland County based on these figures. In order to do this the location of the project on the Dickinson campus must be weighed against the location of the contractors for the project. The description of the contracting process in this paragraph is based on interviews with local construction company executives in 2003. The primary contractor is determined through a competitive bidding process where the lowest bid generally wins the contract. This primary contractor could be based anywhere in the United States. For example, in 2003 area transportation projects had primary contractors from Michigan, New York, and other states, as well as Pennsylvania. However, these construction firms are likely to hire much of their labor locally, so the major economic effects of the location of the primary contractor will be profit, overhead, and management costs. The location of subsidiary contractors who provide materials is actually more significant, in that supervisory labor as well as other costs will accrue partly at the firm's location.

For construction projects on the Dickinson College campus, the study could start with the assumption that the total county direct spending is equal to the full dollar value of the construction. However, a more conservative estimate of the added direct spending will be calculated based on information from the RIMS-II regional model for Office, Industrial, and Commercial Construction (NAICS code 11.0800). The modified direct spending estimate is derived as follows. First, the fraction of the total cost of the construction flowing to county construction labor is estimated. In Cumberland County the ratio of labor earnings to total spending in this industry is .3014, according to the RIMS-II input-output tables. Adding the other inputs to county construction, after excluding construction itself and households, produces a ratio of county inputs to construction output of .5424. Adding the two fractions produces a county-to-total direct spending ratio of **.8438**, which excludes out of county overhead, profit, and some other non-county input spending. Since the use of the full dollar amount is a legitimate and common practice, using this somewhat smaller amount should be considered conservative. Multiplying the alternative spending figures based on various time frames by this ratio of local to



total direct spending produces direct local and county spending estimates of **\$7,471,530** for 2010, **\$18,082,848** for the 3 year average, and **\$13,795,097** for the 5 year average. All of these figures will be used to provide a range of impact estimates for this highly variable component of the study.

***The Economic Impact of Construction***

The RIMS-II county multiplier for office, industrial and commercial construction is 1.5535. The corresponding local multiplier is 1.2792. Impact results involve multiplying each adjusted direct spending figure by these multipliers. Results are presented in Table 5-5 below.

**Table 5-5: Economic Impact Estimates for Construction Spending**

<b>Time Frame</b>	<b>Direct Spending</b>	<b>County Impact</b>	<b>Local Impact</b>
5 year Annual Mean	\$13,795,097	\$21,430,683	\$17,646,688
2008-2010 Mean	\$18,082,848	\$28,091,704	\$23,131,579
Fiscal Year 2010	\$7,471,530	\$11,607,022	\$9,557,581

The unusual variability of construction spending necessitates the calculation of a range of impact estimates for different time frames. The fact that the reported 2010 construction figure was approximately one fifth of the 2009 figure suggests that an average value may be more useful. The five year mean value will be used in the full impact estimates. However, Table 5-5 demonstrates that the current year figure would lower the county impact by approximately 10 million dollars and the local impact by about 8 million. This range is the primary reason for our recommendation that any single figure be interpreted as part of a fairly wide range rather than an exactly correct number.

**Conclusion**

In this chapter we examined two ways in which Dickinson College contributes to the local economy. The first was the purchase of goods and services by the college. While purchases are less local than other components of college spending examined in this study, there was over \$7 million of direct spending on purchases in Cumberland County and over \$3.5 million of direct spending in the Carlisle area in fiscal year 2010. Both represent significant declines from 2009. When the multiplier effects of this spending are included, the estimated

economic impacts of Dickinson purchases are nearly \$11 million for Cumberland County and over \$4.5 million for the Carlisle Area. For comparison, the figures for college purchases in the 2002 study were \$12.7 million for Cumberland and \$9.7 million for the Carlisle area. Overall, purchases have become less concentrated in Carlisle since 2002, though the county totals are relatively consistent. The higher quality data provided for this study may mean that this comparison is potentially misleading.

The other category discussed in this chapter is construction spending. The unusual variance in construction spending over the past few years gives rise to a wide range of multi-year-average construction figures as well as the most recent annual total. While the annual figure is the usual choice for an economic impact study, the unusual volatility of this figure suggests that a multi-year average may represent a more accurate estimate for a typical year. This decision was made prior to the release of this year's construction total, which is about one-fifth of that for fiscal year 2009. To the degree that members of the community revisit these estimates in future years, a longer term average figure is likely to be more representative. However, given that the total county impact figure is approximately \$150 million dollars, a local impact range of plus or minus \$8 million will not detract significantly from the general conclusions drawn from this study.

## **Chapter 6: The Economic Impact of Visitors to Dickinson College**

### **Lauren Letko, William Bellinger, and Jue Wang**

In comparison to the impact effects of Dickinson College employees, students, and college purchases, the economic impact of campus visitors is relatively modest. For the purpose of this study, these visitors are separated into three sub-groups; prospective students and their families, those visiting current students during the academic year, and those participating in Alumni Weekend in June. Throughout the year, an estimated 32,005 individuals visit Dickinson College, including groups not analyzed in this study.

Data regarding visitors were collected by a survey administered by the Office of Admissions, the Dickinson College student spending survey, and a follow-up survey regarding Alumni Weekend distributed by the Office of Alumni and Parent Relations. Spending was analyzed in each subgroup for three main categories: meals, lodging, and miscellaneous expenses, which include entertainment and automobile spending. These are then totaled to find the total direct spending of visitors, and combined with local and county multipliers for each spending category to determine their economic impact. Visitors associated with various summer youth programs are analyzed in another chapter. These three groups of visitors spent an estimated \$2,633,983 in the county during their visits to Dickinson College. Our estimated impact numbers are approximately \$2.3 million for the Carlisle area and \$3.8 million for Cumberland County.

### **Alumni Weekend**

Alumni weekend took place from June 10 through 13, 2010. A total of 853 alumni registered for the event, and a total of 1,300 registered participants attended (Alyssa Windholz). Spending questions were attached to a general follow-up survey that was e-mailed to all participants. 331 surveys were returned, the majority of which did not include responses to the spending questions. As with other groups, we will analyze the economic impact of visiting alumni by estimating spending totals based on the average spending reported in survey results and the total attendance figures, calculating local and county impact figures for each spending category, and then adding to find the total impact figure.

**Spending on Hotels**

Short term visits often involve hotel stays. As seen in Table 6-1, over 88 percent of the Alumni Weekend survey respondents stayed in Carlisle for at least one night, with 65 percent staying at least 2 nights. For the category “3 nights or more”, we use 3 nights as our estimate,

**Table 6-1: Nights spent during this visit**

Nights	Percent of Respondents	Number of Responses
0	11.6%	15
1	23.3%	30
2	45%	58
3	20%	26
No Answer	61%	202

a reasonable interpretation for a weekend event. The weighted average of nights of lodging for off-campus visitors is 1.96 nights per person. We assume that parties of one rented single rooms, and larger parties shared doubles when possible. Therefore, the 36.6% of alumni staying off campus paid the full room price, while the other 63.4% paid half of the full room price. Prices were determined by contacting or checking websites for a series of area hotels, motels, and bed and breakfasts.

**Table 6-2: Where people stayed in Carlisle**

Area	Estimated Price	Percentage	Responses
Turnpike/ Other	\$100	28%	33
Alexander Spring Rd	\$100	15.3%	18
Downtown Carlisle	\$120	14.4%	17
On Campus	\$0	42.4%	50
No Answer		(64.4%)	213

Our survey results indicate that 42.4% of people stayed on campus. Their room expense does not count as a contribution to community income. 29.7% of alumni weekend visitors stayed in the Carlisle Borough or Walnut Bottom/Alexander Spring Road areas, which we will categorize as the Carlisle area, and the final 28% stayed in Middlesex Township or other areas in Cumberland County. Among the 57.6% of people who did not stay on campus the weighted average room price is \$110. So, for the 36% with single occupancy the estimated total spending on lodging equals 36.6% single occupancy x 57.6% off-campus x 1,300 attendees x \$110 per night x 1.96 nights, or \$55,864. For the double occupancy attendees, motel spending equals 63.4% double occupancy x 57.6% off-campus x 1,300 visitors x \$55 per person x 1.96 nights, or

\$48.385. The two groups spent a total of \$104,249.97 on lodging, of which \$53,660.73 is spent in Carlisle. The ratio of Carlisle to Cumberland County hotel spending is 51.5%.

**Meal Expenses**

As with lodging, meals were often provided on campus, so the low numbers of off-campus meal purchases is expected. Results are presented in Table 6-3.

**Table 6-3: Number of meals per person Off-Campus**

Meals per Person	Responses	Percentage
0	41	31.3%
1	35	26.7%
2	24	18.3%
3	12	9.2%
4	12	9.2%
5	1	0.8%
6	6	4.6%
No Response	200	(60.4%)

For the category “5 meals or more”, we use 6 meals for our estimate. The total number of meals is 208, which gives us a weighted average of 2.3 meals per person. We also asked about the general type of meals. We estimate the cost of a fast food to be \$6 per meal per person, a moderate price meal to cost \$15 per person, and a high price meal to cost \$30 per person.

**Table 6-5: Types and Costs of Meals**

Meals Per Person	Number of Responses (percentage)		
	Fast Food	Moderate Price	High Price
0	48	32	43
1	11	33	15
2	2	21	4
3	2	14	4
4	0	4	0
5 or more	0	7	2

For people who answered the survey, the average spending per meal equals the total number of meals in all categories times the estimated price for each category divided by the total number of meals. Non-respondents are assumed to have eaten on campus, lacking any information to the contrary. For alumni the weighted average cost of a meal is \$17.08, which is somewhat higher than for other visitors.<sup>1</sup> The estimated total spending on meals is 1,300 attendees x \$17.08 per meal x 2.3 meals per person = \$51,069. For lack of better information, we will assume that all

meals are consumed in Carlisle. This may correct for an underestimate of local lodging spending.

**Miscellaneous Expenses**

We also assume that entertainment and miscellaneous expenses occur entirely within the Carlisle Borough, while auto-related expenses follow the same pattern as lodging, which was 51.5% within the Carlisle area. Since the survey asked about expenses by dollar category, but did not include a separate category for zero, our estimate of the lowest category (less than \$25) is set at a relatively low \$5 per response. The highest category (more than \$100) was open ended, and we assume the actual amount to be \$100, a definite underestimate. Other categories (\$25-50, 50-100) are valued at their midpoints. Entertainment expenses are summarized in Table 6-5 below. Our estimate of total spending on entertainment is \$32,242.<sup>2</sup>

**Table 6-5: Entertainment Expenses**

Estimated Value/ Question Category	Percent of Respondents	Number of Responses
\$5/Less than \$25	65.9%	83
\$35/\$25-\$50	16.7%	21
\$75/\$50-\$100	7.1%	9
\$100/More than \$100	10.3%	13
No Answer	61.9%	205

Auto maintenance and fuel spending is estimated in the same manner, with an estimated \$29,375 in total auto expenses. Miscellaneous spending totaled \$24,754, as seen in Table 6-7.

**Table 6-6: Auto maintenance and Fuel**

Estimated Value/ Question Category	Percent of Respondents	Number of Responses
\$5/Less than \$25	54.3%	70
\$35/\$25-\$50	38%	49
\$75/\$50-\$100	4.7%	6
\$100/More than \$100	3.1%	4
No Answer	61%	202

**Table 6-7: Spending on Other Goods**

Estimated Value/ Question Category	Percent of Respondents	Number of Responses
\$5/Less than \$25	72.5%	87
\$35/\$25-\$50	16.7%	20
\$75/\$50-\$100	0.5%	6
\$100/More than \$100	5.8%	7
No Answer	63.7%	211

As with other categories, impact figures are calculated separately using different multipliers for each product category and then added to determine the total impact results. Our total impact estimates for Alumni Weekend are \$222,391 for the Carlisle area and \$360,574 for Cumberland County. Results are presented in Table 6-8.

**Table 6-8: Alumni Weekend Economic Impact**

<b>Category</b>	<b>Carlisle Spending</b>	<b>Carlisle Area Impact</b>	<b>Cumberland County Spending</b>	<b>Cumberland County Impact</b>
Lodging	\$53,661	\$66,883	\$104,250	\$153,925
Food and Beverage	\$51,069	\$64,858	\$51,069	\$78,212
Entertainment	\$32,242	\$40,864	\$32,242	\$49,182
Auto	\$15,119	\$18,413	\$29,375	\$41,495
Other Retail	\$24,754	\$31,373	\$24,754	\$37,760
<b>Total</b>	<b>\$176,845</b>	<b>\$222,391</b>	<b>\$241,690</b>	<b>\$360,574</b>

### **Admissions Visitors**

The main source of visitors to Dickinson College is prospective students and their families. From January 2009 to March 2010 the Dickinson College Office of Admissions has welcomed approximately 7,988 prospective students to its campus. In general, prospective students visit campus at least once, along with their families. In some cases, money is spent off campus for meals, lodging or automobile expenses. Data regarding admissions visitor spending was collected by the Office of Admissions during the spring semester of 2010. Visitors were asked to fill out a brief survey on their spending on meals and lodging as well as their residency. We would like to thank the Office of Admissions for their help in distributing and collecting these surveys. A copy of the admissions visitor survey can be found in the Appendix.

In total, 134 responses were collected and analyzed. Of the responses, 90.3% were from out of state, 8.2% were from elsewhere in Pennsylvania, and 1.4 percent were from Cumberland County, as seen in Table 6-9 below. Of the survey participants, 98.5% were visiting Dickinson College for the first time, the majority for a tour. 59.7% also attended an information session. Each visiting group contained an average of 2.45 people including the prospective student.

**Table 6-9: Admissions Survey Participant's Residence**

<b>Home Town</b>	<b>Frequency</b>	<b>Percent</b>
Carlisle Area	1	0.7
Cumberland County	1	0.7
Elsewhere in PA	11	8.2
Out of State	121	90.3
<b>Total</b>	134	100

The total number of prospective students visiting Dickinson each month is collected regularly by the Office of Admissions. In order to estimate the annual admissions visitors the monthly totals of visiting prospective students were multiplied by 2.45, the average number of people per group. Table 6-10 depicts the total number of registered prospective students by month. Special events for accepted students are not included in this study, representing a potentially significant omission.

**Table 6-10: Number of Visitors by Month, FY 2010**

<b>Month</b>	<b>Prospective Students</b>	<b>Total Visitors</b>
July 2009	887	2,173
Aug, 2009	915	2,242
Sept. 2009	547	1,340
Oct. 2009	511	1,252
Nov. 2009	475	1,164
Dec. 2009	121	296
Jan. 2010	200	490
Feb. 2010	575	1,409
March 2010	588	1,441
Apr-June 2010	1,838	4,503
<b>Totals</b>	6,657	16,310

### *Direct Spending by Admissions Visitors*

Based on the admissions survey results, the average group purchased roughly 1.64 meals per person during their visit, the majority at moderately priced restaurants. As noted earlier, the per-person cost of meals is assumed to be \$6 per person for a fast food meal, \$15 per person for a moderately priced meal, and \$30 for a high priced meal. Based on survey results, 11.23% of all meals purchased were categorized as fast food, 77.9 percent as moderate price meals, and 10.87



percent as high price meals. The weighted average cost of these meals based on our cost assumptions is \$15.62. Multiplying the average cost times the average meals per person times the total visitors ( $\$15.62 \times 1.64 \times 16,310$ ) produces a total spending estimate for meals of \$417,810. As with the alumni, we will assume that all meals are consumed locally.

According to our visitor data, approximately 37.3% of survey respondents spent one night in a local hotel or motel. Conservatively assuming double occupancy and single night stays for all admissions visitors, we estimate that admissions visitors rented 8,155 rooms. Average room rates for the most popular hotels listed by respondents were averaged together. On average, admissions visitors spent an estimated \$110 per night. Total lodging expenditures are calculated by multiplying the estimated number of rooms rented times the average room rate. This results in an annual estimate of \$897,050 for admissions visitor lodging. As with the more detailed alumni survey, we will assume that 51.5 percent of these are in the Carlisle area and 48.5 percent in Middlesex or elsewhere in the county. Local lodging expenditures therefore total \$461,981.

In addition, survey respondents were asked to estimate the amount they spent during their trip on entertainment, auto fuel and maintenance, and other expenses, which include clothing, books, souvenirs, etc. Of the 134 survey, only 30, or 22.4%, answered this question. All non-respondents are assumed to spend zero dollars on expenses, creating a relatively conservative estimate. The average responding group spends approximately \$47.20 on entertainment, \$33.57 on automobile expenses, and \$26.18 on other expenses for a combined total of \$106.95 for all three categories. Adding zero totals for the non-respondents produces estimated expenses of 22.4% times \$106.95, or \$23.95 per visiting party. When we multiply this by the total number of 6,657 prospective students, our best estimate of the number of visiting parties, we conclude that \$154,435 is spent on these items in Cumberland County per year by admission's visitors. As with the alumni, we will assume that auto maintenance and fuel expenses take place in the same area as lodging. Therefore \$27,622 (51.5%) of the \$53,634 spent on fuel will be counted as local spending. All other spending categories are assumed to be local. This gives us a Carlisle area spending total of \$128,423 for this category.

Overall, admissions visitors spend an estimated \$897,050 on lodging, \$417,810 on food, and \$154,435 on other items in Cumberland County. This produces an estimated spending total of \$1,469,295 for the 2010 fiscal year by prospective students and their families. The

corresponding figure for the Carlisle Area is \$461,981 for lodging, \$417,810 on food, and \$128,423 for miscellaneous expenses, for a total of \$1,008,214 in local direct spending.

**Table 6-11: Admissions Visitors Economic Impact**

Category	Carlisle Spending	Carlisle Area Impact	Cumberland County Spending	Cumberland County Impact
Lodging	\$461,981	\$575,813	\$897,050	\$1,324,494
Food and Beverage	\$417,810	\$530,619	\$417,810	\$639,876
Other Retail	\$128,423	\$162,763	\$154,435	\$235,575
<b>Total</b>	<b>\$1,008,214</b>	<b>\$1,269,195</b>	<b>\$1,469,295</b>	<b>\$2,199,945</b>

After applying the local and county multipliers for these general categories, we estimate the economic impact of admissions visitors to be nearly \$2.2 million for Cumberland County and \$1.3 million for the Carlisle area, making it by far the most significant group of short term visitors to Dickinson College.

### School Year Students' Visitors

Data on family or friends visiting current students were collected as part of the student spending survey. Students were asked how many visitors they had during the fall 2009 semester and how many stayed in a local hotel. According to the survey, the respondents had a total of 1,518 visitors throughout the semester. While the survey did not ask about visitor spending, it is possible to generate a rough estimate by using visitor figures found in the admissions survey. Again, lodging numbers must take into account the possibility for double occupancy, as the survey reported individual visitors rather than groups.

Table 6-12 depicts the survey results for the number of visitors by class year during the fall 2009 semester. Out of the 576 students that responded to the survey, the freshmen class had the largest number of visitors, with 494. Seniors ranked second with 405, followed by

**Table 6-12: Number of Students' Visitors by Class Year**

Class Year	None	1-3	4-8	9-15	Over 15	Total
First Year	31	110	21	10	1	173
Sophomore	33	75	23	6	0	137
Junior	28	52	11	5	1	97
Senior	32	85	21	2	3	143
<b>Total</b>	124	322	76	23	5	550

sophomores and juniors with 360 and 258 respectively. The average first year student reported approximately 2.8 visitors per person during the fall semester. The sophomore class reported 2.6 per person, juniors 2.4 per person, and seniors 2.8 per person. Multiplying these numbers by the total number in each class produces the total number of visits by class year during the semester.

**Table 6-13: Total Students' Visitors by Class Year**

<b>Class Year</b>	<b>Avg. Visitors per Student</b>	<b>Class Total</b>	<b>Total Visitors</b>
Freshmen	2.8	609	1,705
Sophomore	2.6	525	1,365
Junior	2.4	328	787
Senior	2.8	448	1,254
<b>Totals</b>	<b>---</b>	<b>1,910</b>	<b>5,111</b>

***Direct Spending by Student Visitors***

As seen in Table 6-13, the total number of people visiting Dickinson students during the fall semester of 2009 is 5,112. Of those 5,112 visitors, 39.4%, or 2,016, stayed overnight in a local hotel. In order to adjust for double occupancy; one is subtracted from the average visitors staying overnight. Therefore, we estimate 1.1 rooms per first year student, 1 room per sophomore, 1 room per junior, and 1.1 rooms per senior. Using the same average used to calculate admissions visitor spending, \$110 per room, those visiting first year students spent \$73,689 on lodging for the fall 2009 semester. Sophomore visitors spent \$57,750, juniors \$36,080, and seniors' guests spent approximately \$54,208. This produces a total of \$221,727 spent on lodging for overnight visitors of current students for the fall semester.

**Table 6-14: Total Overnight Visitors Staying in Hotel by Class Year**

<b>Class Year</b>	<b>Avg. visitors per person</b>	<b>Class Total</b>	<b>Total Visitors</b>
First Year	1.1	609	670
Sophomore	1	525	525
Junior	1	328	328
Senior	1.1	448	493
<b>Totals</b>		<b>1,910</b>	<b>2,016</b>

Because of the timing of the survey, less information is available regarding spring 2010 visitors. However, the number of spring visitors is expected to be similar to that of fall. While spring semesters have no homecoming events or official parent's weekends, graduation accounts

for an estimated 4,000 visitors. For the purpose of this study it is assumed that total spending for spring 2010 is equal to that for the fall 2009 semester. Therefore, we estimate that \$443,454 is spent by student visitors during the year on lodging. As with other visitors, we will assume that 51.5 percent stay in Carlisle, which indicates local spending on lodging of \$228,379.

Information regarding visitor spending on meals and other expenses was not collected in the student survey. However, it is possible to estimate spending in these areas using the information collected by the admission visitor survey. Using the same figure for the average number of meals per person, 1.64, and the 78.4 percent of student visitors who eat off campus, total spending on meals is estimated to be \$157,741 annually. All of this is assumed to be in Carlisle. In addition to lodging and meals, information regarding entertainment, automobile, and other expense can also be calculated using figures from the admissions survey. Approximately 22.4% of visitors spend money on other expenses. When the three categories of expenses are combined, visitors spend an average of \$106.95 per person. Total spending on other expenses is estimated to be \$244,925 a year by student visitors. Total combined spending for student visitors is approximately \$846,120 annually for Cumberland County and \$631,045 for the Carlisle area.

After applying the appropriate local and county multipliers to each category and adding, the economic impact of student visitor spending totals nearly \$800,000 in the Carlisle area and nearly \$1.3 million in Cumberland County as a whole.

**Table 6-15: Student Visitors Economic Impact**

<b>Category</b>	<b>Carlisle Spending</b>	<b>Carlisle Area Impact</b>	<b>Cumberland County Spending</b>	<b>Cumberland County Impact</b>
Lodging	\$228,379	\$284,652	\$443,454	\$654,560
Food and Beverage	\$157,741	\$200,331	\$157,741	\$241,580
Other Retail	\$244,925	\$310,418	\$244,925	\$373,609
<b>Total</b>	<b>\$631,045</b>	<b>\$795,401</b>	<b>\$846,120</b>	<b>\$1,269,749</b>

### **Total Impact and Conclusion**

Overall, the total direct spending by alumni, prospective students and their families and those who visit current Dickinson students is estimated to be \$1,816,104 in the Carlisle area and \$2,557,105 for Cumberland County as a whole. The majority of spending comes from admissions visitors who spend an estimated \$1,469,295 annually on meals, lodging, and other

expenses in Carlisle. The overall economic impact for visitors totals \$2,286,987 for the Carlisle area and \$3,830,268 for Cumberland County. These are relatively modest figures compared to some other categories included in this study, but nonetheless contribute an impressive total to the local economy.

**Table 6-16: Total Visitors Economic Impact**

<b>Group</b>	<b>Carlisle Spending</b>	<b>Carlisle Area Impact</b>	<b>Cumberland County Spending</b>	<b>Cumberland County Impact</b>
Alumni Weekend	\$176,845	\$222,391	\$241,690	\$360,574
Admissions	\$1,008,214	\$1,269,195	\$1,469,295	\$2,199,945
Students' Visitors	\$631,045	\$795,401	\$846,120	\$1,269,749
<b>Total</b>	<b>\$1,816,104</b>	<b>\$2,286,987</b>	<b>\$2,557,105</b>	<b>\$3,830,268</b>

### Endnotes

<sup>1</sup> The calculation is as follows:  $[(11+2*2+3*2)*\$6 + (33+21*2+14*3 + 4*4+7*5)*\$15 + (15+4*2+4*3+2*5)*\$30] / (11+2*2+3*2+33+21*2+14*3+4*4+7*5+15+4*2+4*3+2*5) = \$17.08$ .

<sup>2</sup> For all these expense categories the formula for calculating total spending is as follows: Total Spending = (expense category \* number of responses/Total number of responses)\* 1,300 attendees.

## **Chapter 7: The Economic Impact of Dickinson Summer Programs**

**William Bellinger, Elizabeth Kosta, Robert Pehlman and Jue Wang**

The summer months at Dickinson College are quite active due to a variety of annual summer programs. A relatively small number of Dickinson students stay on campus to engage in research or various campus jobs, while others take summer classes at Dickinson. The community also hosts a variety of events on Dickinson's campus, and facilities such as the HUB Social Hall are frequently rented for private events. Every June hundreds of alumni travel back to Carlisle for Dickinson's annual alumni weekend, and the admissions office hosts a number of summer visiting days throughout the summer. However, the two programs that keep Dickinson's campus the busiest throughout the summer are Johns Hopkins Center for Talented Youth (CTY) summer program and the Central Pennsylvania Youth Ballet (CPYB) summer dance program. The goal of this chapter is to estimate the economic impact the three largest programs taking place on Dickinson's campus each—Dickinson's Summer School and summer student employees, CTY, and CPYB. The impact of alumni weekend is analyzed in the chapter on visitors to the college.

### **Dickinson College Summer School**

Summer courses give students from Dickinson and other colleges the opportunity to gain additional college credits. According to Dickinson officials, 136 students participated in summer classes in 2010, and another 92 worked on campus for at least part of the summer. Combined, these students totaled 228 college age summer residents. A spending survey was distributed to these students via e-mail in July of 2010. Thirty-one surveys were returned, for a relatively low response rate of 13.6 percent.

#### ***Summer School Student Spending***

As with school year students, summer school students were surveyed regarding their spending on major consumer items in the Carlisle area and elsewhere in Cumberland County, their off-campus housing, and their favorite retail establishments. The survey questions asked about monthly spending. Combined with a question about how long each student planned to stay

in Carlisle, we were able to estimate a reasonable figure for total summer spending.<sup>1</sup> We calculated an average summer spending total for survey respondents then applied these averages to the summer population of Dickinson students. Results are reported in Table 7-1. The totals are small compared to school year figures, as is to be expected with the smaller student

**Table 7-1: Dickinson Summer Student Spending**

<b>Location</b>	<b>Carlisle Area</b>	<b>Elsewhere in Cumberland County</b>	<b>Total Cumberland County</b>
Food and Drink	\$36,922	\$6,252	\$43,174
Clothing	3,235	0	3,235
Entertainment	5,075	1,601	6,676
Automobile payments, fuel and maintenance	11,033	2,941	13,974
Other retail	2,941	0	2,941
<b>Total</b>	<b>\$59,206</b>	<b>\$10,794</b>	<b>\$70,000</b>

population. Also noteworthy is that nearly 85 percent of reported summer student spending takes place in the Carlisle area, which is even higher than the nearly 80 percent of student spending during the school year.

Over 77 percent of summer students live in Dickinson-owned housing and another 9.7 percent live with their families. This leaves 12.9 percent that live in off-campus housing, an estimated 29 total students, some of which report zero rental payments for the summer. Factoring in those with no reported rent, the average off campus monthly rent equaled \$200 per off-campus student. Spending on utilities also included a significant number of zero responses, and an average for all off-campus students of \$31.25 for the summer. Adding the two figures and multiplying by the 29 off campus students produces a total housing expenditure figure of \$6,706, \$5,800 of which is rent. We assume that all rental payments occur in the Carlisle area, while about half of the total utilities spending can be counted as local, based on the analysis of employee and student impact.

**Table 7-2: Dickinson Summer Student Impact**

<b>Category</b>	<b>Carlisle Area Spending</b>	<b>Carlisle Area Impact</b>	<b>Cumberland County Spending</b>	<b>Cumberland County Impact</b>
Food and Beverage	\$36,922	\$46,891	\$43,174	\$66,121
Clothing	3,235	3,940	3,235	4,570
Entertainment	5,075	6,432	6,676	10,184
Auto	11,033	13,437	13,974	19,740
Other Retail	2,941	3,727	2,941	4,486
Housing	5,800	7,272	5,800	8,663
Utilities	453	536	906	1,214
<b>Total</b>	<b>\$65,459</b>	<b>\$82,235</b>	<b>\$76,706</b>	<b>\$114,978</b>

While the total figures for summer students are quite modest, the concentration of over 71 percent of summer student impact in the Carlisle area represents a substantial shift from the 47 percent for summer students in 2002.

### **Johns Hopkins Center for Talented Youth Summer Program**

The Johns Hopkins Center for Talented Youth, run by Johns Hopkins University, began in 1979 and was based on the “Study of Mathematically Precocious Youth,” a program created in 1971 by Dr. Julian Stanley. The CTY program aims to “offer eligible students from all over the country and around the world the opportunity to engage in challenging academic work in the company of peers who share their exceptional abilities and love of learning.” ([www.cty.jhu.edu](http://www.cty.jhu.edu)) Since its beginning in 1979 the CTY program has expanded to include a variety of research opportunities, counseling services, one day conferences, distance learning programs, and a wide spread summer program. Every year close to 80,000 students participate in the CTY talent search and nearly 8,000 students in grades 2-12 participate in the CTY summer programs hosted by a variety of colleges and universities throughout the country ([www.cty.jhu.edu](http://www.cty.jhu.edu)). In the summer of 2010 a total of 701 students attended the two 3 week sessions at Dickinson College. This total is somewhat smaller than the 790 attending the CTY Dickinson program in 2002.



### *CTY Student Spending*

Tuition and room and board paid by CTY summer students goes directly to Johns Hopkins, which then pays Dickinson for the use of its facilities. None of this money represents a contribution to local income. However CTY students do incur expenses upon arrival at Dickinson, and report low levels of spending throughout the session. CTY estimates that upon arrival at the site, each student will spend between \$80 and \$250 on books and course materials. The College Bookstore reported total CTY spending of \$46,905 on textbooks and \$8,148 on School Supplies, for a total of \$55,053. Additionally, students report occasional bookstore purchases in a typical week of that average \$2.85 per student. With 701 students in total attending the two sessions we estimate that the bookstore receives \$1,997 in direct spending from these minor purchases. Laundry expenses can also be considered direct spending. It is suggested that students bring enough money with them to complete 10 loads of laundry, a dubious figure. Assuming that each student does 2 loads per session at \$2.25 per load, we can estimate a total of \$4.50 in laundry expenses per student, for total spending on laundry of \$3,155. Because these spending items take place on campus, they will not be included in our final estimates of Dickinson's economic impact.

Students have little free time and rarely venture into town, resulting in low individual off-campus spending. A spending survey was given to students during session one of the CTY program, and 74 students responded. The survey respondents frequently reported zero off-campus purchases for most items. All figures in this section include these zero responses in the overall averages. Because students spend so little time off campus, the majority of student spending takes place in the Dickinson College HUB, either at the Devil's Den or the College Bookstore. It was estimated that students visited the stores in the HUB 4 times a week, spending approximately \$4.16 during each visit. Aside from the HUB, ice cream from Massey's and pizza from Misenos were reported to be the next most popular spending choices. On average, students reported dining out 0.11 times per week and spending approximately \$6 per meal. A few students reported off campus clothing purchases as well.

Average weekly off campus spending of CTY students on food, clothing, and other expenses in Carlisle is \$0.72 per student. With approximately 701 students attending each 3

week session the estimated spending in Carlisle for the entire summer is \$1,514. Since CTY students have so little free time and rarely leave campus, it is safe to assume that all of their spending takes place within Carlisle. The division of on-campus spending is a bit arbitrary, with all Devils den purchases being categorized as food and all bookstore purchases being categorized as books and supplies.

In addition to the survey results, one mass visit to the Carlisle Commons Theaters occurs during each session. According to Elizabeth Kosta, a CTY resident assistant and co-author of this chapter, all but about 30 students per session attended this event. Factoring in discounted tickets and undiscounted snacks, we will assume that this costs an average of \$7.50 per CTY student. Subtracting 60 students from the 701 total CTY students produces an estimate of 641 attendees. The spending estimate is therefore  $\$7.50 \times 641$ , or \$4,807.50. Results are presented in Table 7-3 below. The impact estimate is based on the local entertainment multiplier (1.2674).

**Table 7-3: CTY Student Spending**

<b>Category</b>	<b>On Campus Spending</b>	<b>Off Campus Direct Spending</b>	<b>Carlisle Economic Impact</b>
Food and Beverage	\$34,994	\$1,066	\$1,401
Clothing	0	\$358	\$447
Books and Supplies	\$55,053	0	0
Film Field Trip		\$4,808	\$6,093
<b>Total</b>	<b>\$90,047</b>	<b>\$6,232</b>	<b>\$7,941</b>

The total spending by CTY students for this year’s survey is about 1/40 of the inflation adjusted 2002 figure for CTY spending, and this pattern is consistent across categories of spending. However, it is reasonable to assume that this is a low end estimate for CTY student spending. An argument could be made that children are ill equipped to estimate their own spending habits, or perhaps were confused by some component of the survey.

***CTY Staff Spending:***

In the summer of 2010 CTY employed 94 staff members. These staff members include 25 instructors who are responsible for teaching 5 hours of class per day and conducting a 2 hour study session every night, 25 teaching assistants who aid the instructors, 28 resident assistants who are responsible for students at all times when they are not in class, and 16 administrators.

The income of CTY employees does not constitute local income, since most employees are not residents of Cumberland County. Dickinson also provides housing for all CTY staff, eliminating an important component of its off campus economic impact.

The CTY staff returned 28 spending surveys, for a 29.8 response rate. While the staff spends relatively little time off campus, some local and county spending takes place. A comparison of spending by job category produced only minor differences, so the analysis will be conducted for CTY employees as a single group. Average weekly spending figures were

**Table 7-4: CTY Staff Spending**

Category	Dickinson Campus	Carlisle Area	Elsewhere in Cumberland County	Total Cumberland County
Food and Drink	806.52	7,856.52	0	7,856.52
Clothing	501.96	1,009.56	0	1,009.56
Entertainment	304.56	1,855.56	0	1,855.56
Course Materials	0	0	0	0
Other retail	90.80	2,154.48	0	2,154.48
<b>Total</b>	<b>1,704.00</b>	<b>12,876.12</b>	<b>0</b>	<b>12,876.12</b>

multiplied by 94 employees and by 6 weeks to arrive at the following spending totals. Auto expenses were inadvertently excluded from the questionnaire, and will be assumed equal to zero.

As part of Dickinson’s impact on Carlisle, only off-campus spending is included. Therefore the following impact estimates for staff spending do not include campus spending.

**Table 7-5: CTY Staff Economic Impact**

Category	Carlisle Area Spending	Carlisle Area Impact	Cumberland County Spending	Cumberland County Impact
Food and Beverage	\$7,857	\$9,978	\$7,857	\$1,2032
Clothing	1,010	1,230	1,010	1,426
Entertainment	1,856	2,352	1,856	2,830
Other Retail	2,154	2,731	2,154	3,286
<b>Total</b>	<b>\$12,876</b>	<b>\$16,290</b>	<b>\$12,876</b>	<b>\$19,575</b>

### *CTY Visitor Spending and Purchases*

CTY students and staff were surveyed regarding whether additional persons visited Carlisle due to their participation in the CTY program. Students answered questions regarding whether parents dropped them off, whether they stayed overnight when doing so, and how many persons traveled to Carlisle at that time. We also asked whether anyone visited Carlisle during the program. The CTY staff survey included questions about the number of guests, the length and frequency of their visits, and whether they stayed off campus. Each group will be discussed separately. Information regarding lodging cost and other spending will be taken from the more complete visitor survey.

Most CTY students were dropped off in Carlisle by one or more parents. 89.2 percent of respondents answered this question positively. Assuming that this pattern is repeated at the end of each session, we estimate that a total of 625 families visited Carlisle at the beginning and end of each session, for a seasonal total of 2,500. Of these, 42 percent involved a single adult, 26 percent included two other people, and 22 percent 3 or more. This averages 1.77 persons per visiting party. Less than 10 percent of respondents reported one or more overnight stays by family members, however. All of these overnight visits involved one or two family members, so a single room will be assumed for all overnight visitors. We will also assume that these percentages are repeated twice for each of the two sessions.

Of the 74 survey respondents, 5 reported a single night stay and 2 reported two nights. This totals 9 overnight stays per 74 students (.1216 per student), all of which involved a single room. At an average cost of \$110, these stays for the four drop-off and pick-up days totaled  $.1216 \times 4 \times 701 \text{ students} \times \$110$ , or \$37,513. Based on other surveys, we will assume that 51.5 % of these stays occurred in the borough or South Middleton Township and 48.5 percent in Middlesex Township or elsewhere in the county. Using this estimate, Carlisle area spending on lodging totals \$19,319. The survey also asked about visits during the CTY session. Only 9.5 percent answered affirmatively, with only one respondent reporting more than 1 visit per session. No respondent expected overnight stays by their mid-session visitors. Since numbers of visitors were not requested, we must assume a single visitor for mid-session visits. Ignoring

the student reporting multiple visits, a total of 67 mid-session visits occurred in 2010, bringing total visits by families to 692, and total visitors to 2,567.

There were no questions regarding other visitor spending such as fuel, food, or other consumption items for the CTY students, who would be unlikely to have such information. However, we have alternative estimates available. According to the survey of admissions visitors, 69 percent of reported spending went to lodging, with the rest being composed of food and miscellaneous spending. Using these figures, total CTY visitor spending would equal  $\$37,513/.69$ , or  $\$54,367$ .  $\$16,854$  of this total represents food and other spending. We will assume that this other spending takes place in the Borough. Adding this total to the lodging estimates produces CTY visitor totals of  $\$54,367$  for the county and  $\$43,303$  in the Borough of Carlisle.

The CTY staff was also asked about guests. Of the 28 survey responses, 71 percent reported no guests, 14 percent 1 guest visit, 11 percent 2 visits, and 4 percent 4 visits. These responses averaged exactly 0.5 visits per staff member. Only 4 respondents (14.29%) reported off campus guest stays in hotels, one of which (3.6 %) involved a 2 night stay. Based on findings from the admissions visitor and alumni weekend surveys, we will assume an average cost of  $\$110$  for lodging per night. Assuming that survey respondents are typical of the staff, we estimate a total of 17 nights of lodging by CTY staff visitors at a total cost of about  $\$1,870$ . If the location of these visitors is the same as other groups, 51.5 % of these guests will stay in the Carlisle area and 48.5 percent in Middlesex Township or elsewhere in the County. The Borough figure is therefore  $\$963$ . As with other groups, we will assume that lodging comprises about 69 percent of total visitor spending, so that total guest spending would equal  $\$2,710$ , with  $\$840$  composed of food and other spending. Assuming that all of this other spending is local, we estimate  $\$1,803$  in Carlisle Borough spending on all items from CTY staff guests.

The impact of CTY student and staff visitors is reported in Table 7-6 below. Because of the lower level of detail regarding spending categories, impact estimates are based on the multiplier effects for two categories, Lodging and Other Retail.

**Table 7-6: CTY Visitor Economic Impact**

<b>Category</b>	<b>Carlisle Area Spending</b>	<b>Carlisle Area Impact</b>	<b>Cumberland County Spending</b>	<b>Cumberland County Impact</b>
Lodging	\$20,282	\$25,279	\$39,383	\$58,149
Other Spending	\$17,694	\$22,425	17,694	\$26,990
<b>Total</b>	<b>\$37,976</b>	<b>\$47,704</b>	<b>\$57,077</b>	<b>\$85,139</b>

Because the CTY administration in Baltimore did not respond to our requests for purchasing information in 2010, we will include purchasing estimates based on 2002 purchasing figures adjusted for the number of CTY students and for inflation. In 2002 the CTY program reported local purchases totaling \$5,570. At that time all purchases were in the Carlisle area except for a Wal-Mart (Mechanicsburg) account. Given local retail changes since 2002, we assume that all purchases would be local in 2010. The 2002 student enrollment totaled 790, as opposed to the 701 students in 2010. Adjusting for the smaller number produces an estimate of \$4,942. The consumer price index for all urban workers had values of 179.9 in June of 2002 and 217.965 in June of 2010, the latest figure available. Adjusting the previous figure for this cumulative price increase produces a 2010 estimate of \$5,988, which is very similar to the reported 2002 figure. The local and county-wide college and university multipliers will be used in the impact estimates for CTY purchases.

***Total Economic Impact of CTY Students, Staff, and Visitors***

Adding the estimated local income generated by the spending of CTY students, staff, guests and purchases provides the following partial estimate of the local economic impact of the 2010 CTY program. It is noteworthy that this figure is barely 1/10 of the 2002 estimate for the CTY program. We attribute part of this difference to the mistaken inclusion of on-campus spending as part of the Dickinson impact number at that time. This much smaller figure, while partial and incomplete, is more correct in terms of method if not magnitude.

**Table 7-7: CTY Economic Impact**

<b>Category</b>	<b>Carlisle Area Spending</b>	<b>Carlisle Area Impact</b>	<b>Cumberland County Spending</b>	<b>Cumberland County Impact</b>
Students	\$6,232	\$7,941	\$6,232	\$7,941
Staff	\$12,876	\$16,290	\$12,876	\$19,575
Visitors	\$37,976	\$47,704	\$57,077	\$85,139
Purchases	\$5,988	\$7,999	\$5,988	\$10,156
<b>Total</b>	<b>\$63,072</b>	<b>\$79,934</b>	<b>\$82,173</b>	<b>\$122,811</b>

### **Central Pennsylvania Youth Ballet Summer Program**

Every summer, Central Pennsylvania Youth Ballet (CPYB), located in Carlisle, hosts a 5 week intensive ballet program for students from 3 to 21 years of age. The program was started by Marcia Dale Weary, the founding Artistic Director of CPYB ([www.cpyb.org](http://www.cpyb.org)) and is currently administered by Alan Hineline, executive director and resident choreographer. Because CPYB is a local institution with its own substantial economic as well as cultural contribution to Carlisle and South-Central Pennsylvania, the analysis of its economic impact requires two partly distinct steps. The first is the measurement of the CPYB's contribution to the local economic impact of Dickinson College, and the second is the impact of the CPYB summer program as a separate institution. The former calculation does not include Dickinson's share of summer program revenue as part of Dickinson's community impact, while a separate estimate of CPYB's impact would include this added college revenue.

The relationship between Dickinson and CPYB is cooperative and mutually beneficial, but also somewhat complex. CPYB existed, along with a small summer program, before the beginning of its affiliation with Dickinson. At the present time, Dickinson College affects CPYB's summer program in two ways. The first is that Dickinson's residential facilities provide a place for CPYB's non-local students to stay during the program. In 2010, 269 of the 469 summer students lived in Dickinson dormitories or in Matthews House. It can be assumed that if Dickinson's residential spaces were not available CPYB would be unable to draw as large a number of non-local students. Secondly, the main studio space for CPYB during the year as well as during the summer program is in a college-owned facility just west of the main campus. Prior

to the opening of these studios the program used a smaller studio for school year and summer classes, as well as scattered college studio space. Although CPYB existed prior to

**Table 7-8: CPYB Students by Category, 2010**

**Dorm** - 18 male / 236 female = 254 total (these students are not students in the academic year & live outside of our community – can be any state or country)

**Matthews House** - 4 male / 11 female = 15 total (these students are normally from Kansas City – students of CPYB alumae Alecia Good)

**Local** - 5 male / 47 female = 52 total (these are students who are not CPYB academic year students, but are living locally with host families, relatives, or at hotels/motels/campgrounds in the area)

**CPYB** - 10 male / 67 female = 77 total (these are CPYB students who attended both the most recent academic year and current 5 week summer program)

**Beginning** - 2 male / 8 female = 10 total (these students are beginners – some are younger siblings of students in the program that are from other states and others are residents of the community)

**Pre-school** - 2 male / 12 female = 14 total (same as Beginning explanation)

**Discover Dance** - 1 male / 5 female = 6 total (DD students are residents of the community that receive a special scholarship to attend CPYB)

**Resident Assistants** - 2 male / 16 female = 18 total (RA's can be anyone, i.e. regular CPYB students, college students from various states, etc). They are included as staff members in this analysis.

**Alumni** - 5 male / 8 female = 13 total (Alumni are members of professional companies anywhere in the world)

**Open Program** - 0 male / 10 female = 10 total (These are local adults)

**Totals: 49 male / 420 female = 469 total = 451 not including R.A's.**

establishing a relationship with the College, it is clear that CPYB's partnership with Dickinson has been instrumental in the expansion of its summer and school year programs.

The participation of significant numbers of local area students in some of these programs requires an estimate of the number of the 469 total students who would not be in Carlisle in the absence of the CPYB summer program. Since we do not have information about the local residence of the relatively small numbers of beginning and pre-school students, we will assume that all are local. Subtracting the Resident Assistants (who are included in the staff category to



follow) and the beginning, pre-school, Open Program and Discover Dance students leaves an upper end estimate of 421 summer program students who would not be in Carlisle in the absence of this program. The upper end estimate assumes that all of the school-year students (CPYB above) would attend other programs in the absence of CPYB's. A more conservative estimate would also subtract a fraction of the school year CPYB students who may not attend a different summer program. If we assume an arbitrary  $\frac{1}{2}$  of these 77 students would not be in Carlisle in the absence of the summer program, the added local students from the CPYB program equals 383. The lower number seems to be both reasonable and conservative, and will be used in the following student spending analysis.

### ***Added CPYB Summer Revenue***

As discussed above the CPYB program would be unable to operate at its current capacity without its relationship to Dickinson College. As a result of this there are two separate pieces of the CPYB summer program revenue that can be attributed to Dickinson College. The first is the revenue gained from residential participants: without Dickinson's residential space, CPYB would most likely be unable to operate a large residential program. The second is the revenue from the additional non-residential students that CPYB has been able to accept as a result of the increased studio space provided by Dickinson.

The CPYB summer program tuition differs for local and non-local students. The tuition for the 2010 program is \$1,500 for non-CPYB students and \$1,275 for CPYB school-year students, and room and board expenses are \$2,990 for those staying on campus. Total summer program revenue from all sources is reported to be \$1,466,381, with approximately \$420,000 flowing to Dickinson College. However, not all of this spending represents a net increase in local spending or income.

Based on the numbers above, we assume that 321 students (dorm, Matthews House, and "Local") pay the non-local tuition, which totals \$481,500. The estimate that  $\frac{1}{2}$  of the CPYB students staying in Carlisle produces additional tuition revenue of  $38 \times \$1,275$ , or \$48,450. Room and board for those staying on Dickinson's campus totals, as a minimum,  $269 \times \$2,990$ , or \$804,310. Since this money does not directly leave the college, it is not a legitimate part of

Dickinson’s local economic impact. However, it may be included in any separate estimate of CPYB’s local economic impact.

The CPYB summer program also has a set of expenditures with local impact, including a welcome buffet and miscellaneous supplies. These total \$14,972 for 2010. Summing up the net increase in local spending due to these components of the program, CPYB provides a net inflow of tuition and related spending equal to \$544,922.

***CPYB Student Spending***

As with other summer programs at Dickinson in 2010, a spending survey was distributed to CPYB dorm residents. Fifty-four usable surveys were returned. Unlike the CTY students, CPYB students commonly take pilgrimages to off-campus areas such as downtown and the Wal-Mart area. By far the most popular off-campus stores were Wal-Mart, Massey’s, the Carlisle Commons movie theaters, and 360 Dance Fitters in downtown Carlisle. Reported off-campus weekly spending per student (\$21.45) was greater than on-campus spending (\$14.39) for this group. Spending on these items outside of the Carlisle Borough was zero for all but 2 respondents. CPYB sponsored field trips also take place, but are primarily to sites in Dauphin

**Table 7-9: CPYB Student Average Weekly Spending**

<b>Category</b>	<b>On Campus</b>	<b>Carlisle</b>	<b>Elsewhere in Cumberland County</b>	<b>Total Off-Campus</b>
<b>Food</b>	9.20	8.41	.11	8.52
<b>Clothing</b>	1.38	4.66	.11	4.77
<b>Entertainment</b>	.94	5.98	.23	6.21
<b>Other</b>	2.47	3.72	.11	3.83
<b>Total*</b>	<b>13.99</b>	<b>22.77</b>	<b>0.56</b>	<b>23.33</b>

*\*a few respondents only provided total figures, which are included in the total category averages*

County and will not be included as part of this estimate. It is noteworthy that the average reported weekly spending per student was somewhat higher in 2002, averaging \$26.35 in Carlisle, \$8.59 elsewhere in Cumberland County, and nearly \$35 for the county as a whole. The primary ballet clothing and equipment store in 2002 was located in Mechanicsburg, so trips out of Carlisle were far more common, and necessary, at that time.

In addition to average student spending on the above items an estimated 52 students, categorized as “local” in Table 7-6, are staying with local host families or in area apartments or hotels. Based on an estimate from the CPYB staff, the average room and board for host families is about \$900 per student for the 5 week program. For this group of non-local off-campus residents, an estimated 52 x \$900 or \$46,800, flows into the Carlisle area. We assume that all this spending is local, but we have no independent evidence of this.

Using the estimated net addition of 383 non-local students and a 5 week stay in Carlisle, total spending involves multiplying the off-campus figures in Table 7-9 by these two figures.

**Table 7-10: The Impact of CPYB Student Off-Campus Spending**

<b>Category</b>	<b>Carlisle Area Spending</b>	<b>Carlisle Area Impact</b>	<b>Cumberland County Spending</b>	<b>Cumberland County Impact</b>
Food and Beverage	\$16,105	\$20,453	\$16,248	\$24,884
Clothing	\$8,923	\$10,867	\$9,134	\$12,903
Entertainment	\$11,451	\$14,513	\$11,892	\$18,140
Other Spending	\$7,124	\$9,029	\$7,335	\$11,189
Off-Campus Housing*	\$46,800	\$58,678	\$46,800	\$69,900
<b>Total</b>	<b>\$90,403</b>	<b>\$113,540</b>	<b>\$91,409</b>	<b>\$137,016</b>

*\*Off campus housing applies to those from the “local” category above.*

Multipliers are applied by category as in previously analyzed summer programs.

### ***CPYB Staff Spending***

In 2010, in addition to its regular office staff, CPYB’s summer program employed 28 teachers per week during the five week program, 3 dorm directors and 18 resident assistants in 2010 for a total of 49 employees. The salaries of these staff members, in many cases, do not represent additions to the local economy since they are not local residents, and the few local instructors also work for CPYB throughout the year. Table 7-11 presents total spending estimates over the program’s 5 weeks based on weighted averages of the various categories of employees.

**Table 7-11: CPYB Staff Spending**

Category	On Campus	Carlisle	Elsewhere in Cumberland County	Total Off-Campus
<b>Food</b>	\$4,642	\$13,419	\$2,673	\$16,092
<b>Clothing</b>	\$1,100	\$6,565	\$4,954	\$11,519
<b>Entertainment</b>	\$0	\$1,388	\$1,909	\$3,297
<b>Other</b>	\$0	\$6,161	\$0	\$6,161
<b>Total</b>	<b>\$5,742</b>	<b>\$27,533</b>	<b>\$9,536</b>	<b>\$37,069</b>

Housing for CPYB staff is somewhat more mixed than for the on-campus CTY program. Of 29 returned staff spending surveys, 4 reported staying in off campus apartments and 1 with a host family. Assuming that survey respondents are representative of other employees in this respect, an estimated 8.5 employees lived off campus during their stay, with an aggregate rental payment of \$6,353.

**Table 7-12: The Impact of CPYB Staff Off-Campus Spending**

Category	Carlisle Area Spending	Carlisle Area Impact	Cumberland County Spending	Cumberland County Impact
Food and Beverage	\$13,419	\$17,042	\$16,092	\$24,645
Clothing	\$6,565	\$7,996	\$11,519	\$16,272
Entertainment	\$1,388	\$1,759	\$3,297	\$5,029
Other	\$6,161	\$7,808	\$6,161	\$9,398
Housing	\$6,353	\$7,965	\$6,353	\$9,489
<b>Total</b>	<b>\$33,886</b>	<b>\$42,570</b>	<b>\$43,422</b>	<b>\$64,833</b>

### ***CPYB Visitor Spending***

Unlike the 2002 study, both the student and staff surveys included questions regarding visitors. We will begin with the student visitors. As with the CTY students, family members or others commonly transported CPYB students to and from Carlisle. In 2010 90.74 percent of student survey respondents reported being transported to Carlisle by one or more family members. Of these, 30 percent reported that their family members did not stay overnight, while 36 percent reported one night and 34 percent reported 2 nights. We will apply these percentages to our estimate of 383 added non-local students in the following calculations.

Based on these percentages, we estimate a total of 398 nights of lodging purchased while dropping off CPYB students at the beginning of the program. The size of the parties varied somewhat as well. 45.8 percent reported one other family member, 39.6 reported 2 others, and 14.6 percent reported 3 or more family members in their party. From surveys of admissions visitors (Chapter 6), we estimate that the average motel room in the area costs about \$110 per night. Assuming double occupancy whenever possible, this translates into 439 motel rooms at a total cost of \$48,290. Assuming that the same pattern holds at the end of the program, the total cost for lodging while dropping off and picking up CPYB students equals \$96,580. The geographic distribution of this lodging is also relevant to the study. From the survey of Alumni Weekend participants (also in Chapter 6), we found that 51.5 % of visitors stayed in the Carlisle Borough or South Middleton Township and 48.5% in Middlesex Township or elsewhere in Cumberland County. Based on these percentages, \$49,739 was spent in the Carlisle area and \$46,841 was spent elsewhere in the county.

Based on the visitor survey finding that lodging costs equaled 69 percent of total spending, we estimate that spending on all items while dropping off or picking up CPYB students totaled \$96,580/.69, or \$139,971, of which \$43,391 would be spent on food and other goods and services. We will assume that all of this takes place in the Carlisle area.

Also, since the CPYB program is longer than the CTY programs and straddles the 4<sup>th</sup> of July holiday, mid-program visits are more common. 52.9 percent of survey respondents reported no visitors during the program, while 35.3 percent reported one visit and 11.8 percent reported two or more visits. Assuming two visits each for the final group, a total of 225 visits occurred during the program. Of these visits 30.8 percent reported no overnight stays, 35.3 percent reported 1 night, and 11.8 percent reported 2 or more nights. Applying these percentages to the estimate of 225 mid-program visits, and assuming the same percentage of parties with over two people as pre-program travel, a total of 140 additional rooms were demanded by CPYB families, for a spending total of \$15,400. Applying the same percentage of local stays, \$7,931 was spent in the Carlisle area and \$7,469 was spent in other parts of the County. The survey of admissions visitors found that .69 percent of spending went to lodging, and that the average motel in the area cost about \$110 per night. On this basis we can estimate that other expenses cost an average of

\$110/.69 = \$159 in total spending, \$49 of which would go toward food or other goods and services. Using this estimate, \$49 per guest x 225 guests leads to an estimate of \$11,025 in spending on other goods by mid-program visitors. As with the CTY program, we will assume that all of this spending is local.

The CPYB staff survey also included a set of questions regarding guests. Of the 49 total staff, 33 answered the questions regarding guests, a very healthy 67% response rate. Of the respondents, 13 (39.4%) reported no guests and 19 reported one or more guests. Regarding overnight stays, 20 reported none or did not respond, 6 reported one, 4 reported 2, and 3 reported 3 or more nights. Only 4 reported a hotel stay by their guests, however. Assuming all guests stay for one day, we estimate a total of 62 total guests and 6 hotel stays. Based on the values of \$110 per room and \$110/.69 = \$49 per day of other spending per guest, these guests spent an estimated total of \$660 for lodging and \$3,038 for other goods and services. We will assume that all of this spending takes place in Carlisle. Given the small lodging figure this will not significantly affect our results.

Summing the very modest totals for staff guests and much more substantial sums for student visitors produces the following results for CPYB visitor spending.

**Table 7-13: CPYB Visitor Economic Impact**

<b>Category</b>	<b>Carlisle Area Spending</b>	<b>Carlisle Area Impact</b>	<b>Cumberland County Spending</b>	<b>Cumberland County Impact</b>
Lodging	\$58,330	\$72,703	\$112,640	\$166,313
Other Spending	\$57,454	\$72,817	\$57,454	\$87,640
<b>Total</b>	<b>\$115,784</b>	<b>\$145,520</b>	<b>\$170,094</b>	<b>\$253,953</b>

***CPYB Economic Impact***

Dickinson College’s partnership with CPYB has allowed CPYB to expand their summer program and include a large residential component. Without the use of Dickinson’s facilities, CPYB would run a much smaller program, and it would be nearly impossible for their program to include a large scale residential option. Therefore, Dickinson College’s total contribution to the CPYB summer program includes the tuition and room and board of residential students, the tuition of additional local students in attendance as a result of the increased number of facilities available, and the spending impact of staff, residential students, and visitors (see Table 7-14).

**Table 7-14: CPYB Summer Program Impact**

<b>Category</b>	<b>Carlisle Area Spending</b>	<b>Carlisle Area Impact</b>	<b>Cumberland County Spending</b>	<b>Cumberland County Impact</b>
Added CPYB Revenue	\$544,922	\$727,961	\$544,922	\$924,242
Off Campus Housing	\$46,800	\$58,776	\$46,800	\$69,713
Student Spending	\$90,403	\$113,540	\$91,409	\$137,016
Staff Spending	\$33,886	\$42,570	\$43,422	\$64,833
Visitor Spending	\$115,784	\$145,520	\$170,094	\$253,953
<b>Total</b>	<b>\$831,795</b>	<b>\$1,088,367</b>	<b>\$896,647</b>	<b>\$1,449,757</b>

The county figure in Table 7-14 is quite comparable to the 2002 estimate of just over \$1.5 million. Given the shrinkage of the program from the 2002 total of 606 students, this may require some explanation. On one hand, this study includes at least two elements that were not included in 2002, the off campus housing costs for the “local” category, and the spending of student and staff visitors. On the other, we are using a more refined methodology this year with somewhat lower multiplier values, and the lower total number of students and staff undoubtedly has the predicted negative effect on total income. On balance the maintenance of a significant local income impact is an important sign of the continuing influence of this nationally lauded ballet program.

### **Smaller Summer Programs**

In addition to our organized educational programs, the Carlisle community also takes advantage of access to Dickinson’s facilities throughout the summer. The HUB Social Hall and the Depot are rented frequently for private events such as wedding receptions, anniversary dinners, baby showers, and high school sports banquets. The college also hosts a variety of annual community events every summer such as Summerfair and Bluegrass on the Grass. In addition to these large community-wide events Dickinson College is home to smaller conferences, receptions, and dinners hosted by local community organizations, such as the Rotary Club, the Carlisle Chamber of Commerce, and local churches. Finally, Dickinson’s athletic facilities are home to a large number of small summer sports clinics, tournaments and camps including the Mid-Penn Athletic Club Basketball Tournament, Dick Ocker Track

Seminars, Boys and Girls Soccer Day Camp, Your Only Option Football Camp, and Dina Henry Women’s Basketball Camp (Warner). As the majority of these programs are attended primarily by local residents, we cannot attribute a net local economic impact to their spending. We should note contributions to the area’s youth and culture, however.

### **Summary and Conclusion**

Throughout the summer the Dickinson College Campus remains almost as busy as it does during the academic year. Large educational programs hosted at the college draw young people from across the country, while many local groups and individuals take advantage of Dickinson’s facilities to host smaller receptions, fairs and conferences. The three largest programs hosted by the College during the summer are summer school, Johns Hopkins Center for Talented Youth, and the Central Pennsylvania Youth Ballet’s Summer Program. Each of these three programs has a significant impact on the local economy. The combined impact of these programs is summarized below.

**Table 7-15: Summer Program Impact**

<b>Program</b>	<b>Carlisle Area Spending</b>	<b>Carlisle Area Impact</b>	<b>Cumberland County Spending</b>	<b>Cumberland County Impact</b>
Summer Students and Student Employees	\$65,459	\$82,235	\$76,706	\$114,978
CTY	\$63,072	\$79,934	\$82,173	\$122,811
CPYB	\$831,795	\$1,088,367	\$896,647	\$1,449,757
<b>Total</b>	<b>\$1,088,857</b>	<b>\$1,412,705</b>	<b>\$1,214,405</b>	<b>\$1,925,335</b>

The dominance of the Central Pennsylvania Youth Ballet in this segment of the study is partly due to the fact that it is a local enterprise whose net income from the summer program is part of Dickinson’s effect on the local community, and partly because of its greater off-campus presence. In comparison to 2002, we have much smaller figure overall, primarily because the largest summer program in terms of economic impact, the Washington Redskins Training Camp, is no longer held in Carlisle.



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## Endnotes

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<sup>1</sup> For example, a student who planned to stay on campus for 6 weeks would spend an estimated 1.5 times her monthly total for the summer.

## **Chapter 8: Dickinson's Charitable and Cultural Contributions**

### **Thomas Laffey, Eric Peterson and William Bellinger**

This chapter is a descriptive and quantitative study of Dickinson College's community service and cultural contributions to the Carlisle area. It should be read as a compilation of a wide range of samples of Dickinson's many non-financial contributions to the Carlisle community. This chapter contains three main sections: service learning and community based research, voluntary community service activities, and college arts and culture. While an implicit impact value will be calculated for the volunteer service hours of Dickinson students and employees, this chapter is not about income. It is about a wide range of other contributions by Dickinson College to the Carlisle community.

#### **Methodology**

This chapter was compiled using three main information sources. The service learning section is based on information provided by Shalom Staub, the Assistant Provost for Academic Affairs. Information on Dickinson volunteer and cultural activities was collected via two methods. First, campus-wide surveys of students and employees included questions on hours per week spent on charitable and service activities. The other main information source involved interviews and data gathered from the leaders of various campus departments and organizations. Throughout this latter process, interviewees were asked to describe the service projects and cultural events they coordinated or participated in. Responses were outlined, summarized, edited, and organized into this report. In this research we observed a serious lack of coordinated information on campus volunteer activity, particularly in comparison to the carefully compiled data for the Service Learning program. We are extremely grateful to everyone who responded to inquiries for information. Without responses and references of these respondents, this chapter would have been impossible.<sup>1</sup>

#### **Service Learning and Community Based Research**

Service learning is an educational strategy aimed at enhancing teaching and learning experiences by matching community service opportunities with classroom instruction, off campus activity, and analysis by students. Students gain experience in addressing real world issues while simultaneously strengthening their local community. When effectively

implemented, service learning can mobilize college resources to help meet specific needs of the community and provide an avenue for young people to grow as intellectuals and citizens.

The goals of community-based research are similar to those of service learning. Faculty and students who have expertise in a particular field collaborate with community partners to develop a project that defines an issue, designs a research plan, gathers information, analyzes findings, and determines an implementation strategy. These hands-on research assignments expose students to the methods employed and responsibilities assumed by analysts in that particular field. Only in rare cases in which an organization is compelled by some financial standard or precedent do the community sponsors actually pay a fee for services provided. In most cases community-based research is akin to pro-bono consulting.

***Scope of the Service Learning and Community-Based Research Programs***

To examine the prevalence of service learning at Dickinson College, this report analyzes information from a four year period from the fall of 2006 to the spring of 2010. On average, Dickinson College offers seven courses per semester that feature either service learning or community-based research opportunities<sup>2</sup>. Over the designated period, approximately 1,200 students participated in these courses, for an average of one hundred and forty eight per semester (see table 1 below)<sup>3</sup>. In the fall of 2009 when Dickinson College offered nine different service learning or community-based research courses, the total participation level reached two-hundred and thirty three students. This was a four year high, but despite the low occurring in the first year examined and the high in the last, no other evidence suggests a consistent pattern of growth in service learning participation.

**Table 8-1: Registration for Service Learning Courses by Semester**

	<b>Fall</b>	<b>Table 7</b>
2006-2007 Academic Year	170	<b>Table 7</b>
2007-2008 Academic Year	130	<b>Table 7</b>
2008-2009 Academic Year	114	<b>Table 7</b>
2009-2010 Academic Year	233	<b>Table 7</b>

<b>Total Participation</b>	1,195
<b>Median Semester Range</b>	119-130
<b>Average Per Semester</b>	148

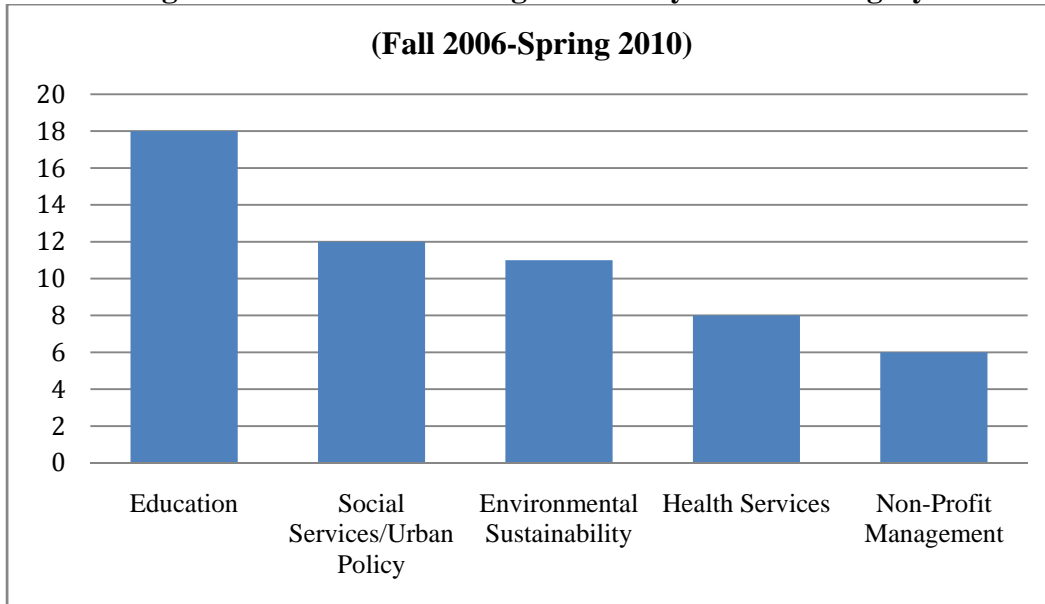
A conservative estimate of student volunteer hours in service learning courses can be extrapolated from the data in Table 8-1. The minimum threshold for a service learning course is

twenty hours per semester working for the sponsor, which could either mean direct service work or preparation of outside research for presentation to the community partner. Twenty hours per student for 1,195 students rounds to nearly 24,000 labor hours freely given to the community over four years, or an average of 6,000 hours per year. Valuing these hours at the minimum wage, an arbitrary but probably conservative step, produces a dollar equivalent total of \$43,500 of implicit labor value per year.

***Categories of Service Learning/CBR Offerings***

The service learning partnerships between Dickinson College and community sponsors tend to fall into one of five classifications based on policy area: educational services, health services, social services and urban policy, non-profit management, and environmental sustainability. Since the fall semester of 2006, fifty-five courses have been listed by the Dickinson College Registrar as meeting the service based learning criteria (see Figure 8-1).

**Figure 8-1: Service Learning Courses by Service Category**



The Department of Education comprises about one-third of that total in two courses: Social Foundations of Education and Educational Psychology, which are each offered at least twice annually. Social Foundations is a service learning class that assigns students as tutors and teachers aides to Lamberton Middle School, the Dickinson College Children’s Center, or Carlisle High School for twenty hours throughout the semester. In Educational Psychology Dickinson students assist a teacher mentor at a local school, but also conduct research on a topic of interest to the mentor and then provide access to their findings in a wiki database.

Various non-profit health organizations in the community utilize the talent and resources of Dickinson College to help citizens receive proper care through student research to improve the efficacy of treatment or student language assistance for Hispanic immigrants. In the fall of 2009, a Health Studies Seminar analyzed the mid-term effectiveness of Carlisle Health and Wellness Foundation's activity nutrition program. The sponsor wanted a detailed understanding of how well participants retained their behavioral changes following the completion of the program. After the professor built a context for the class and taught students how to perform field research, the remaining thirty-five percent of the semester was spent on field work reports that the Health and Wellness Foundation could present to their financial supporters.

As a second model of health services collaborations, about fifteen Spanish majors volunteer three to four hours for eight weeks each fall at the Keystone Clinic in Adam's County or the Hamilton Health Clinic in Harrisburg. Students help Spanish-speaking patients register for health services. Some fluent bilingual speakers may also act as medical interpreters during patient appointments.

Dickinson College has a long standing service commitment in environmental studies. The Luce semester, made possible by a 2004 grant from the Henry Luce Foundation, allows a student to develop a single interdisciplinary course focused on aquatic science and environmental policy that counts as equivalent to a full four credit semester. Each year fifteen to twenty students complete independent research projects in the watershed regions around the Chesapeake Bay and the lower Mississippi River Basin related to needs of those communities. The environmental studies department offers service learning options with a more local impact as well. The Alliance for Aquatic Resource Monitoring (ALLARM), partnered with the borough of Carlisle, for example, evaluates how Central Pennsylvania jurisdictions can better meet federal standards for storm water management.

The Policy Studies, Economics, and International Business and Management departments help non-profit programs resolve policy and business related issues. These community-student collaborations are almost always research projects that can range in purpose from writing policy and procedures, marketing, submitting grant applications, staff support, or analysis of current practices. A past International Business and Management course on non-profit management found three additional funding sources for Carlisle's Employment Skills Center, which educates local residents in the skills necessary to obtain employment. The Law and Public Policy senior

seminar typically partners with a local organization like The Carlisle Regional Performing Arts Center or the West Shore Animal Humane Society to create a promotional DVD that expresses the partner's mission and history. The DVDs are then sent as marketing materials to attract potential financial backers. Economics courses have partnered with organizations such as the Borough of Carlisle to analyze citizen views of city services, the Hope Station Initiative to analyze economic and social conditions in the Hope Station/Memorial Park neighborhood, and arts organizations such as the Whitaker Center and the Carlisle Theatre to analyze audience preferences and economic impacts. Finally, this economic impact report is the product of a community-based research course for which Dickinson College served as the community partner.

Social services is a catch-all category for the remaining outreach undertakings that involve the service of individuals and community organizations in ways unrelated to education, health, or business. In most of these scenarios, it is the Sociology or American Studies departments teaming with faith-affiliated organizations to serve people on the margin of society. Various college departments have also partnered with The United Way of Carlisle and Cumberland County and Carlisle CARES to give students an opportunity to volunteer at local shelters in exchange for access to information needed to analyze homelessness in Carlisle.

Overall, the magnitude of the College's service impact varies more directly with student participation than with the number of course offerings by category. For example, slightly less than a third of Dickinson College service based learning classes have been from the Education Department, but almost forty percent of student service came from that same category (see Figure 8- 2 below)<sup>4</sup>.

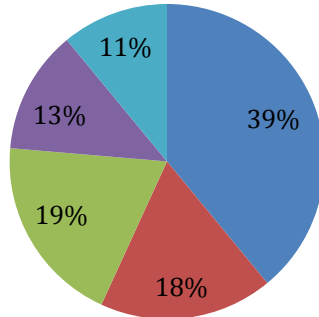
The logic of applying the minimum wage to the total participation data is extended to these categories in Table 2. Dickinson students contribute the most labor in educational services, but beyond that one concentrated area, service learning shows a fairly balanced distribution.

**Table 8-2:  
Participation by SBL Category and Financial Value of Service (Fall 2006-Spring 2010)**

<b>Service Based Learning Category</b>	<b>No. of Students</b>	<b>Service Hours Estimate</b>	<b>Labor Donation at Minimum Wage</b>
Education	462	9,240	\$67,115
Social Services/ Urban Policy	211	4,220	\$30,652
Environmental Sustainability	231	4,620	\$33,557
Health Services	150	3,000	\$21,791
Non-Profit Management	130	2,600	\$18,885
Total for 4 years	1,184	23,680	\$172,000
<b>Annual Averages</b>	<b>296</b>	<b>5,920</b>	<b>\$43,000</b>

**Figure 8-2: Student Service Based Learning Participation by Category  
(Fall 2006-Spring 2010)**

- Education
- Social Services/Urban Policy
- Environmental Sustainability
- Health Services
- Non-Profit Management



**Conclusions**

Dickinson College, through its educational mission, coordinates a program that serves the needs of local community members. At an impressive rate, students immerse themselves in the engagement of real world challenges at no financial cost to those benefitted. To put it into perspective, a minimum of 24,000 hours were devoted to service learning projects over the previous four years. Local area schools, for example, received over 9,000 hours of tutoring assistance from Dickinson students during that time. Even if financial quantification of those

hours is deemed suspect, Dickinson College undoubtedly imparts a significant social impact through these educational programs.

## **Voluntary Community Service**

Hundreds of Dickinsonians perform voluntary service in the community every semester. The largest single source of community service hours comes from programs coordinated by the Office of Religious Life and Community Services (CommServ), but a large number of other groups contribute significant volunteer hours as well. Information on these other groups is difficult to collect because these groups tend to be smaller and focus on goals other than service. This section will try to give a general idea of volunteerism at Dickinson.

### ***Official Estimates***

In the 2008-2009 academic year, Dickinson students logged 30,197 hours of community service, according to the office of Religious Life and Community Service. The 2010 estimate is somewhat lower. Starting in fall 2009, service hours were collected by survey and classified by direct service, such as working at a soup kitchen, or indirect service, which is generally a type of fundraising activity. The 24 responding campus organizations reported 9,719 total hours for the fall semester, of which 8,322 were direct service. Doubling this total produces an estimated annual total of 19,438. This annual total reflects the community service hours that college-sponsored clubs, organizations, Greek life institutions, athletics programs, and CommServ projects reported per year. The office sends out three emails requesting information from students, and response rates are typically low. Thus, this figure should be read as an extremely conservative estimate of community service. When compiling this number, the office does not attempt to extrapolate data from groups that do not respond because of the civic-mindedness effect. Any extrapolation risks over-estimation.

Because the official number is a compilation of a large and diverse body of data, it does not separate different types of service, the beneficiaries of that service, or the location of the service activity. The college has no system in place to collect comprehensive data on community service and categorize the type and location of various projects. However, the College is taking strides to improve its documentation. The Student Senate has also included a report of community service hours performed in its budgeting process. The results include a fairly precise estimate of the CommServ groups' volunteer work.



**Table 8-3: Community Service Hours by Student Senate Funded Organizations\***

<b>Organization</b>	<b>Hours</b>	<b>People</b>	<b>Hours per member</b>
APO	3,180	67	20
Arts Collective	25	5	5
Astronomy	80	8	10
Circle K	648.65	60	
Club Afrique	10		
Commserv	14,026	325	
DCF	141	20	
College Dems	150	15	
College Reps	40	5	8
DTG	150		
EarthNow!	13.5	9	1.5
Equestrian	200	10	20
Hillel	25	5	5
Newman Club	240	10	1
PALS		9	
Physics Soc.	50	5	10
SSA	100	5	20
Swing	40	8	5
Third Degree	20	4	5

*\*Hours are estimates for the full year. Only service hours reported as “hands-on service” are included. For a comprehensive overview, see the Community Service Questionnaire results from Student Senate Finance Committee 2010.*

### ***Student Survey***

The spending survey sent to students as part of this study included a question asking how many hours per week were spent devoted to service projects. Of the 574 respondents, about 16% did not respond to this question. Of all respondents, 46% report volunteering for 1-3 hours a week. Students are much more likely to not volunteer at all than to volunteer more than three hours a week. Because President Durden sent a letter encouraging students to participate in the survey, students may have been reluctant to mark a low amount of community service, perhaps putting a slight upward pressure on the results.<sup>5</sup>

Because of this possible upward pressure, it would make sense to model the 1-3 hour respondents as volunteering only 1 hour and modeling the rest at the category average. The 15+ category will be modeled as 20, because the two respondents in this category reported 20 and 22 hours per week. Assuming that students work 12 weeks out of a semester, we conclude that respondents to the survey will volunteer a total 9,912 hours this semester. This number is extremely close to the Office of Religious Life estimate of 9,719 hours per semester for this past fall. Both of these numbers suggest nearly 20,000 hours of annual community service, and both

assume zero values for all individuals and groups not responding to the survey. If one assumes that the activities of survey respondents are typical of the total Dickinson student body, and recalling that the response rate to the survey was 29.7 percent, the estimated total volunteer hours from the survey results are 33,374 for the semester, or about 17.33 hours per student. The corresponding annual estimate would be 66,748. The 20,000 hour estimate is equivalent to

**Table 8-4: Student Voluntary Service Activity**

<b>Activity Level</b>	<b>Frequency</b>	<b>Percent of all Surveys</b>	<b>Percent of Respondents</b>	<b>Individual Weekly Hours</b>	<b>Total Weekly Hours for Survey Respondents</b>
None	165	28.7	34.4	0	0
1 - 3	221	38.5	46.0	1	221
4 - 6	62	10.8	12.9	5	310
7 - 10	27	4.7	5.6	8	216
11 - 15	3	.5	.6	13	39
Over 15	2	.3	.4	20	40
Total	480	83.6	100.0	-	826
No Response	94	16.4			
Total	574	100.0			

roughly 10 hours of volunteer activity per year for each student, a reasonable though possibly conservative figure. The other clear trend in the data was a gender gap. Women are more likely to report participating in volunteer activities than men. We have no reason to doubt the accuracy of this finding.

One of Dickinson’s premier community service groups is CommServ, managed in part by students and the Office of Religions Life and Community Service and funded by Student Senate. Every study of community service at Dickinson starts with the CommServ office. These groups run a wide array of programs in the community, many for disadvantaged youth, especially in the Hope Station neighborhood. A sample of the CommServ groups are listed in Table 8-6. The specific programs in CommServ are too numerous to list here, but this report has the space to briefly describe those listed above. The group EMPOWER! is an after-school program for children in partnership with the Grace United Methodist Church. DreamCatchers is a one-on-one mentoring program between Dickinson students and ESL middle-school aged students. CARES is an after-school program for underprivileged children from Hamilton Elementary School in Carlisle. Habitat is a non-profit Christian organization that works in

partnership with low-income families to provide decent, affordable housing. Dickinson students organize the Girl Scout troop that meet at Hope Station. CommServ additionally places Dickinson students as tutors with middle school students.

**Table 8-6: Volunteer Hours by CommServ Student Organizations**

<b>Organization</b>	<b>Dickinsonians</b>	<b>Time/Week</b>	<b>Beneficiaries</b>	<b>Time/wk*Students</b>
EMPOWER!	50	2	11	100
DreamCatchers	20	4	20	80
CARES	8	3	5	24
Habitat	12	4		48
Girls Scouts	7	2	8	14
Tutoring	10	1	7	10

*\*Values are best estimates of the student coordinators. These estimates were not collected through the Student Senate budgeting process.*

***Employee Charitable Activity***

This year’s employee survey asked for total hours of charitable work in one’s household, a more complete figure than that for employees alone. Our estimate involves assigning specific hours for each categorical response. As with the student survey, we valued the 1-3 hour category as 1 hour. Other ranges were valued at their mid points, while the open ended higher category was valued at 20 hours, the mean figure for the few responding households. Totals are then found by multiplying by 52 weeks and 865 households.

Employees also contribute financially to local charities, including churches. Compared to other areas of spending, charitable contributions were relatively concentrated in the

**Table 8-5: Employee Voluntary Service Activities**

<b>Question</b>	<b>Response</b>	<b>Hours Assumed</b>	<b>Households</b>	<b>Total Hours per Category</b>
How many hours per week does your family devote to service?	None	0	58	0
	1-3	1	80	80
	4-6	5	18	90
	7 - 10	8.5	9	76.5
	11-15	13	2	26
	Over15	20	1	20
	Total responses	-	168	292.5
Average hours per household per week			1.741	
Total Dickinson households			865	
<b>Estimated hours per year</b>			<b>78,310</b>	

Carlisle area. This produces a positive effect on the local economy and was included in the employee impact calculations in Chapter 3. Before reporting the number of hours of volunteer activity, employees were asked what organizations they participated in. The most common responses included churches, the YMCA or YWCA, and the United Way.

### ***Conclusion***

While there is a wide range of possible volunteer activity estimates levels, our two sources of student volunteer hours both placed the annual total at just under 20,000 per year. These estimates from our survey and from administration sources assume that the average survey respondent contributes about 17 hours per semester, while all non-reporting individuals and groups contribute zero hours. On the other hand, if one assumes that survey respondents are typical of the student population, our estimate rises to nearly 67,000 hours per year of volunteer community service, which is still somewhat below that of employees. We suspect the true figure lies somewhere between these two, but have no further basis for estimating a more reliable figure. For the purposes of this study the lower figure will be used. Better reporting in this area is a clear need, however.

## **Dickinson Cultural Offerings**

Many faculty and staff cited culture as a general contribution to the community in addition to listing specific programs. Below we provide a list of cultural programs that Dickinson College offers on a regular basis. This section does not include programs that the college or its employees sponsor outside of the college, such as events at the Carlisle Theatre or local bookstores.

### ***Music***

There seems to be a strong interest in music in the Carlisle community. The First Lutheran Church sponsors four to six concerts a year, usually featuring local musicians. A local resident funds an annual conference of double-reed instruments, which includes master's classes. Dickinson's strong music program is a good complement to other local music offerings. The Music Department's concert series is always offered free to the public. In a typical year, the department will offer between 30 and 40 events per year. Five ensemble groups, and smaller groups of faculty and students, perform twice a year. Ensembles tend to offer joint performances, so there are about five to eight ensemble events per semester. The department

also invites performers from prestigious institutions around the country. Music students are also required to perform on campus. In summary, a diverse group of faculty, students, and guests contribute to a diverse array of programming in a typical year. The 30 to 40 performances can draw crowds of from 30 to 200 people, with an estimated 115 on average. It would be safe to estimate that half of the audience comes from the non-college community and retired professors. This means that about 50 to 70 members of the community, on average, attend each musical performance event. In addition to these, once or twice a year the Music Department organizes a substantial choral/orchestral concert in a large venue, either the ATS Auditorium, the First Lutheran Church, or the Carlisle Theatre. These events can attract in excess of 600 attendees, the vast majority coming from the non-Dickinson community.

Recently, the department has acquired the means to launch a program to bring musical performances to public schools. The Dickinson College Music Outreach Project (DCMOP), made possible thanks to a generous gift from Ms. Mary Stuart-Smith 69', brings music performances, discussions and presentations to local school children of all ages. In the 2009-2010 academic year, the program put on seven events in Carlisle high, middle, and elementary schools. Next year, the program plans to complete its second year goal of eight events, including two by guest ensembles and soloists and six by Dickinson faculty. The music director at Carlisle seems appreciative of the program. A complementary program, the Dickinson College Music Society organized the first Children's concert at Dickinson at the end of January 2010. The Society plans to repeat this event in the future.

### ***Theatre and Dance***

There are 20 to 25 members of the community contacted regularly when ticket sales open for a theater or dance performance at Dickinson. Because the performances at Mathers Theatre frequently sell out, the department does not make greater efforts to sell tickets to the community. If theatre capacity were larger, the department would, in principle, make more efforts to invite the community to performances at Dickinson. The Theater and Dance department and the business manager of the Carlisle theatre do have regular communication, so in this respect the college is certainly involved with the cultural life of the community.

### ***Athletics***

Dickinson athletics, mainly football games, are also cultural contributions to the community. Especially at autumn night games, community attendance can be significant. While

sporting events may not clearly contribute to the cultural life in Carlisle, Dickinson athletics appear to contribute to the town's social scene.

### ***Lectures and Concerts***

On average, perhaps five community members attend each Clarke Forum event. There tends to be variation depending on the subject. Notable outliers include the Art Speigelman lecture in ATS, where of almost 825 attendees as many as 400 were from outside the college. Vince Patterson, a choreographer, drew a balanced audience, where about half of the roughly 105 attendees came from the community. The Clarke Forum planned an event tentatively titled "Candidates Forum for PA's 199<sup>th</sup> District," which will invited local politicians to discuss issues in the upcoming elections. The Clarke Forum has proven itself as a vehicle to draw members of the community to Dickinson's campus.

Every year, the college holds several large concerts that are open to the community. The Multi-Organizational Board (MOB) organizes at least two major concerts a year that have major appeal in addition to several more, smaller events with a narrower base of interest. MOB staff does not have an accurate way to gauge the composition of its audiences, but a "very very rough" estimate would guess that 30% of a 400 person audience is from the non-Dickinson community. At smaller variety events the smaller crowds bring 15% of a 50-person audience from the non-Dickinson community. MOB usually charges admission to headline concerts, giving a reduced rate to students. Variety events are almost all open to the community and free admission.

In addition to providing a free radio station to the community, the college radio station 88.3 WDCV, The Voice of Dickinson College, has organized a concert series on campus. At a performance by Kid Khalifa more than 300 non-Dickinson community members were admitted, some coming from as far away as Pittsburgh. Dickinson students also organized a one-time benefit event for the earthquake victims in Haiti. While this study cannot count the donations collected as having local economic impact, this type of large variety event is a significant charity event.

### ***The Trout Gallery***

The Trout Gallery serves the community in two distinct ways; providing a free, high-quality museum experience to people who visit the gallery and offering free programs to groups in the community. Each year the Trout Gallery mounts eight full exhibits, all of which are free of charge. In total, about 8,000 guests visit the Trout Gallery annually.<sup>6</sup> About one third of all

visitors are ‘walk-ins,’ people who visit the gallery without a program or organized event. A little more than one sixth of all visitors come for exhibit-opening receptions, essentially wine and cheese events.

More than 3,000 members of the community visit the Trout Gallery with their public school classes, adult or senior groups, youth groups, or English as a second language programs. Groups come most often from the Carlisle area, but up to 20% come from as far away as Harrisburg. Public school classes visit much more frequently than any other type of group. They are strongly represented in visiting groups because the Trout Gallery’s outreach makes a concerted effort to address the public school core curriculum, like math, reading, and social studies, in its programs. As a result, public school teachers find the gallery’s programs “extremely popular.” One faculty member has put on programs for at least 40,000 visiting students in her career. Without Trout Gallery programs, many of the visiting students would not have museum experiences, and fewer would have been brought to the Dickinson campus. Participants of these programs are now graduating and staying in the community, so outreach programs such as these are bound to improve the relations between community and college.

This summer, the Trout Gallery included programming beyond the academic year for the first time. With a specially chosen exhibit on railroad imagery, summer programs achieved a broad appeal from YMCA groups and the wider community. More than 1,000 community members came out to summer events at the Trout Gallery, including three outdoor movie screenings. Summer programming will continue this year with an exhibit on skyscrapers and city images. The Trout Gallery plans to continue to look for ways to engage the community.

## **Conclusions**

This chapter has discussed and estimated the frequency of community service efforts by the Dickinson Community in 3 main areas; service learning courses, student volunteer efforts, and the volunteer contributions of Dickinson employees. The Colleges frequent and wide ranging cultural offerings were also reviewed, though with less quantitative analysis. Our most conservative estimates place total volunteer hours per year at about 6,000 for the students enrolled in service learning courses, at about 20,000 hours per year for student volunteers, and 78,310 for employee households, which produces a figure for total volunteer hours of 104,310. If we value this labor at the minimum wage of \$7.25, the implicit dollar value of this service would equal \$756,436. The large majority of this impressive total directly impacts the Carlisle area.

Since no money actually changes hands, this effort does not result in a multiplier effect and does not represent added income in the literal sense. Its value, however, is very real.

We have relatively little information about the community's attendance at college events, but the variety of these cultural events is impressive, that the information we have suggests a valuable link between the arts at Dickinson and the Carlisle community. More generally, this chapter identifies a gap in the college's efforts to understand its impact on the community. If the college wishes to understand and communicate the importance of its volunteer service and cultural efforts, allocating resources to data collection in these areas would be valuable. Designating a staff member to organize the collection of information on Dickinson volunteer activity, as well as community attendance at cultural and sports events, would provide valuable information regarding the impressive role of these components of Dickinson's community impact.



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## Endnotes

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<sup>2</sup> Based on the four year period from the Fall of 2006 to the Spring of 2010. According to the Dickinson College Registrar Fifty-five course with a SBL label were offered over eight semesters for a 6.875 average.

<sup>3</sup> It should be noted that Dickinson envisions service based learning as a way to “engage the world” starting with the local community. This vision is so fundamental to the college’s mission that opportunities are not limited to solely upperclassmen. Freshmen are required to take a first-year seminar. Several of these courses require community outreach with an attached sponsor.

<sup>4</sup> This inference assumes equal service requirements across categories.

<sup>5</sup> Reluctance to mark a low number for community service could also motivate students to not respond instead of marking ‘none.’ This would suggest that students who do not do community service are underrepresented in these results.

<sup>6</sup> For an exact breakdown of Trout Gallery attendance, see the Trout Gallery’s self-evaluation 2010, numbered page 31.

## **Chapter 9: Impact on Local and County Government**

**William Bellinger, Zachary Frankel, and Alexandra Bybel**

Dickinson College affects the finances of area municipalities and school districts both positively and negatively. Positive factors include added tax revenue from the employment and spending of Dickinson employees, tax payments on non-exempt college property, and the college's financial contributions in lieu of taxes. Negative budget factors include added spending on services for Dickinson employees and their families and lost income from tax exempt property.

This chapter will limit its scope to three jurisdictions, the Borough of Carlisle, the Carlisle Area School District, and the government of Cumberland County. Overall, our study finds that Dickinson College has a mixed effect on local government finances based on current revenue and spending effects, but that if one subtracts foregone tax revenue from the college's non-profit status most net revenue estimates are negative. Estimates of foregone revenue from an institution's tax exempt status are seldom included in educational economic impact studies. In this regard our study is unusually complete and unbiased. However, there are some dimensions of government activity for which the effect of the college cannot be accurately assessed. Any estimate for added spending by county government due to a few thousand added members of the Dickinson community is largely a guess. Added spending by the Borough of Carlisle is also highly conjectural.

Our analysis proceeds in four steps. We first discuss the added tax revenue received by local government from Dickinson College and Dickinson employee tax payments. We then estimate the tax revenue lost by local governments because of Dickinson's tax-exempt property, an unusual step for a college economic impact study. We then estimate the added spending Dickinson imposes on local governments, and then provide a set of figures for the net effect of Dickinson on the borough of Carlisle, the Carlisle Area School District, and Cumberland County. Because Dickinson employees reside in other jurisdictions and school districts within the county, this analysis is necessarily incomplete.

## **Dickinson College Impact on Local Tax Revenue**

Dickinson College and its employees pay taxes to the Carlisle borough, Carlisle Area School District, and Cumberland County, among other jurisdictions. These taxes include property taxes, the earned income tax, and one remaining so-called “nuisance tax”. The college also makes voluntary payments in lieu of taxes to the Carlisle Borough. Net benefits to the Carlisle Borough, the Carlisle Area School District and the County were calculated based on estimated residence in each jurisdiction based on our employee spending survey.

### ***Earned Income Tax Revenue***

The earned income tax is a flat rate tax on earnings that may be charged under limited circumstances to non-resident as well as resident employees. Area residents pay a flat 0.5 percent of earned income to their local jurisdictions, and a higher rate of 1.1 to 1.15 percent to their school district. The Carlisle Area School District’s rate is 1.1 percent of earned income.<sup>1</sup> Dickinson employees reported an average household income of \$86,553. Because this income is likely to include unearned income from investments or other sources which are not subject to the earned income tax, we adjusted this figure by the ratio of earnings to personal income for Cumberland County reported by the Bureau of Economic Analysis (<http://www.bea.gov/regional/reis/action.cfm>). This ratio was .8247, which when multiplied by the household income figure produces an estimate for household earnings of \$71,380. We also checked for differences in the distribution of employee income across jurisdictions. A separate calculation of average household income for reporting Borough residents produced a figure of \$86,994, which is very similar to the overall household income average listed above. We also found that 29 percent of Carlisle residents reported household income less than 60 thousand dollars, while a fairly similar 25 percent of non-borough residents reported incomes below 60 thousand dollars. We did not consider these differences significant, so we utilize our mean average earnings estimate for all jurisdictions.

Dickinson College has 900 employees, which we estimate to live in a total of 865 households. On one hand this is an over estimate because 747 of these are full time employees. Counting the part time employees at ½ full-time produces an estimated 829 full-time equivalent workers at the College. On the other hand, the 900 employees does not include other employees in Dickinson households, which equals a minimum of 300 additional workers. On balance we

take the figures of 900 employees and 865 households to be conservative. As in previous chapters we rely on survey results that found 47.1 percent of Dickinson employees residing in the Borough, 62.8 percent residing within the Carlisle Area School District, and 91.2 percent residing in Cumberland County. Based on these percentages there are an estimated 419 Dickinson households residing within the Borough, 543 residing in the Carlisle School District, and 791 residing in Cumberland County. Earned income from all employees in these households is subject to local earned income taxes. The estimated earned income tax revenue totals for the Carlisle Borough and Carlisle Area School District are calculated by multiplying the earned income tax rate by the estimated earned income per household for resident employees times the total number of households in that jurisdiction.

Like total income, earnings can also be analyzed in terms of a multiplier effect, based on the same logic discussed in Chapter 2. When a portion of one’s earned income is spent at a retail establishment, part of the resulting retail income is converted to the earnings of retail workers. In turn, some of that increase in earnings is spent and becomes earnings. In order to include the impact of other employees in Dickinson households, the earnings figures above can be used. According to the RIMS-II model, the initial earnings to total earnings multiplier for colleges and universities is 1.3907. Applying the local to county spending ratio for Dickinson employees (.6126) allows the calculation of a Carlisle area multiplier of 1.2079 for the local impact of Dickinson earnings. Only the local multiplier applies to this tax because the county does not impose an earned income tax. Results are reported in Table 9-1 below. The higher estimate for the school district reflects both the higher tax rate and larger number of residents in the school district, which includes Mount Holly Springs North Middleton Township, and Dickinson Township as well as Carlisle.

**Table 9-1: Earned Income Tax Revenue**

<b>Jurisdiction (tax rate)</b>	<b>Dickinson Earned Income</b>	<b>Added Carlisle Area Earned Income</b>	<b>Estimated Earned Income Tax Revenue</b>
Carlisle School District (1.10%)	\$38,759,340	\$46,817,407	\$514,991
Carlisle Borough (0.5%)	\$29,908,220	\$36,126,139	\$180,731

It is also noteworthy that these figures are quite a bit lower than the 2002 estimate, which may have been overstated due to the combined effects of occupation and earned income taxes,

which were in the midst of a tax reform process at that time. The smaller percentage of employees residing in the Borough and District also contributes to this change.

### ***Property Tax Revenue from the College***

Property taxes are annual payments based on the assessed value of one's taxable property, which includes land and structures. Property taxes are calculated in mills per thousand dollars of assessed value, with one mill being equal to one one-thousandth of a dollar, or 1/10 of a cent. The assessed values of all properties in the county can be found online via the tax assessment database on the Cumberland County Pennsylvania website. The assessed value of a property is then multiplied by the county property tax rate, the school district property tax rate, and the municipality property tax rate to find the property tax owed to each entity.

Dickinson College pays property taxes to Carlisle School District, Cumberland County, and Carlisle Borough. After the 2004 reassessment, Dickinson owned taxable properties with an assessed value of \$13,539,270 within the borough and school district. After accounting for adjustments to the taxable property total since 2004, Dickinson's taxable properties currently have a total assessed value of \$15,202,860,<sup>2</sup> and add an estimated \$217,856.98 in tax revenue to the Carlisle Area Schools. This income represents approximately 1% of the Carlisle Area School Districts local income of \$42,143,517.<sup>3</sup> The Carlisle School District levies a property tax at the rate of 0.01433 or 14.3 mills.<sup>4</sup> After the 2004 reassessment, the College owned tax exempt properties with an assessed value of \$71,705,810. The recent completion of the Rector Hall science building added a \$30 million assessment to this total, and additional 2006 adjustments produce a current value of \$118,106,030 for tax exempt property. The college pays taxes on 40% of its properties, but relatively few of its larger campus facilities.<sup>5</sup>

With the exception of recently acquired farm land, most of Dickinson's properties also lie within the Carlisle Borough. According to the College's records, Dickinson owns 148 acres within the borough, about 90 acres of which are tax exempt. The tax rate of the Carlisle Borough is 3.57 mills, or .00357, according to the Cumberland County Tax Assessment website.<sup>6</sup> From their assessed value, the College's 58 acres of taxable property contribute \$54,274.21 in property taxes to the borough. Cumberland County levies a property tax of 0.002579 or 2.579 mills.<sup>7</sup> Because the college owns about 240 acres of taxable property outside of the Borough and school district, the total value of its taxable property in the county totals \$14,466,200. Multiplying the

total taxable property value by the county tax rate produces \$39,208 in revenue for the County Government. Table 9-2 displays the College’s property tax payments for the 2010 fiscal year. These figures are indirect estimates based on assessments and rates, and may be subject to minor errors due to rounding or minor omissions. The actual 2009 tax payments data provided by the Financial Affairs staff totaled a slightly higher \$314,581.

**Table 9-2: Dickinson College Property Tax Payments**

<b>Jurisdiction</b>	<b>Added Tax Revenue</b>
Carlisle School District	\$217,857
Borough of Carlisle	\$54,274
Cumberland County	\$39,208
<b>Total</b>	<b>\$311,339</b>

***Property Tax Revenue from Dickinson’s Employees***

According to our survey results 69.5 percent of Dickinson households residing in the borough are homeowners, while 74.7 of households in the Carlisle Area School District and 80.7 of all Cumberland County residents reported owning their own homes. In order to be conservative, and because of the complex relationship between property tax and rental property, only the estimated property taxes of homeowners will be included in these estimates.

An important step in this process is to divide the reported property tax payments among the three main recipients. The real estate tax rates for Cumberland County, Carlisle Borough, and Carlisle Area School District are 0.002579, 0.00357, and 0.01433, respectively.<sup>8</sup> To find the amount that each is paid one adds the tax rates, and then divides each rate by the total of the rates to find the percentage of property tax income paid to each entity. The percentage for each jurisdiction equals the jurisdiction’s tax rate divided by (.002579+.00357+.01433, or .020479). Based on this calculation the Carlisle Area School District receives 69.97% of total property tax payments, the Carlisle Borough receives 17.43%, and Cumberland County receives 12.59%.

The average reported property tax payments for a college employee household residing in the school district is \$2,349, the average for CASD residents is a slightly higher \$2,381, and average for county residents is \$2,345. Based on these figures and the percentages above, the average property tax payment per household going to the school district is \$1,665.86, which when multiplied by the estimated number of home-owning households in the school district (543 x .747) yields an estimated \$675,708 in revenue. Similarly the average property tax paid to the borough is \$409.44 per household. Multiplying this average tax payment by the estimated

borough homeowners (.695 x 407) produces \$115,816 in employee property tax revenue for the borough. The additional property tax revenue to the Cumberland County government by the employees owning homes in the county is .807 x 791 households x \$2,345 tax times .1259 of total tax revenue, or \$188,460 in revenue. These estimates depend on employee survey responses. There is no independent source of information to verify their accuracy.

### ***Other Taxes and Fees***

So-called nuisance taxes are small fees levied on a per capita basis. Most of these taxes have been eliminated as part of tax reform since the 2002 study. Neither the Carlisle Borough nor the Carlisle Area School District levy any of these taxes. However, Cumberland County still levels a flat \$5.00 per capita tax on all residents over the age of 18.<sup>9</sup> Of the respondents to the survey, 221 lived within Cumberland County, which represents 91.7% of the respondent employee population. When our estimate of 92 percent is applied to the 900 employees of Dickinson College we estimate 824 county resident employees. This figure excludes other household members over 18. The estimated revenue from the per-capita tax is \$5 times the number of employees, producing an additional \$4,121 of revenue to Cumberland County.

The Borough's budget includes two revenue items to which the Dickinson community is likely to contribute. The first is parking violation revenue, and the second is recreation fees. Our estimate of added parking fine revenue is indirect. As with other parts of the analysis, we first have to estimate Dickinson's proportion of the borough's affected population, then assume that parking fines are assessed proportionally. We assume that students with automobiles as well as resident employee households contribute to the Borough's parking fine revenue. The appropriate Borough total in this case seems to be the total number of vehicles. According to the 2000 U.S. Census, a total of 10,365 total vehicles were owned by Carlisle households in 2000. Given the Borough's total of 7,426 households, this produces 1.396 cars per household. Applying this ratio to the 419 employee households in the Borough produces an estimated 587 resident employee-owned cars. Adding the approximately 1,200 student autos produces a total of 1,787 college related vehicles, which equals 17.24% of the Borough total. Total parking fine revenue in the Borough's 2010 budget was an estimated \$152,000, making the Dickinson community's proportional share \$26,206.

The other revenue source is fees paid for recreation activities. These are assumed to apply proportionally to resident employee households but not to students. Dickinson's estimated



contribution to these fees equals 5.38 % of the \$83,000 total, or \$4,465. These two revenue estimates total \$30,671.

***Payments in Lieu of Taxes***

Finally, Dickinson paid \$50,000 in lieu of taxes to the Carlisle Borough in 2010. While no such payments are offered to the school district or the county government, the school district does receive free use of the some college facilities, as well as receiving a large number of free classroom volunteers and other educational services.

***Total Added Revenue***

Table 9-3 below summarizes the added tax revenue to selected local jurisdictions from Dickinson College’s employees and taxable property. This is the first of three estimated effects of the College on local governments. The others are added government expenditures and foregone tax revenue, which will follow.

**Table 9-3: Added Tax Revenue**

<b>Tax Source</b>	<b>Carlisle Borough</b>	<b>Carlisle Area School District</b>	<b>Cumberland County Govt.</b>	<b>Total</b>
Property tax paid: College	\$54,274	\$217,857	\$39,208	\$311,339
Property tax paid: Employees	\$115,816	\$675,708	\$188,460	\$979,984
Earned Income Tax	\$180,731	\$514,991	0	\$695,722
Other Taxes and Fees	\$30,671	0	\$4,121	\$4,121
Payment in Lieu of Taxes	\$50,000	0	0	\$50,000
<b>Total Added Tax Revenue</b>	<b>\$431,492</b>	<b>\$1,408,556</b>	<b>\$231,789</b>	<b>\$2,041,166</b>

**Added Government Expenditures**

In addition to its effects on local government revenue, Dickinson College also affects government spending in a few important ways. However, any estimates in this section are more conjectural than other parts of this chapter. If, in the absence of the college, the campus was typical of other parts of the Borough, one can as easily imagine higher spending through a few additional blocks of street surface, no campus security force, and more public street lighting. The same is true of the Cumberland County government. On the other hand the higher population associated with the college community is likely to raise some of the costs of government. Only in the case of the school district is there a clearly estimable pattern of

increased spending due to the children of Dickinson College employees. However, we will also assume that Dickinson College also adds to local government spending for some categories of maintenance and administration for the other jurisdictions studied. However, these spending estimates are quite conjectural and should be judged as such.

### ***Added Spending by the Carlisle Area School District***

The primary source of added local spending caused by Dickinson College is public education. The school aged children of Dickinson employees generally attend local public schools. Of these, the Carlisle area school district educates the largest percentage. As noted previously, we estimate that 62.8% of Dickinson College households, a total of 545, live within the Carlisle Area School District. Respondents to the employee spending survey reported a total of 128 school-aged children. Multiplying this number by the ratio of total employee households to survey respondents, 3.39, we estimate a total of 434 school-aged children of Dickinson employees, or 0.5 students per household. Multiplying this total of 434 by 62.8% produces an estimate of 273 children from Dickinson households in the Carlisle Area School District.

Estimating the effect of these added children on CASD spending is not straightforward. One has to account only for local costs that vary with the number of students while excluding fixed costs and non-local funding. There are currently 4,894<sup>10</sup> students enrolled in the Carlisle Area School District. The school district reports total expenses for the 2009-2010 school year of \$63,008,968<sup>11</sup>, therefore the total cost per student equals  $\$63,008,968/4,894$ , or \$12,874.38. However a modest percentage of this cost is covered by state and federal subsidies. Subtracting the \$18,929,462 from state sources and \$1,276,928 from federal sources produces local funding of \$42,802,578<sup>12</sup>. A second estimate for local spending can be calculated from expected local tax revenue. Based on the 2010 budget, expected revenue from the property and earned income taxes totaled \$40,133,587, a similar figure to that above. The slightly higher estimate will be used. Therefore, the local payment per pupil equals  $\$42,802,578/4,894$ , or \$8,745.92 per pupil.

Moreover, some of these expenditures represent fixed costs that would not be affected by a modest variation in the number of students, and thus should be disregarded when estimating the added expenditure arising from Dickinson College households. These fixed costs include debt payments, administrative costs, and maintenance. These costs total \$7,014,739 for 2009-2010.

Subtracting these expenses from total local revenue produces a variable cost total of \$55,994,229 or 89% of total cost. Assuming that these variable costs are proportionately covered by local spending, local expenditure for variable costs amounts to  $.89 \times \$42,802,578$ , or \$38,094,294.42. This amounts to \$38,094,294.42 divided by 4,894 students, or \$7,783.88 per pupil. This is the per-pupil added spending figure used in this estimate. Assuming all of Dickinson employees' children attend public school, the total added cost equals  $(38,094,294.42/4,894) \times 273$ , or \$2,124,998. Without considering the hypothetical effects of Dickinson's tax exempt property, the Carlisle Area School District suffers a net loss due to the College of -\$716,442. This is by far the largest effect in either direction for the jurisdictions considered in this study, and also the most reliable.

### ***Added Spending by the Carlisle Borough***

Possible added spending by the Carlisle Borough due to Dickinson College includes fire and rescue subsidies, street maintenance, law enforcement, park maintenance, and recreation programs. In some cases it is likely that the full Dickinson community contributes to this added spending, and in others the services are likely to be provided primarily to employee households residing in the Borough. Estimates will be provided for each of these local government services.

The Carlisle Borough subsidizes Carlisle's two volunteer fire and rescue companies, Carlisle Fire and Rescue Services and Union Fire Company, which rely on fundraising efforts for the much of their budgets. The Borough's 2010 subsidy to these companies totaled \$839,713<sup>13</sup>. In order to calculate the added cost of fire and emergency protection, we calculate the ratio of the local Dickinson College community residents to the total population of the borough, then multiply borough's total fire protection budget by the resultant fraction. The local Dickinson College student body includes 1,926<sup>14</sup> students. As noted previously an estimated 545 employee households reside within the Borough. These households have an average of 2.36 individuals, for a total of 1,286 people. Adding the college students produces a total of 3,212 additional borough residents associated with the college. The total Carlisle population is 18,379<sup>15</sup>. The 3,212 Dickinson-based Carlisle residents total about 17.5% of the borough population. Dickinson therefore adds an estimated  $.175 \times \$839,713$ , or \$146,950 to the Carlisle Borough's fire budget. Since the Carlisle Borough's budget is only half covered by local tax revenue (49.5%), we can then assume that \$72,740 represents added the added local tax burden for fire and rescue.

The added police protection and street maintenance expenses created by the College are somewhat more problematic. Street lighting and maintenance would probably be equal to or greater than current levels in the absence of the College due to the interruption of the street grid by the western portion of the campus. Students assure me that revenue from student parking fines is probably sufficient to cover any added street lighting and maintenance. Therefore no additional street maintenance expense is assumed.

While Dickinson College students do engage in common youth related crimes such as underage drinking and other misdemeanors, Dickinson College mitigates most added Borough law enforcement spending related to the campus by employing its own police force to control campus crime and provide other law enforcement services. One area of difficulty in estimating the relative contribution of the Dickinson Department of Public Safety (DPS) is the challenge in choosing a basis for comparison. Land area, population, and total police calls present very different ratios of college to total borough police service.

The first comparative measure is based on coverage areas and dollars spent per square mile. Dickinson's DPS regularly patrols an area slightly larger than the .26 square mile area of campus, thus we will assume that they are responsible for .35 square miles, which is about 6.4 percent of the total land area of the borough. In 2009 the DPS employed 14 officers and had a total budget of \$895,497.<sup>16</sup> Dickinson spends \$2,558,563.05 per square mile, or \$255,856.3 per tenth of a square mile, on law enforcement. In comparison, the Carlisle Police Department had a budget of \$3,560,318<sup>17</sup> in 2009, 4 times that of the College, and is responsible for policing the entire 5.5 square mile borough of Carlisle. This government spending results in \$647,331 spent on policing each square mile, or \$64,733.05 per every tenth of a square mile. Thus, Dickinson College spends about four times more than the Carlisle Police Department to police each square mile.

Another comparison can be made based on population. The total population of Carlisle is 18,379 people, and Dickinson students total 1,926 or about 10.5% of the population. Finally, a comparison of total calls for service is possible. In 2008 Dickinson Public Safety received 8,013 calls for service, and officers completed 625 incident reports during that period<sup>18</sup>. Of these reports, the vast majority were for services to students such as access to locked rooms. During that

same time the Carlisle Police Department received 20,248 calls<sup>19</sup> for service, which is 2.5 times the Campus total.

As is common on college campuses, Dickinson College has a high level of substance abuse reports, most of which are handled by campus security. For example, in 2008 there were 260 reported liquor and drug violations on campus<sup>20</sup>, or .135 per resident student. Index crimes were more modest in number, however. For instance, in 2008 there were 4 on-campus burglaries<sup>21</sup> and 1 aggravated assault<sup>22</sup>, or 1.1 and .3 per tenth of a square mile, respectively. When compared to the 81 total burglaries<sup>23</sup> and 19 aggravated assaults in the borough that year<sup>24</sup>, with rates of 1.5 and .35 per tenth of a square mile respectively, the figures for on-campus crimes are slightly lower. If Dickinson was replaced by a typical Carlisle neighborhood, there is no clear reason to expect that either reported crimes or Borough law enforcement spending would be significantly affected.

Based on interviews with DPS officials, the DPS and Carlisle Police Departments have a cooperative relationship, and the Carlisle police department does adjust its patrols to some degree because of the patrol coverage by the DPS in the area of campus. The two forces also cooperate on crime investigations in the areas near campus. As noted earlier, the ratio of Borough to DPS calls for service is far lower than the ratios of total department spending, population, or land area, indicating that the Dickinson DPS probably provides a net reduction in law enforcement expenditures for the Borough. However, with no firm basis for calculating this effect, for the purposes of this study the Dickinson campus's effect on the local law enforcement budget is assumed to be zero.

However, members of employee households residing in the borough are protected by the Carlisle Police Department. Based on survey results we estimate that 47.1 % of 865 employee households reside in the Borough, with an average of 2.62 persons per household. This total of 1,067 Borough residents represents 5.7 percent of the total population (18,572 as of 2009). As with the school district, operating expenses funded by local tax revenue will be assumed to be proportionally assigned to Dickinson households. Total police operating expenses for patrols and investigation for 2010 are budgeted at \$2,835,022. Of this total, 5.7 % or \$161,596 is attributable to Dickinson households. This translates into an added local tax burden of \$79,990.

Two other Borough services are also important in this set of estimates. The first is the maintenance of Borough parks. Given the frequent use of Mooreland and other west side parks by students, we assume that the entire resident college community is the proper basis for the estimate. The 989 members of Borough resident employee households and the 2,032 students represent 16.4% of the Borough population. Its share of the \$366,006 park maintenance operating expenditures is therefore \$58,385. The proportionate share of the local tax burden is therefore \$28,901. Adding the main components of our added spending estimates produces an estimated added local tax burden of **\$261,621** for the Carlisle Borough.

### *Added County Government Expenditures*

The Dickinson College community takes advantage of the range of services offered by Cumberland County including roads and some aspects of public safety. We assume that Dickinson students and employees are typical of the county population in terms of added cost to the county. The total Cumberland County government expenses for fiscal year 2010 of Cumberland County were \$224,632,036<sup>25</sup>. However, many of the county's services, including agricultural support, most social services, and fixed costs related to general administration and debt service are probably not affected significantly by the existence of the College. The main county services used by a typical member of the Dickinson community are likely to be county roads and the county library system, although in order to be conservative the county's expenditures for public safety will also be included. These services cost the County government a total of \$33,940,283 in 2010<sup>26</sup>. The U.S. Census Bureau estimates the 2009 population of the county to be 232,483 people; therefore average spending per person on these budget items equals \$145.99.

Due to the fact that some students do not take advantage of the services provided by the county an adjustment will be made to the total number of students. Students who have cars are more likely to use county services such as roads and other facilities outside of campus. As there are approximately 1,200 students with cars on campus and about 822 employees living in the County, there are approximately 2,022 added residents who utilize basic county services. At \$145.99 per person, the added variable cost to the government of Cumberland County from the Dickinson community would be  $\$145.99 \times 2,022$ , or \$295,193. The portion of County government spending attributable to local taxes is 70 percent from local property tax, library tax,

and per capita tax revenues. Applying this percentage to our estimated spending total produces an estimated added tax burden of **\$206,635**. This is our estimated added variable cost to county residents due to Dickinson households.

**Table 9-4: Added Government Expenditures**

<b>Jurisdiction</b>	<b>Added Expenditures</b>
Carlisle Area School District	\$2,124,998
Carlisle Borough	\$261,621
Cumberland County Government	\$206,635
<b>Total</b>	<b>\$2,484,363</b>

Comparing Tables 9-3 and 9-4 allows a preliminary estimate of Dickinson’s effects on these three jurisdictions excluding the hypothetical effects of Dickinson’s partially tax-exempt status. Including the College’s \$50,000 payment in lieu of taxes, the Carlisle Borough experiences a net fiscal gain of \$169,871. Cumberland County experiences a very small gain of \$25,154. Only the school district experiences a substantial net loss due to the presence of Dickinson College of -\$716,442, as noted previously. Overall, the net loss for these three entities is -\$521,417, less than our estimate for the School District alone. These figures represent about +1.31 percent of the Borough’s budget, -1.14 percent of the Carlisle Area School District Budget, and an extremely small 0.015 percent of the Cumberland County Budget.

### **Foregone Tax Revenue**

Dickinson College, as an institution of higher education, receives tax exemptions on property used directly for educational purposes. All else equal this partial tax exemption leads to a loss of income for the county, municipality, and school district in which not-for-profits reside. It is the issue of foregone taxes that produces much of the controversy concerning the college’s role in the community. Moreover, it is in this area that economic impact studies related to higher education produce their most various and, in some cases, most dubious results. Previous studies have utilized at least three different approaches to estimating foregone tax revenue for college property: (1) ignoring the issue, (2) estimates based on current assessed value of college property, and (3) estimates based on average local property values.

Surprisingly, ignoring foregone taxes is by far the most common approach. Of the dozen educational economic impact studies we reviewed in preparing for this project, none explicitly

discussed estimates of lost property tax revenue as part of their analysis.<sup>27</sup> Some studies mention that no property tax was paid on these properties, but do not estimate the tax revenue that would be paid in the absence of the college.<sup>28</sup> Others did not discuss the impact of the school on the public sector.<sup>29</sup> Both methods guarantee that no negative net effects of colleges and universities on the local public sector would be reported, contrary to some evidence and most public opinion.

As in the 2002 study, we estimate foregone property tax revenue associated with Dickinson College in two ways, based on two very different questions. One question that could be asked is how much revenue would be gained if Dickinson property was not tax exempt. A very different question, and one more directly related to the broader goal of the study, is how much tax revenue would be raised on College property if Dickinson had never existed and the campus property developed in a way typical of Carlisle as a whole. These very different questions lead to substantially different estimated effects.

#### ***Foregone Tax Revenue based on Assessed Value***

As noted above, calculating the foregone tax revenue based on the current assessed value of Dickinson's tax exempt property answers the question of how much more income local government would receive if Dickinson property was fully taxable. This estimate involves multiplying the assessed value of the College's tax exempt properties by the millage rates for the borough, the county, and the school district. According to county tax records the total assessed value of the college's tax-exempt properties as of 2005 was \$71,705,810. Adding the 2006 and 2010 adjustments brings the total assessed value of tax exempt property to \$118,106,030. This figure includes the assessment for the Rector Science complex, currently assessed at \$30 million, which is over 4 times the value of the similarly large library and Kline Center properties. This increase equals \$46.4 million in value, a nearly 65% increase in the past half decade. Using this figure and the county property tax rate of 0.002579, the estimated total amount of lost property revenue for Cumberland County equals \$304,595. The Borough of Carlisle and the Carlisle Area School District also suffer a loss of property tax revenue using this method. The Borough loses an estimated \$421,639, and the school district losing approximately \$1,692,459.<sup>30</sup> This total loss of about \$2.4 million is a full million higher than we would have estimated given the 2005 figure, an indication of the apparent value of recent improvements to the College's physical plant.



These numbers are relatively high, and may strike some as an important source of future revenue. However, these estimates also represent a picture of Carlisle that would not exist in the absence of the college. Much of this assessed value comes in the form of a small number of large properties with high assessments but no actual record of market value. It is on this basis that the alternative method to follow strikes us as more appropriate.

### ***Foregone Revenue Based on Average Property Value***

The second approach way to calculate the foregone tax revenue from Dickinson College involves a very different issue, how much tax revenue would be generated from Dickinson's tax exempt property if Dickinson did not exist. This question can be answered by assuming that in the College's absence west-central Carlisle would have developed in a way typical of the Borough as a whole. An estimate of this effect involves calculating the percentage of tax exempt land owned by Dickinson within the Carlisle Borough and then multiplying that percentage by the jurisdiction's total property tax revenue to estimate the added revenue that would accrue of the campus had the same tax revenue per acre as the jurisdiction as a whole. For the School District and for Cumberland County, which contain significant amounts of rural property, this method is not appropriate. Therefore we will take the Borough estimate and adjust for differences in tax rates in order to estimate the foregone revenue for the Carlisle schools and Cumberland County.

The Borough of Carlisle reports \$3,979,541 in current property tax revenue for fiscal year 2010. Dickinson's tax exempt property equals 2.56% of the area within the borough limits. This 2.56% comes from the ratio of 90 acres of tax exempt property divided by the total borough acreage of 3,515.625. Multiplying total property tax revenue by .0256 produces a foregone revenue estimate of \$101,876. The estimates for the Carlisle Area School District and Cumberland County will take the Borough estimate above and adjust for differences in the property tax rates for these jurisdictions. Table 9-4 below shows the estimated revenue losses from the college based on both the assessed value and average value methods.<sup>31</sup> As noted above the It is particularly noteworthy that the 2006 and 2010 additions to the assessed value of the Colleges exempt property raised their total by roughly \$46.5 million dollars, a 65% increase from the 2005 figure. Based on the earlier figure all of these jurisdictions experienced a net increase in tax revenue. Such is the cost of progress in this hypothetical situation.

**Table 9-5: Foregone and Net Property Tax Revenue**

<b>Jurisdiction (tax rate)</b>	<b>Foregone Revenue: Assessed Value Method</b>	<b>Net Revenue Gain: Assessed Value Method</b>
Carlisle Area School District (.01433%)	\$1,692,459	-\$372,541
Carlisle Borough (.00357%)	\$421,639	-\$20,818
Cumberland County (.002579%)	\$304,595	-\$72,806
Total Taxes Foregone (0.020479)	\$2,418,693	-\$466,165
<b>Jurisdiction</b>	<b>Foregone Revenue: Average Value Method</b>	<b>Net Revenue Gain: Average Value Method</b>
Carlisle Area School District	\$408,930	\$910,988
Carlisle Borough	\$101,876	\$263,472
Cumberland County	\$73,595	\$158,194
Total Taxes Foregone	\$584,401	\$1,332,654

As in the 2002 study, the choice of method for estimating foregone tax revenue has a substantial effect on the estimated net revenue. The average value method produces significant net gains in tax revenue while the assessed value method produces net losses due to recent and substantial increases in the assessed value of tax exempt property. Neither of these sets of figures includes added spending. When one compares both estimates to the common practice of ignoring foregone revenue, however, both represent conservative estimates of the College’s effect on local government revenue.

The foregone tax revenue and net tax revenue effects are estimated using two very different methods in response to two very different questions. The assessed value method can be used to analyze the effect of eliminating Dickinson’s tax exempt status, while the average value method estimates the property tax revenue that would be gained if Dickinson did not exist, and Dickinson’s tax exempt property produced revenue at the average rate for the Borough as a whole. The latter figure is more consistent with the concept of opportunity cost, and with Dickinson’s effect on the Carlisle area.

### **Summary of Dickinson’s Net Fiscal Impact and Concluding Remarks**

Dickinson College’s positive impacts on local incomes, employment, and the general quality of life are substantial. In light of these effects, the college’s mixed but relatively minor effects on

local government finance should not be overemphasized. Table 9-6 summarizes Dickinson's net effect on local government fiscal status. It is noteworthy that based on current policy only

**Table 9-6: Dickinson's Net Impact on Government Finances**

<b>ADDED TAX REVENUE</b>	<b>CARLISLE BOROUGH</b>	<b>CARLISLE AREA SCHOOL DISTRICT</b>	<b>CUMBERLAND COUNTY</b>
Property tax paid: College	\$54,274	\$217,857	\$39,208
Property tax paid: Employees	\$115,816	\$675,708	\$188,460
Earned Income Tax	\$180,731	\$514,991	0
Other Taxes and Fees	\$30,671	0	\$4,121
Payment in Lieu of Taxes	\$50,000	0	0
<b>Total Added Tax Revenue</b>	<b>\$431,492</b>	<b>\$1,408,556</b>	<b>\$231,789</b>
<b>ADDED LOCAL TAX BURDEN (Spending Financed Locally)</b>	<b>\$261,621</b>	<b>\$2,124,998</b>	<b>\$206,635</b>
<b>NET REVENUE UNDER CURRENT POLICY (\$)</b>	<b>\$169,871</b>	<b>-\$716,442</b>	<b>\$25,154</b>
<b>NET IMPACT UNDER CURRENT POLICY (budget %)</b>	<b>+1.31%</b>	<b>-1.14%</b>	<b>0.015%</b>
<b>TAX REVENUE FOREGONE:</b>			
Average Value Method	\$101,876	\$408,930	\$73,595
Assessed Value Method	\$255,990	\$1,025,744	\$184,929
<b>NET TAXES PAID:</b>			
Average Value Method	\$298,945	\$999,626	\$158,194
Assessed Value Method	\$109,358	\$294,174	\$46,860
<b>NET FISCAL EFFECT WITH FOREGONE TAXES (\$):</b>			
Average Value Method	\$37,324	-\$1,125,372	-\$48,441
Assessed Value Method	-\$152,263	-\$1,742,186	-\$159,775
<b>*NET EFFECT INCLUDING FOREGONE TAXES (budget %)</b>			
Average Value Method	+0.29%	-1.79%	-0.029%
Assessed Value Method	-1.17%	-2.76%	-0.096%

*\*Total Budget Figures used are \$63,008,968 for the CASD, \$167,250,925 for Cumberland County, and \$13,003,556 for the Carlisle Borough*

the Carlisle Area School District experiences a negative fiscal effect from Dickinson College. After subtracting foregone tax revenue using two different methods, the net effects turn more negative. However, these fiscal effects are still mixed and relatively minor, and are based on a set of hypothetical questions rather than current policy. The final rows presenting net effects as a percentage of total government budgets might provide the best context for interpreting these results.

The economic impact of these budgetary effects is generally considered to be similar to other parts of the analysis. Government employees also spend money in the community, and

some other expenses are also likely to be local. All categories of net revenue are applied to the local and county multipliers for state and local government, which are 1.5116 and 1.2616 respectively.

**Table 9-7: Dickinson’s Public Sector Impact under Alternative Assumptions\***

<b>Jurisdiction</b>	<b>Net Revenue</b>	<b>Local Impact</b>	<b>County Impact</b>
Carlisle Area School District: Current Net Revenue	-\$716,442	-\$937,608	-\$1,165,078
Carlisle Borough: Current Net Revenue	\$169,871	\$214,309	\$256,777
<b>Total: Carlisle Current Net Revenue</b>	<b>-\$546,571</b>	<b>-\$723,299</b>	<b>--</b>
Cumberland County Government: Current Net Revenue	\$25,154	--	\$38,023
<b>Total: County Current Net Revenue</b>	<b>-\$521,417</b>	<b>--</b>	<b>-\$870,278</b>
Carlisle Area School District Average Value Foregone Revenue	-\$1,125,372	-\$1,472,774	-\$1,830,080
Carlisle Borough: Average Value Foregone Revenue	\$37,324	\$47,088	\$55,419
<b>Carlisle Area Total: Avg. Value Method</b>	<b>-\$1,088,048</b>	<b>-\$1,425,686</b>	<b>--</b>
Cumberland County Government: Average Value Foregone Revenue	-\$48,441	--	-\$73,223
<b>County Total: Avg. Value Method</b>	<b>-\$1,136,489</b>	<b>--</b>	<b>-\$1,847,884</b>

*\*In this table Cumberland County government is not included in Carlisle area net effects.*

As noted previously, these public sector results are considerably more negative than in 2002. The main difference between this study and the 2002 study are in the area of added expenditures for the school district. In 2002 we estimated 202 added students and \$3,801 in variable spending per student. In 2010 the estimated number of added students is modestly and expectedly higher with 273, but the added variable cost estimate is over twice as high at \$7,738. Part of this effect is due to the lower level of state aid to local districts and part is the higher total per-pupil cost for the district. In addition to the higher estimated added cost to the school district from the children of Dickinson households, the foregone revenue estimates are quite a bit higher than in 2002 due to a combination of reassessment, affecting only the assessed value calculations, and campus expansion. On balance however, these estimates detract little from Dickinson’s economic impact to the community. On balance the effects under current policy are

less than the implicit value of volunteer labor by Dickinson students and employees, and represent small percentages of the total budgets of all jurisdictions.

## End Notes

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<sup>1</sup> Carlisle Area School District. “PDE-2028 Final General Fund Budget: Fiscal Year 07/01/09-06/30/10.” Pennsylvania Department of Education Bureau of Budget and Fiscal Management Division of Subsidy Data and Administration.

<sup>2</sup> Dickinson College Office of the Treasurer. “Taxable Property Reassessment 2004 (Compared to 2000).”

<sup>3</sup> Carlisle Area School District. “PDE-2028 Final General Fund Budget: Fiscal Year 07/01/09-06/30/10.” Pennsylvania Department of Education Bureau of Budget and Fiscal Management Division of Subsidy Data and Administration.

<sup>4</sup> Cumberland County Tax Bureau. “2010 County and Municipal Tax & 2009-2010 School District Tax Rates.” <http://www.ccpa.net/DocumentView.aspx?DID=6351>

<sup>5</sup> Dickinson College Office of the Treasurer. “Taxable Property Reassessment 2004 (Compared to 2000).”

<sup>6</sup> Cumberland County Tax Bureau. “2010 County and Municipal Tax & 2009-2010 School District Tax Rates.” <http://www.ccpa.net/DocumentView.aspx?DID=6351>

<sup>7</sup> Cumberland County Tax Bureau. “2010 County and Municipal Tax & 2009-2010 School District Tax Rates.” <http://www.ccpa.net/DocumentView.aspx?DID=6351>

<sup>8</sup> Cumberland County Tax Bureau. “2010 County and Municipal Tax & 2009-2010 School District Tax Rates.” <http://www.ccpa.net/DocumentView.aspx?DID=6351>

<sup>9</sup> Cumberland County Tax Bureau. “2010 County and Municipal Tax & 2009-2010 School District Tax Rates.” <http://www.ccpa.net/DocumentView.aspx?DID=6351>

<sup>10</sup> <http://www.schoolmatters.com/schools.aspx/q/page=dp/did=1075>.

<sup>11</sup> *Carlisle Area School District Final General Fund Budget: Fiscal year 07/01/2009-06/30/2010.*

<sup>12</sup> *Ibid.*

<sup>13</sup> *Cumberland Valley Overview: 2009-10 General Fund Budget.*

<sup>14</sup> <http://www.dickinson.edu/about/offices/institutional-research/content/Enrollment/>.

<sup>15</sup> <http://www.city-data.com/city/Carlisle-Pennsylvania.html>.

<sup>16</sup> *Dickinson College Budget Book FY 2010, July 2009- June 2010.*

<sup>17</sup> *Cumberland Valley Overview: 2009-10 General Fund Budget.*

<sup>18</sup> *Dickinson College DPS Count of Incident Types.*

<sup>19</sup> *Carlisle Police Department Annual report 2008.*

<sup>20</sup> <http://www.dickinson.edu/student-life/campus-safety/your-right-to-know/2006-2008-Crime-Statistic-Clery-Act/>.

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- <sup>21</sup> Ibid.
- <sup>22</sup> Ibid.
- <sup>23</sup> *Carlisle Police Department Annual report 2008*.
- <sup>24</sup> Ibid.
- <sup>25</sup> *Cumberland County Budget 2010* <http://www.ccpa.net/DocumentView.aspx?DID=6273>
- <sup>26</sup> Cumberland County Tax Bureau. "2010 County and Municipal Tax & 2009-2010 School District Tax Rates." <http://www.ccpa.net/DocumentView.aspx?DID=6351>
- <sup>27</sup> Examples include Stanford University (<http://ucomm.stanford.edu/news/EIS2008.pdf>), the University of Pennsylvania ([http://www.upenn.edu/almanac/volumes/v52/n31/pdf\\_n31/Penn\\_Economic\\_Impact.pdf](http://www.upenn.edu/almanac/volumes/v52/n31/pdf_n31/Penn_Economic_Impact.pdf)), and Penn State University (<http://econimpact.psu.edu/>).
- <sup>28</sup> Sann, David, and Victor K. Tervalo, Development Opportunities: The Effect of UMES on the Town of Princess Anne, Maryland, Institute for Governmental Service, University of Maryland, February, 1993.
- Simmons, F. Bruce, III, The University of Akron and Its Economic Impact on its Community, Akron, Ohio, University of Akron, September 1992.
- <sup>29</sup> Posey, Ellen I., *Georgia State University Spending Patterns and the Atlanta Economy*, 1989, Atlanta, Office of Institutional Research, Georgia State University, May 1990.
- <sup>30</sup> *Cumberland County Budget 2010* <http://www.ccpa.net/DocumentView.aspx?DID=6273>
- <sup>31</sup> Dickinson College Office of the Treasurer. "Tax-Exempt Property Reassessments 2004 (Compared to 2000)."

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FOR A SUMMARY OF THE REPORT, SEE CHAPTER 1

# APPENDIX I: Survey Forms

## Dickinson College Economic Impact Study: Employee Questionnaire

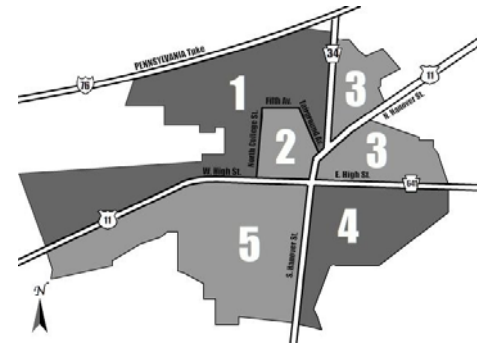
### I. Household Information

1. Where do you live (check one)?

Borough of Carlisle\_\_\_\_, South Middleton Township/Boiling Springs\_\_\_\_, North Middleton\_\_\_\_, Dickinson Township\_\_\_\_, Mt. Holly Springs\_\_\_\_, Middlesex Township\_\_\_\_, Big Spring\_\_\_\_, Elsewhere in Cumberland County\_\_\_\_, Other: Please specify (\_\_\_\_\_)

2. If you live in the Carlisle Borough, in which area do you reside?

(see map on right): Area 1 (Northwest)\_\_\_\_, Area 2 (North Central/Hope Station)\_\_\_\_, Area 3 (Northeast)\_\_\_\_, Area 4 (Southeast)\_\_\_\_, (Southeast) Area 5 (Southwest)\_\_\_\_



3. In which school district do you reside (check one)?

Carlisle\_\_\_\_, South Middleton/Boiling Springs\_\_\_\_, Big Spring\_\_\_\_, Cumberland Valley\_\_\_\_, Other (please specify)\_\_\_\_\_

4. How many people live in your household (check one)?

1\_\_\_\_, 2\_\_\_\_, 3\_\_\_\_, 4\_\_\_\_, 5\_\_\_\_, 6 or more\_\_\_\_.

5. Of these, how many are school age children? \_\_\_\_ How many are pre-school children? \_\_\_\_

6. How many cars does your household have? 0\_\_\_\_, 1\_\_\_\_, 2\_\_\_\_, 3 or more\_\_\_\_

7. Does your residence have private off street parking (a garage or driveway) Yes\_\_\_\_ No\_\_\_\_

8. Which job category best describes your role at the College (check one)?

administrator\_\_\_\_, faculty\_\_\_\_, academic professional\_\_\_\_, office staff\_\_\_\_, other hourly employee\_\_\_\_, retired\_\_\_\_, other (what?)\_\_\_\_\_.

9. If you had never worked for Dickinson, where would you most likely be living (please guess)?

the same town I'm living in now\_\_\_\_, somewhere other than my current town\_\_\_\_

10. What are the occupations and places of employment of each employed member of your household (including any **other** jobs you have)?

<u>Occupation</u>	<u>Location of Employment</u> (borough, township, etc)
_____	_____
_____	_____
_____	_____

11. What is your household's combined total income for 2009 before any taxes? (this is important for determining some tax and spending estimates, as well as economic impact. It will be kept **totally confidential**)



Less than \$20,000\_\_\_\_ 20-40 thousand\_\_\_\_ 40-60 thousand\_\_\_\_ 60-80 thousand\_\_\_\_  
 80-100 thousand\_\_\_\_ 100-120 thousand\_\_\_\_ 120-150 thousand\_\_\_\_  
 150-200 thousand\_\_\_\_ Over 200 thousand\_\_\_\_

12. About how much did your family put into savings and investments during 2009? \$\_\_\_\_\_

**II. Spending**

13. Do you rent\_\_ or own\_\_ your residence (please check one)?

14. **If you rent**, what is your monthly rent? \_\_\_\_\_

15. **If you own your home**, what is your monthly mortgage payment (including taxes in escrow)?\_\_\_\_\_

16. **If you own** your home, approximately how much property tax do you pay per year? \_\_\_\_\_

17. **For everyone**, about how much is your total monthly bill for all utilities? \_\_\_\_\_

18. About how much per month do you pay for the following?

local phone\_\_\_\_\_, cell phone\_\_\_\_ electricity\_\_\_\_ natural gas \_\_\_\_\_  
 heating oil\_\_\_\_\_ TV\_\_\_\_\_ internet service \_\_\_\_\_,

19. Of your local shopping, at which of these locations do you shop MOST OFTEN?

Downtown or near campus \_\_\_\_, The Carlisle Commons area (Wal-Mart, etc.)\_\_,  
 Eastern Carlisle (Target, Lowes, Giant, etc.)\_\_\_\_, Walnut Bottom Road Area (Nell's, K-  
 Mart, etc)\_\_\_\_ ,  
 North Carlisle (Spring Rd. etc.)\_\_\_\_, Mechanicsburg (Wal-Mart, Best Buy, Wegmans, etc.)  
 \_\_\_\_\_, other (where) \_\_\_\_\_?

20. Please list the specific Carlisle area businesses from which you most often make purchases, including groceries, and how often you buy from each.

Place	times per month	avg. amount per trip
_____	_____	_____
_____	_____	_____
_____	_____	_____

21. About how much money do you spend in the last month in Cumberland County on each of the following?

	<u>Carlisle Area</u>	<u>elsewhere in Cumberland county</u>	<u>Other, including Internet</u>
a. Clothing	_____	_____	_____
b. Groceries	_____	_____	_____
c. restaurants/bars	_____	_____	_____
d. Entertainment	_____	_____	_____
e. Automobile payments, fuel, and maintenance	_____	_____	_____
f. day care	_____	_____	_____
g. religious and charitable contributions	_____	_____	_____
h. health and education	_____	_____	_____

**III. Community Relations**

22. Please list any charitable, cultural, religious, or other activities in which any member of your household is involved which benefit the Carlisle community.

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23. About how many hours per week does your family devote to service projects of all types?  
None\_\_\_ 1-3\_\_\_ 4-6\_\_\_ 7-10\_\_\_ 11-15\_\_\_ over 15 (how many?)\_\_\_\_\_

24. In your opinion are there any other benefits, direct or indirect, which the community receives due to the presence of the College? If so, what are they?

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**Thank you very much.** Please return this to the Economics Department at your earliest convenience, or use this information to fill out the on-line survey. All individual survey responses will be kept **totally confidential**. **If you have questions, call me at 245-1358. You don't have to identify yourself.** **William Bellinger**

# Dickinson College Economic Impact Study: Employee Questionnaire

Thank you for your time. Your participation in this important study will help us quantify the extent of our economic, charitable and cultural impact and underscore the role Dickinson plays within the Carlisle community.

All individual survey responses will be kept totally confidential. If you have any questions regarding the survey please call me at 245-1358. You do not have to identify yourself.

Thank you, Bill Bellinger

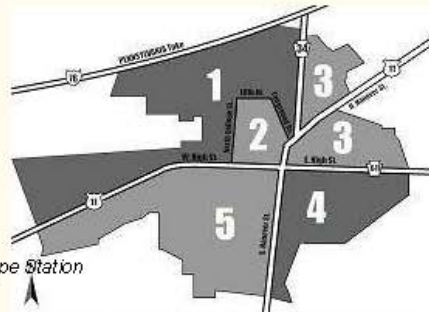
## I. Household Information

### Where do you live?

- Borough of Carlisle
- Middlesex Township
- South Middleton Township/Boiling Springs
- Big Spring
- North Middleton
- Elsewhere in Cumberland County
- Dickinson Township
- Elsewhere outside of Cumberland County
- Mt. Holly Springs

If applicable, please specify where you reside if either you selected elsewhere in/out of Cumberland County

Please specify where within the Carlisle Borough you reside. (see map)



- Area 1 (Northwest)
- Area 2 (North Central/Hope Station)
- Area 3 (Northeast)
- Area 4 (Southeast)
- Area 5 (Southwest)

**How many people live in your household?**

- One
- Two
- Three
- Four
- Five
- Six or more

**Of these, how many are school age children?**

- None
- One
- Two
- Three or more

**How many are pre-school children?**

- None
- One
- Two
- Three or more

**Does your residence have private off street parking (a garage or driveway)?**

- Yes
- No

**Which job category best describes your role at Dickinson College?**

- Administrator
- Faculty
- Academic Professional
- Office Staff
- Other hourly employee
- Retired
- Other

*If applicable, please specify "other".*

**If you had never worked for Dickinson, where would you most likely be living? (Please guess)**

- In the same town I'm living in now
- Somewhere other than my current town

**What are the occupations of each employed member of your household (including other jobs you have)?**

Occupation #1

Location of Occupation #1 (borough, township, etc.)

Occupation #2

Location of Occupation #2

Occupation #3

Location of Occupation #3

**What is your households combined total income for 2009 before any taxes? (This is important for determining some tax and spending estimates, as well as economic impact. It will be kept totally confidential).**

- |                                            |                                             |
|--------------------------------------------|---------------------------------------------|
| <input type="radio"/> \$20,000 or less     | <input type="radio"/> \$100,001 - \$120,000 |
| <input type="radio"/> \$20,001 - \$40,000  | <input type="radio"/> \$120,001 - \$150,000 |
| <input type="radio"/> \$40,001 - \$60,000  | <input type="radio"/> \$150,001 - \$200,000 |
| <input type="radio"/> \$60,001 - \$80,000  | <input type="radio"/> Over \$200,000        |
| <input type="radio"/> \$80,001 - \$100,000 |                                             |

If over \$200,000, please indicate the amount.

**About how much did your family put into savings and investments during 2009?**

- |                                          |                                           |
|------------------------------------------|-------------------------------------------|
| <input type="radio"/> \$1,000 or less    | <input type="radio"/> \$10,001 - \$15,000 |
| <input type="radio"/> \$1,001 - \$2,000  | <input type="radio"/> \$15,001 - \$20,000 |
| <input type="radio"/> \$2,001 - \$4,000  | <input type="radio"/> \$20,001 - \$30,000 |
| <input type="radio"/> \$4,001 - \$6,000  | <input type="radio"/> \$30,001 - \$50,000 |
| <input type="radio"/> \$6,001 - \$8,000  | <input type="radio"/> Over \$50,000       |
| <input type="radio"/> \$8,001 - \$10,000 |                                           |

If over \$50,000, please indicate the amount.

## II. Spending

Do you rent or own your own home?

- Rent  
 Own

If you rent, what is your monthly rent?

What is your monthly mortgage payment (including taxes in escrow)?

- |                                         |                                         |
|-----------------------------------------|-----------------------------------------|
| <input type="radio"/> \$500 or less     | <input type="radio"/> \$1,501 - \$2,000 |
| <input type="radio"/> \$501 - \$750     | <input type="radio"/> \$2,001 - \$3,000 |
| <input type="radio"/> \$751 - \$1,000   | <input type="radio"/> \$3,001 - \$4,000 |
| <input type="radio"/> \$1,001 - \$1,250 | <input type="radio"/> Over \$4,000      |
| <input type="radio"/> \$1,251 - \$1,500 |                                         |

If over \$4,000 please indicate the amount.

Approximately how much property tax do you pay per year?

- |                                         |                                         |
|-----------------------------------------|-----------------------------------------|
| <input type="radio"/> Less than \$500   | <input type="radio"/> \$3,001 - \$3,500 |
| <input type="radio"/> \$501 - \$1,000   | <input type="radio"/> \$3,501 - \$4,000 |
| <input type="radio"/> \$1,001 - \$1,500 | <input type="radio"/> \$4,001 - \$4,500 |
| <input type="radio"/> \$1,501 - \$2,000 | <input type="radio"/> \$4,501 - \$5,000 |
| <input type="radio"/> \$2,001 - \$2,500 | <input type="radio"/> Over \$5,000      |
| <input type="radio"/> \$2,501 - \$3,000 |                                         |

If over \$5,000 please indicate the amount.

About how much is your total monthly bill for all utilities? (electricity, gas, oil, TV, internet, phone, etc.)

- |                                     |                                       |
|-------------------------------------|---------------------------------------|
| <input type="radio"/> \$100 or less | <input type="radio"/> \$601 - \$700   |
| <input type="radio"/> \$101 - \$200 | <input type="radio"/> \$701 - \$800   |
| <input type="radio"/> \$201 - \$300 | <input type="radio"/> \$801 - \$900   |
| <input type="radio"/> \$301 - \$400 | <input type="radio"/> \$901 - \$1,000 |
| <input type="radio"/> \$401 - \$500 | <input type="radio"/> Over \$1,000    |
| <input type="radio"/> \$501 - \$600 |                                       |

If over \$1,000 please indicate the amount.

**About how much per month do you pay for the following?**

Local phone	<input type="text"/>
Cell phone	<input type="text"/>
Electricity	<input type="text"/>
Natural gas	<input type="text"/>
Heating oil	<input type="text"/>
Television	<input type="text"/>
Internet Service	<input type="text"/>

**Of your local shopping, at which of these locations do you shop MOST OFTEN?**

- Downtown or near campus
- The Carlisle Commons area (Wal-Mart, etc.)
- Eastern Carlisle (Target, Lowes, Giant, etc.)
- Walnut Bottom road area (Nells, K-Mart, etc.)
- North Carlisle (Spring Road, etc.)
- Mechanicsburg (Wal-Mart, Best Buy, Wegmans, etc.)
- Other

If applicable, please specify "other"

**Please list the specific Carlisle area businesses from which you most often make purchases, (including groceries), how often you buy, and how much you spend on an average visit.**

Location	<input type="text"/>
Times visited per month	<input type="text"/>
Average amount spent per visit	<input type="text"/>

**Please provide this same information for *another* Carlisle area business from which you frequently make purchases, including groceries.**

Location	<input type="text"/>
Times visited per month	<input type="text"/>
Average amount spent per visit	<input type="text"/>

**Please list *another* Carlisle area business from which you frequently make purchases, including groceries.**

Location	<input type="text"/>
Times visited per month	<input type="text"/>
Average amount spent per visit	<input type="text"/>

**Please list *one more* Carlisle area business from which you most make purchases, including groceries.**

Location	<input type="text"/>
Times visited per month	<input type="text"/>
Average amount spent per visit	<input type="text"/>

**In this next section you are asked how much you spent in the last month on various items 1) within the Carlisle area, 2) elsewhere in Cumberland county, and 3) elsewhere outside of Cumberland county (including the internet)**

**About how much did you spend in the last month in the Carlisle area on each of the following?**

Clothing	<input type="text"/>
Groceries	<input type="text"/>
Restaurants and bars	<input type="text"/>
Entertainment	<input type="text"/>
Automobile payments, fuel and maintenance	<input type="text"/>
Day care	<input type="text"/>
Religious and charitable contributions	<input type="text"/>
Health and education (excluding Dickinson)	<input type="text"/>
Other	<input type="text"/>

*If applicable please specify "other"*



**About how much did you spend in the last month elsewhere in Cumberland county on each of the following?**

Clothing	<input type="text"/>
Groceries	<input type="text"/>
Restaurants and bars	<input type="text"/>
Entertainment	<input type="text"/>
Automobile payments, fuel and maintenance	<input type="text"/>
Day care	<input type="text"/>
Religious and charitable contributions	<input type="text"/>
Health and education (excluding Dickinson)	<input type="text"/>
Other	<input type="text"/>

*If applicable please specify "other"*

**About how much did you spend in the last month outside Cumberland county (including the internet) on each of the following?**

Clothing	<input type="text"/>
Groceries	<input type="text"/>
Restaurants and bars	<input type="text"/>
Entertainment	<input type="text"/>
Automobile payments, fuel and maintenance	<input type="text"/>
Day care	<input type="text"/>
Religious and charitable contributions	<input type="text"/>
Health and education (excluding Dickinson)	<input type="text"/>
Other	<input type="text"/>

*If applicable please specify "other"*

### III. Community Relations

Please list any charitable, cultural, religious, or other activities in that any member of your household is involved which benefit the Carlisle community.

About how many hours per week does your family devote to service projects of all types?

- |                            |                                    |
|----------------------------|------------------------------------|
| <input type="radio"/> None | <input type="radio"/> 7 - 10       |
| <input type="radio"/> 1-3  | <input type="radio"/> 11-15        |
| <input type="radio"/> 4-6  | <input type="radio"/> More than 15 |

*If more than 15 please indicate the number of times per week*

In your opinion are there any other benefits, direct or indirect, which the community receives due to the presence of the college? If so, what are they?

**Thank you very much. Please return this via Campus mail to Bill Bellinger, Economics Department at your earliest convenience, or use this information to fill out the online survey at the following web address: <http://www2.dickinson.edu/survey/econimpactemployee.htm>.**

# Dickinson College Economic Impact Study: Student Questionnaire

## **I. Spending**

**1. What is your class status at the college (check one)?**

First Year\_\_\_\_ Sophomore\_\_\_\_ Junior \_\_\_\_ Senior\_\_\_\_\_

**2. What is your gender? Male\_\_\_\_, Female\_\_\_\_**

**3. If you were not attending Dickinson, where would you most likely be residing today (check one)?**

Messiah College or Shippensburg University\_\_\_\_, a college elsewhere in Pennsylvania\_\_\_\_,

a college outside of Pennsylvania \_\_\_\_ , I would not be in college\_\_\_\_\_.

**4. Do you have a car in Carlisle Yes\_\_\_\_ No\_\_\_\_**

**5. Where do you reside (check one)?** on campus\_\_\_\_, off campus Dickinson Housing\_\_\_\_,

off campus non-Dickinson Housing \_\_\_\_.

**6. If you don't live on campus, which location best describes your residence?**

Downtown Carlisle\_\_\_\_, Residential area near campus\_\_\_\_, Other\_\_\_\_\_

**7. If you reside off campus in non-Dickinson housing,**

A. approximately what is your monthly rent? \_\_\_\_\_

B. about how much per month do you pay for all utilities?\_\_\_\_\_ local phone\_\_\_\_, electricity\_\_\_\_ gas \_\_\_\_\_ heating oil\_\_\_\_\_ cable TV\_\_\_\_\_ internet service \_\_\_\_\_, other\_\_\_\_\_?

**8. Approximately how much do you spend off campus in Cumberland County in a given month for each of the following items?**

	Carlisle	Elsewhere in Cumberland County	Other, including internet
Food, drink, groceries	_____	_____	_____
Clothing	_____	_____	_____
Entertainment	_____	_____	_____
Automobile expenses	_____	_____	_____
Other	_____	_____	_____
TOTAL Monthly Budget	_____	_____	_____

**9. About how many times per week do you dine out or have food delivered?**

\_\_\_\_\_

**10. Do you have any accounts with a local bank or S&L? Yes\_\_\_\_ No\_\_\_\_**

**11. Does most of your off-campus spending take place (check one)**

Downtown or near campus (Hanover or High Streets, Deli-C, etc.), \_\_\_\_\_,  
the Wal-Mart Area (Wal-Mart, Movie Theaters, etc.) \_\_\_\_\_,  
Walnut Bottom Road (Nells, K-mart, etc)\_\_\_\_\_, eastern Carlisle (Giant, Target, Kohls, etc.) \_\_\_\_\_  
other (where)\_\_\_\_\_?

**12. Please list the places off campus from which you most often make purchases, including groceries, and how often you buy from each.**

Place	times per month	avg. spending per visit
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

**13. Approximately how many visits from non-Carlisle relatives or friends did you have in the Fall semester? Each visit from a given person should be counted separately. -**

\_\_\_\_\_

**14. How many of these visits involved staying in off campus lodging? \_\_\_\_\_**

**II. Community Relations**

15. Please list any of your charitable, cultural, or other activities which may benefit the Carlisle community (if you aren=t sure about who benefits, include it)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**16. About how many hours per week do you devote to service projects of all types?**

None\_\_\_ 1-3\_\_\_ 4-6\_\_\_ 7-10\_\_\_ 11-15\_\_\_ over 15 (how many?)\_\_\_\_\_

**17. In your opinion, are there any other possible benefits to Carlisle from the college besides economic and cultural contributions? What are they?**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Thank you very much. All individual survey responses will be kept totally confidential.**

## Dickinson College Economic Impact Study: Visitors Questionnaire

This survey is part of an economic impact study of Dickinson College undertaken by Professor Bellinger and his Economics Senior Seminar this spring. Please take a few minutes to fill out this brief spending survey to the best of your ability. All answers will be completely anonymous. We appreciate your cooperation and hope you enjoy your stay at Dickinson College.

1. Where is your home town? *In Carlisle or its surrounding townships*\_\_\_\_, *elsewhere in Cumberland County*\_\_\_\_, *in Pennsylvania but not Cumberland County*\_\_\_\_, *Out of state* \_\_\_\_\_
2. How many people were in your party? \_\_\_\_\_
3. How many nights did you stay in Carlisle during this visit?  
*zero*\_\_\_\_ *one*\_\_\_\_ *two*\_\_\_\_ *three or more*\_\_\_\_\_
4. If you stayed overnight in the Carlisle area, please tell us where.  
*Near turnpike (Knights Inn, Best Western, Holiday Inn, Clarion, etc.)*\_\_\_\_\_
- Walnut Bottom Rd. (Days Inn, Motel 8, etc)* \_\_\_\_\_ *Downtown (Comfort Suites, Carlisle House)* \_\_\_\_\_
- Other (where?)* \_\_\_\_\_
5. How many local restaurant meals per person did your party eat during this visit? \_\_\_\_\_
6. Please write the number of meals your group ate off campus at each type of restaurant:  
*Fast food*\_\_\_\_, *Moderate price*\_\_\_\_, *High Price (\$25 or more per person)* \_\_\_\_\_
7. About how much did you spend off campus on the following items during your visit?  
\_\_\_\_\_ *Entertainment*  
\_\_\_\_\_ *Auto maintenance and gasoline*  
\_\_\_\_\_ *Other (clothing, books, souvenirs, etc.)*

Thank you very much for your cooperation.

## Dickinson College Economic Impact Study: Summer Youth Program Questionnaire

This survey is part of a study of the economic effects of Dickinson College. Please take a few minutes to fill out this brief spending survey to the best of your ability. All answers will be completely anonymous, so we won't have any idea who you are. We appreciate your cooperation and hope you enjoy your stay at Dickinson College.

1. **Gender?** Male \_\_\_\_\_ Female \_\_\_\_\_
2. **Age?** Under 16 \_\_\_\_\_ 16-21 \_\_\_\_\_ Over 21 \_\_\_\_\_
3. **What is your hometown?**  
 Carlisle \_\_\_\_\_ Somewhere else in Pennsylvania (where?) \_\_\_\_\_  
 Another State (which one?) \_\_\_\_\_ Another country (which one?) \_\_\_\_\_
4. **What summer program are you on campus with?**  
 C.P.Y.B. \_\_\_\_\_ C.T.Y. \_\_\_\_\_ Other \_\_\_\_\_
5. **While at Dickinson, where are you staying?** Dickinson campus \_\_\_\_\_ host family \_\_\_\_\_  
 A rented off-campus apartment or house \_\_\_\_\_
6. **If you are renting an apartment or staying with a host family, about how much is your room rent for the summer?** \_\_\_\_\_
7. **While staying at Dickinson, approximately how much do you spend in a given week for each of the following items?** (Carlisle includes near campus, downtown, the Wal-Mart area, etc.)

	On Campus	Off campus in Carlisle	Elsewhere in Cumberland County
Food and drink	_____	_____	_____
Clothing	_____	_____	_____
Entertainment (movies, etc.)	_____	_____	_____
Other	_____	_____	_____
TOTAL Weekly Budget	_____	_____	_____

8. **About how many times per week do you dine out or have food delivered?** \_\_\_\_\_
9. **Where does most of your local off-campus spending take place?**  
 near campus (Deli Creations, Massey's etc.) \_\_\_\_\_ Downtown Carlisle \_\_\_\_\_  
 Wal-Mart area (movies, etc.) \_\_\_\_\_ Eastern Carlisle (Target, Kohls, Giant, etc.) \_\_\_\_\_  
 other (where?) \_\_\_\_\_

10. **Please list the places from which you most often make purchases.**

Store	times per week	spending per visit or purchase
_____	_____	_____
_____	_____	_____
_____	_____	_____

**11. Did your family bring you to Dickinson at the beginning of the program?**

Yes\_\_\_ No\_\_\_

IF YES, how many nights did they stay? 0 nights\_\_\_ 1 night\_\_\_ 2 or more \_\_\_

IF YES, how many members of your family came with you? 1 other\_\_\_ 2 others\_\_\_

3 or more others\_\_\_

**12. Excluding your arrival and departure, how many times do you expect your family**

**or others to visit you in Carlisle?** 0 times\_\_\_ 1 time\_\_\_ 2\_\_\_ 3 or 4\_\_\_ 5 or more\_\_\_

**13. When they visit, how many nights do they stay here?** None\_\_\_ 1 night\_\_\_ 2

nights\_\_\_ 3 or more nights\_\_\_

**14. In your opinion, what does Carlisle need to make it more kid or teen friendly?**

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**Thank you very much for your cooperation.**

## Dickinson College Economic Impact Study: Summer Youth Program Staff Questionnaire

This survey is part of a study of the economic effects of Dickinson College. Please take a few minutes to fill out this brief spending survey to the best of your ability. All answers will be completely anonymous, so we won't have any idea who you are. We appreciate your cooperation and hope you enjoy your stay at Dickinson College.

**15. What is your hometown?**

Carlisle \_\_\_\_\_ Somewhere else in Pennsylvania (where?) \_\_\_\_\_  
 Another State (which one?) \_\_\_\_\_ Another country (which one?) \_\_\_\_\_

**16. What summer program are you associated with?**

C.P.Y.B. \_\_\_\_\_ C.T.Y. \_\_\_\_\_ Other \_\_\_\_\_

**3. What is your job category in this summer program?**

Administrator \_\_\_\_\_ Faculty/Instructor \_\_\_\_\_ Teaching Assistant \_\_\_\_\_ Resident Assistant \_\_\_\_\_  
 Other (what?) \_\_\_\_\_

**17. While at Dickinson, where are you staying?** Dickinson campus \_\_\_\_\_

host family or friends \_\_\_\_\_ A rented off-campus apartment or house \_\_\_\_\_

**18. If you are renting an apartment or staying with a host family, about how much is your room rent for the summer?** \_\_\_\_\_

**19. While staying at Dickinson, approximately how much do you spend in a given week for each of the following items?** (Carlisle includes near campus, downtown, the Wal-Mart area, etc.)

	<b>On Campus</b>	<b>Off campus in Carlisle</b>	<b>Elsewhere in Cumberland County</b>
Food and drink	_____	_____	_____
Clothing	_____	_____	_____
Entertainment (movies, etc.)	_____	_____	_____
Other	_____	_____	_____
TOTAL Weekly Budget	_____	_____	_____

**20. About how many times per week do you dine out or have food delivered?** \_\_\_\_\_

**21. Where does most of your local off-campus spending take place?**

near campus (Deli Creations, Massey's etc.) \_\_\_\_\_ Downtown Carlisle \_\_\_\_\_  
 Wal-Mart area (movies, etc.) \_\_\_\_\_ Eastern Carlisle (Target, Kohls, Giant, etc.) \_\_\_\_\_  
 other (where?) \_\_\_\_\_



**22. Please list the places from which you most often make purchases.**

<b>Store</b>	<b>times per week</b>	<b>spending per visit or purchase</b>
_____	_____	_____
_____	_____	_____
_____	_____	_____

**23. How many times do you expect guests to visit you in Carlisle?** 0 times\_\_\_ 1 time\_\_\_  
2\_\_\_ 3 or 4\_\_\_ 5 or more\_\_\_

**24. When they visit, how many nights do they stay here?** None\_\_\_ 1 night\_\_\_ 2  
nights\_\_\_ 3 or more nights\_\_\_

**25. When they stay, do they rent rooms in local hotels?** yes\_\_\_ no\_\_\_

**26. In your opinion, how does your program benefit from its current location in a small  
college/small town atmosphere such as Dickinson's?**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Thank you Very Much for your cooperation. Please send your responses through campus mail to Bill Bellinger, Economics Dept., or just drop them off at your program office and let them send them over.**

## Appendix II: Dickinson Taxable and Tax Exempt Property

### A. Taxable Property and Tax Payments

Address	Location	School District	Real Estate Taxes		Real Estate Taxes		Assessed Value
			3/1/2010	7/1/2010	3/1/2009	7/1/2009	2004
5	N. Orange St.	Carlisle	19,480.74		17,928.36	45,399.08	3,232,770
598	W. High St.	Carlisle	1,850.10		1,702.68	4,311.60	307,020
133	N. College St.	Carlisle	724.08		666.38	1,687.45	120,160
135	N. College St.	Carlisle	489.24		450.27	1,140.18	81,190
1290	Ritner Hwy	Carlisle	3,343.72		3,077.27	7,792.40	554,880
1250	Ritner Hwy.	Carlisle	6,456.03		5,941.56	15,045.54	1,071,360
	Ritner Hwy	Carlisle	151.07				
243	W. Louther	Carlisle	1,099.87		1,012.22	2,563.20	182,520
261	W. Louther	Carlisle	150.65		138.65	351.08	25,000
33	Conway St.	Carlisle	1,062.58		977.90	2,476.27	176,330
256	S. Hanover	Carlisle	2,755.51		2,535.93	6,421.63	457,270
61	N. West St.	Carlisle	939.03		864.21	2,188.38	155,830
57	S. College St.	Carlisle	922.40		848.90	2,149.62	153,070
560	W. High St.	Carlisle	2,440.54		2,246.06	5,687.58	405,000
31	S. West St.	Carlisle	636.34		585.64	1,482.98	105,600
41	Conway St.	Carlisle	1,264.08		1,163.34	2,945.88	209,770
163	W. High	Carlisle	2,444.10		2,249.33	5,695.86	405,590
165	W. High	Carlisle	1,715.97		1,579.23	3,999.00	284,760
50	Mooreland	Carlisle	9,956.37		9,162.98	23,202.93	1,652,230
103	Conway St.	Carlisle	1,235.94		1,137.45	2,880.30	205,100
515	W. Louther	Carlisle	447.50				
519	W. Louther	Carlisle	477.62		439.56	1,113.08	79,260
275	W. Louther	Carlisle	1,492.29		1,373.38	3,477.71	247,640
531	W. Louther	Carlisle			537.05	1,359.97	96,840
532	W. Louther	Carlisle	1,958.46		1,802.39	4,564.10	80,860
135	Cedar Street	Carlisle	587.06		540.28	1,368.11	97,420
507	W. Louther	Carlisle	531.56		489.21	1,238.77	88,210
509	W. Louther	Carlisle	518.65		477.33	1,208.71	86,070
400	W. North St.	Carlisle	21,091.07		19,410.37	49,151.90	2,364,420
155	W. High St.	Carlisle	1,265.46		1,164.61	2,949.11	
344	W. North St.	Carlisle	597.34			1,392.13	
100	W. Pomfret & Pitt Sts.	Carlisle	1,062.20		977.57	2,475.43	
<b>Carlisle Totals</b>			<b>91,695.50</b>	<b>-</b>	<b>83,824.99</b>	<b>213,657.81</b>	<b>13,348,990</b>
553	Park Drive-Farm 91 acres	South Middleton	1,196.34		1,196.33	4,864.01	436,140
575	Park Drive-Farm 87 acres	South Middleton			1,417.57	5,763.45	490,790
	Bears Rd.	Big Spring	230.78		220.03	1,217.73	80,400
7508	Pacific Ave	NJ				2,418.88	
<b>Total Per Period</b>			<b>93,122.62</b>	<b>\$0.00</b>	<b>86,658.92</b>	<b>\$227,921.88</b>	<b>\$14,356,320</b>
<b>Annual Total</b>				<b>\$93,122.62</b>		<b>\$314,580.80</b>	

## Tax-Exempt Property 2004

	Land		2004	2004	2004
Address	Acres	Prop. Type	Land	Building	Total
Ritner Hwy	18.71	Commercial-Ex.	\$280,650	\$138,120	\$418,770
218 W. Church Ave.	0.19	Commercial-Ex.	\$9,550	\$515,150	\$524,700
49&51 S. College St.	0.16	Residential-Ex.	\$30,000	\$165,720	\$195,720
N. College St.	0.06	Commercial-Ex.	\$14,820	\$0	\$14,820
159 W. High St.	0.17	Commercial-Ex.	\$36,000	\$210,020	\$246,020
448 W. High St.	0.23	Commercial-Ex.	\$8,510	\$85,250	\$93,760
450 W. High St.	0.41	Commercial-Ex.	\$90,000	\$36,690	\$126,690
601 W. High St.	6.86	Commercial-Ex.	\$520,720	\$11,754,020	\$12,274,740
W. High St.(Biddle)	12.47	Commercial-Ex.	\$374,100	\$679,740	\$1,053,840
W.High & W. Louthier	13.47	Commercial-Ex.	\$27,490	\$3,170,310	\$3,197,800
W. Louthier St.	2	Commercial-Ex.	\$103,900	\$1,038,980	\$1,142,880
233 W. Louthier St.	0.17	Commercial-Ex.	\$36,000	\$48,700	\$84,700
249 W. Louthier St.	0.16	Commercial-Ex.	\$34,800	\$70,800	\$105,600
259 W. Louthier St.	0.17	Commercial-Ex.	\$11,880	\$0	\$11,880
301& 343 W. Louthier	4.16	Commercial-Ex.	\$123,200	\$1,260,000	\$1,383,200
417 W. Louthier St.	0.07	Commercial-Ex.	\$11,800	\$73,960	\$85,760
505 W.Louthier & Cherry	0.09	Residential-Ex.	\$15,270	\$73,450	\$88,720
521 W. Louthier St.	0.05	Residential-Ex.	\$10,000	\$75,730	\$85,730
527 W. Louthier St.	0.04	Residential-Ex.	\$10,000	\$62,830	\$72,830
529 W. Louthier St.	0.04	Residential-Ex.	\$10,000	\$67,550	\$77,550
554 W. Louthier St.	0.2	Commercial-Ex.	\$43,320	\$47,920	\$91,240
600 RR W. Louthier St.	1.81	Commercial-Ex.	\$394,800	\$44,230	\$439,030
30 Mooreland Ave.	0.31	Commercial-Ex.	\$74,250	\$0	\$74,250
34 S. West St.	0.08	Commercial-Ex.	\$31,820	\$318,080	\$349,900
46 S. West St.	0.08	Commercial-Ex.	\$19,520	\$195,200	\$214,720
55 N. West St.	0.08	Residential-Ex.	\$13,750	\$113,440	\$127,190
239 W. Louthier St.	0.17	Commercial-Ex.	\$36,000	\$88,510	\$124,510
255 W. Louthier St.	0.17	Commercial-Ex.	\$36,000	\$44,260	\$80,260
41 S. College St.	0.19	Commercial-Ex.	\$28,340	\$283,680	\$312,020
201 W. High St.	0.36	Commercial-Ex.	\$78,000	\$4,061,520	\$4,139,520
131 S. College St.	0.25	Commercial-Ex.	\$54,000	\$161,420	\$215,420
101 S. College St.	0.19	Commercial-Ex.	\$30,880	\$309,200	\$340,080
556 W. Louthier ST.	0.25	Res. Land-Ex.	\$25,000	\$97,700	\$122,700
W. Church Ave.	0.8	Commercial-Ex.	\$172,560	\$1,724,690	\$1,897,250
140 N. College St.	0.1	Commercial-Ex.	\$22,500	\$62,940	\$85,440
425 W. Louthier St.	0.05	Res. Land-Ex.	\$10,000	\$66,070	\$76,070
Belvedere St. Athletic F.	2.5	Commercial-Ex.	\$500,000	\$3,249,600	\$3,749,600
W.High & 32 S. West St.	1.02	Commercial-Ex.	\$222,000	\$2,831,610	\$3,053,610
228 W. High St.	0.5	Commercial-Ex.	\$118,800	\$0	\$118,800
240 W. High St.	1.32	Commercial-Ex.	\$105,600	5129630	\$5,235,230
262 W. High St.	0.36	Commercial-Ex.	\$16,850	167700	\$184,550
272 W. High St.	0.55	Commercial-Ex.	\$69,600	696250	\$765,850
W.Louthier & W. N.College	7.81	Commercial-Ex.	\$680,000	4210490	\$4,890,490
170 W. Louthier St.	0.17	Commercial-Ex.	\$13,950	139780	\$153,730
49 N. West St.	0.36	Commercial-Ex.	\$21,530	215020	\$236,550
60 Mooreland Ave.	0.62	Commercial-Ex.	\$135,000	351180	\$486,180

### 2006 Revisions

<u>Address</u>	<u>Land Acres</u>	<u>Prop. Type</u>	<u>New Land</u>	<u>New Building</u>	<u>New Total</u>
402 S. College St.	8	Commercial - Ex.	\$700,120	\$9,299,880	\$10,000,000
277 W. Louther	0.69	Commercial - Ex.	\$78,030	\$2,821,970	\$2,900,000
Belvedere & W. Pomfret St.	2.5	Vacant Land - Ex.	\$75,000	\$0	\$75,000
240 W. High St.	1.32	Commercial - Ex.	\$80,180	\$1,869,820	\$1,950,000
262 W. High St.	0.36	Commercial - Ex.	\$39,000	\$256,000	\$295,000
272 W. High St.	0.55	Commercial - Ex.	\$96,000	\$754,000	\$850,000
101 S. College St.	0.19	Commercial - Ex.	\$30,880	\$369,120	\$400,000
131 S. College St.	0.25	Commercial - Ex.	\$24,030	\$325,970	\$350,000
60 Mooreland	0.62	Commercial - Ex.	\$135,000	\$698,300	\$833,300
402 W. High St.	0.48	Commercial - Ex.	\$100,120	\$1,899,880	\$2,000,000
601 W. High & Cherry St.	6.86	Commercial - Ex.	\$600,960	\$15,399,040	\$16,000,000
600 RR W. Louther St.	1.81	Commercial - Ex.	\$360,010	\$639,990	\$1,000,000
W. High & W. Louther St.	13.47	Commercial - Ex.	\$651,710	\$42,348,290	\$43,000,000
507 W. Louther	0.06	Residential Bldg.	\$10,000	\$78,210	\$88,210
156 N. College	0.11	Commercial - General	\$23,790	\$105,570	\$129,360
158 N. College	0.04	Vacant Land	\$4,250	\$0	\$4,250
301 W. Louther - 383 W. Louther	4.12	Commercial - Ex.	\$122,400	\$8,108,510	\$8,230,910
<b>Total</b>					<b>\$88,106,030</b>

### 2010 Revision

<u>Address</u>	<u>Land Acres</u>	<u>Prop. Type</u>	<u>New Land</u>	<u>New Building</u>	<u>New Total</u>
301-383 W Louther	5	Commercial/Exempt	1,000,000	\$ 29,000,000	\$30,000,000