

A Report Submitted to the City of Clinton, Iowa

**An Evaluation of the Regional and Local
Economic Values of the Thomson
Correctional Center**

Dave Swenson
Department of Economics
Iowa State University

December, 2010

Contents

Overview 3

The Clinton County Economy..... 3

 Earnings..... 5

 Unemployment 6

 Intra-Regional Employment Patterns 7

 Key Demographic Changes 9

The Regional Economic Values of the Thomson Correctional Center 12

 Understanding Impact Model Terminology..... 14

 The Results 15

 Short Term Construction Activity..... 16

 TCC Operational Impacts 17

 Apportioning the Economic Impacts within the Region 19

 Discussion..... 23

Appendix: Resolution Requesting the Study..... 24

Overview

This report is an economic evaluation of the Thomson Correctional Center (TCC) that has been proposed to be renovated and put into operation near Thomson, IL. Were the facility to be staffed fully over the next few years, it would require 900 employees, a majority of whom would earn between \$42,000 and \$75,000 per year in wages and salaries. This report contains a regional economic impact assessment of the TCC. It also evaluates the regional supply of labor and housing that might staff the TCC and provide homes for the workers. In particular, this study apportions the fractions of regional economic impacts that might be expected to accumulate to the City of Clinton and its primary trade area.

This report has been requested by the City of Clinton. A significant amount of the information required for this study was obtained from the “Environmental Assessment for the Federal Bureau of Prisons’ Acquisition and Activation of Thomson Correctional Center as Administrative United States Penitentiary Thomson,” August 2010, and from communications with U.S. Bureau of Prisons personnel. Additional data were obtained from the U.S. Bureau of Prisons annual financial statements.

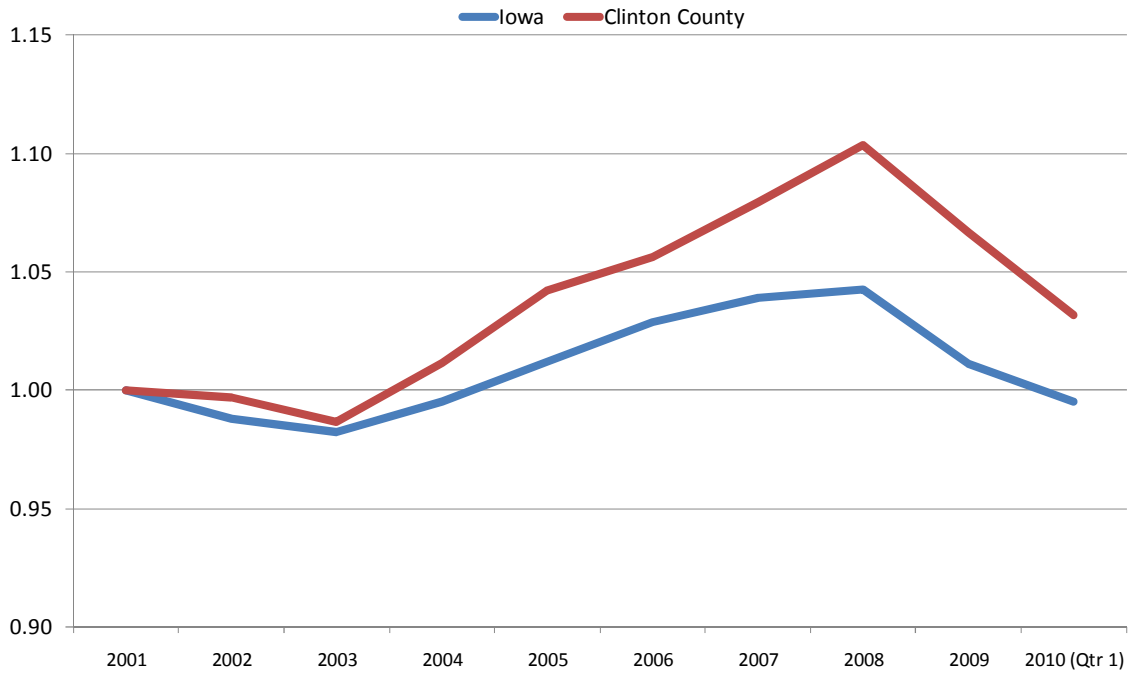
This report is a service of the Department of Economics at Iowa State University in support of its outreach mission to provide community economics and policy development education, research, and technical assistance to Iowa’s communities and citizens.

The Clinton County Economy

The Clinton County economy stagnated in the early part of this decade and then grew smartly thereafter until the effects of the Great Recession of 2007-2009 set in. Figure 1 displays the changes in covered (by unemployment insurance rules) employment in Clinton County and for the state. Those data come from the Quarterly Census of Employment and Wages datasets maintained by the U.S. Bureau of Labor Statistics. The values are indexed to 2001 values to demonstrate the patterns of changes that have occurred. Note that though the state declined through the end of the recessionary period of 2001 through 2002, it posted growth through 2008 before tailing off sharply due to the downturn cause by the most recent recession. Clinton County, in distinction, demonstrated much stronger growth than the state through 2008. Where the state economy had only expanded by about 4.8 percent by 2008, Clinton County’s had grown by more than 10 percent when measured by jobs. Thereafter, however, both the state and Clinton County realized sharp declines in covered employment as their respective economies contracted.

Figure 1

Index of Clinton County and State of Iowa Covered Employment Change: 2001 = 1.0

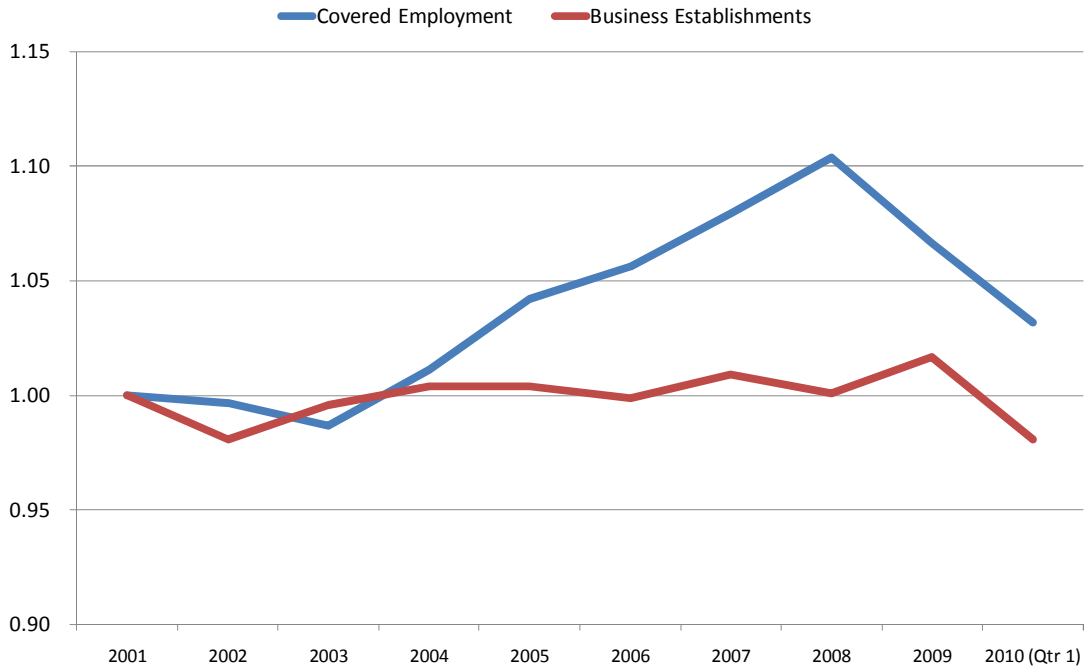


Growth in the Clinton County economy this last decade was concentrated in construction jobs, educational services, administrative and waste services, and in health care. Combined, these sectors explained 88 percent of the region's net nonfarm job gains between 2001 and 2008.

Figure 2 compares both job growth and business establishment changes over the past decade. Readers will notice that despite comparatively robust job growth in Clinton County, the nature of that growth was not sufficient to induce meaningful gains in the number of business establishments during the 2003 through 2008 period. There was a minor expansion in firms in 2009, but the number fell off sharply during the midst of the recession. The number of establishments in the first quarter of 2010 was 2 percent less than in 2001.

Figure 2

Index of Clinton County and Iowa Covered Employment and Business Establishment Change: 2001 = 1.0

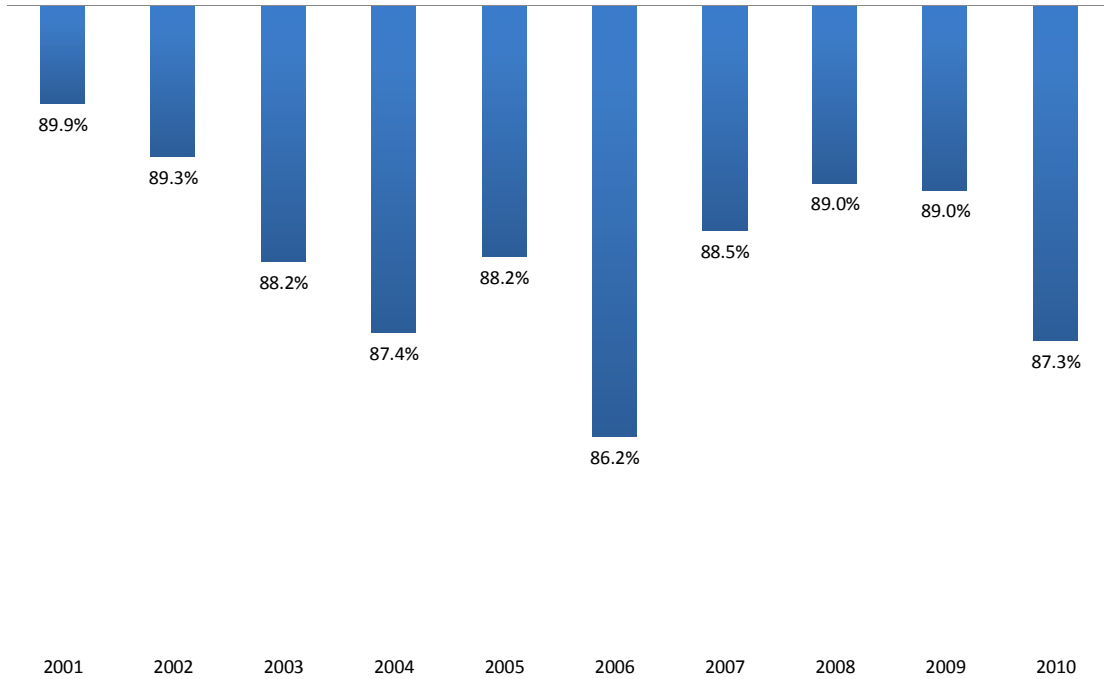


Earnings

On an annual pay basis, workers in Clinton County have consistently earned significantly less than the statewide average. Figure 3 demonstrates that average pay per job in Clinton County was 90 percent of the state average in 2001 (where the state average is 100 percent). Despite relatively robust growth through the mid part of the last decade, average pay per covered worker declined relative to the state to, by 2006, a low of 86.2 percent. Comparative pay levels recovered, however, but the values posted to-date in 2010 indicate potential erosion in those gains.

Figure 3

Clinton County Average Weekly Wages and Salaries as Percentages of the State of Iowa Average



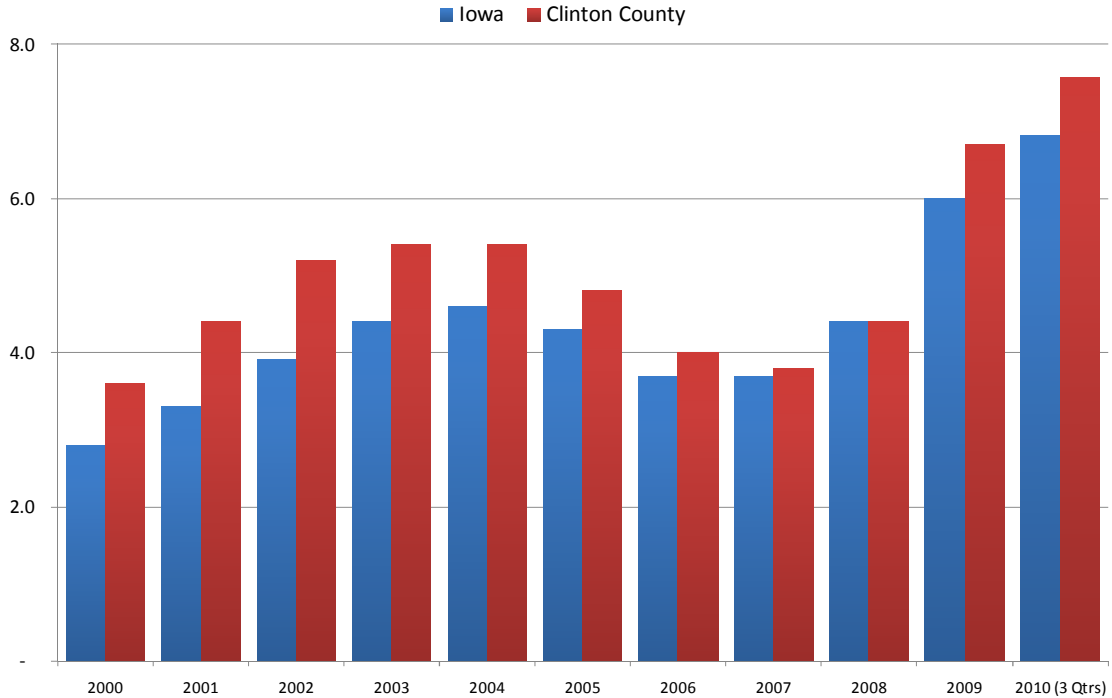
Unemployment

Through mid-decade, Clinton County unemployment rates exceeded state of Iowa rates even though jobs in the region grew much faster than the state during the 2003 through 2007 period.

Figure 4 compares the county's unemployment rate with the state of Iowa. While rates did decline between 2005 and 2007, the county, like many other micropolitan trade centers, realized a sharp increase in unemployment once the recession took hold. Where rates were even with the state in 2007, through the 3rd quarter of 2010 they averaged 7.6 percent compared to a state average of 6.8 percent for that period.

Figure 4

Clinton County and Iowa Unemployment Rates



Intra-Regional Employment Patterns

Clinton County residents are fortunate in that there is a core economy that demands area labor coupled with strong out of county demand for workers as well. Using estimates of regional workforce characteristics maintained at the Census's Local Employment Dynamics data base, we can identify where people who live in Clinton County work and where people come from who work in Clinton County.

In 2008, the last year that estimates of this type were available, there were 25,022 Clinton County residents with wage and salary jobs (see Table 1). Of those, 14,508, or 58 percent, actually worked in Clinton County, and the remaining 42 percent worked elsewhere. Scott County absorbed 14.5 percent of Clinton County's workers, and Linn, Jackson, and Rock Island, IL, Dubuque, and Whiteside, IL, County all employed from 2.1 percent to 3.7 percent of the County's workers.

In contrast, there were 23,632 covered wage and salary jobs in Clinton County in 2008. Of those jobs, 14,508 or 61.4 percent were filled by Clinton County residents, with Whiteside County, IL, accounting for 9 percent, trailed by Scott and Jackson County at 7.1 percent and 4.1 percent, respectively.

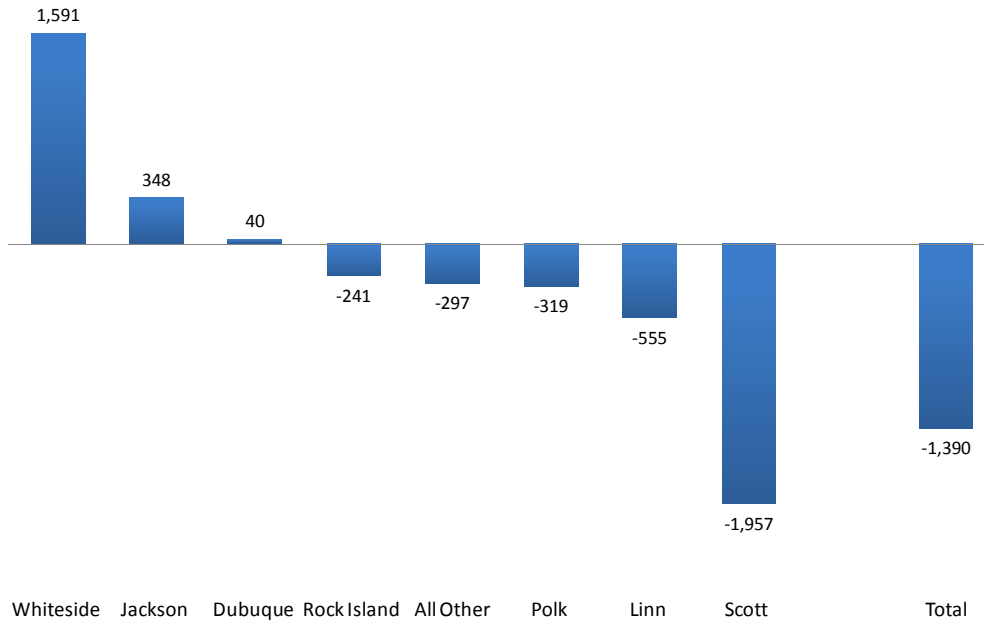
Table 1

Where the People Who Live in Clinton County Work			Where the People Who Work in Clinton County Live		
	2008			2008	
	Count	Share		Count	Share
Clinton County, IA	14,508	58.0%	Clinton County, IA	14,508	61.4%
Scott County, IA	3,630	14.5%	Whiteside County, IL	2,127	9.0%
Linn County, IA	938	3.7%	Scott County, IA	1,673	7.1%
Jackson County, IA	632	2.5%	Jackson County, IA	980	4.1%
Rock Island County, IL	605	2.4%	Dubuque County, IA	603	2.6%
Dubuque County, IA	563	2.3%	Carroll County, IL	560	2.4%
Whiteside County, IL	536	2.1%	Linn County, IA	383	1.6%
Polk County, IA	485	1.9%	Rock Island County, IL	364	1.5%
Johnson County, IA	476	1.9%	Polk County, IA	166	0.7%
Black Hawk County, IA	358	1.4%	Cedar County, IA	161	0.7%
All Other Locations	2,291	9.2%	All Other Locations	2,107	8.9%
Total	25,022		Total	23,632	

It is evident that the overall economic performance of the rest of the region has an important influence on the overall well-being of the Clinton County economy and its citizens. More than 10,500 of its residents work outside of Clinton County. The county has a substantial net-negative exchange with other counties in terms of the number of their residents that work in Clinton County compared to the number of Clinton County residents that work in theirs. That net exchange is displayed in Figure 5. The county enjoys a very strong positive exchange with Whiteside County, IL, of nearly 1,600 more in-coming workers than go out, trailed sharply though with a positive 348 worker exchange with Jackson County. Of a net negative exchange of 1,390 jobs considering all counties, 1,957 more workers trek to Scott County than vice versa, and 555 more travel to Linn County than come from that destination.

Figure 5

Clinton County Net Exchange of Workers, 2008



Key Demographic Changes

Despite strong wage and salary job gains this past decade prior to the recession, the county nonetheless suffered population decline. The components of area population change are contained in Figure 6.

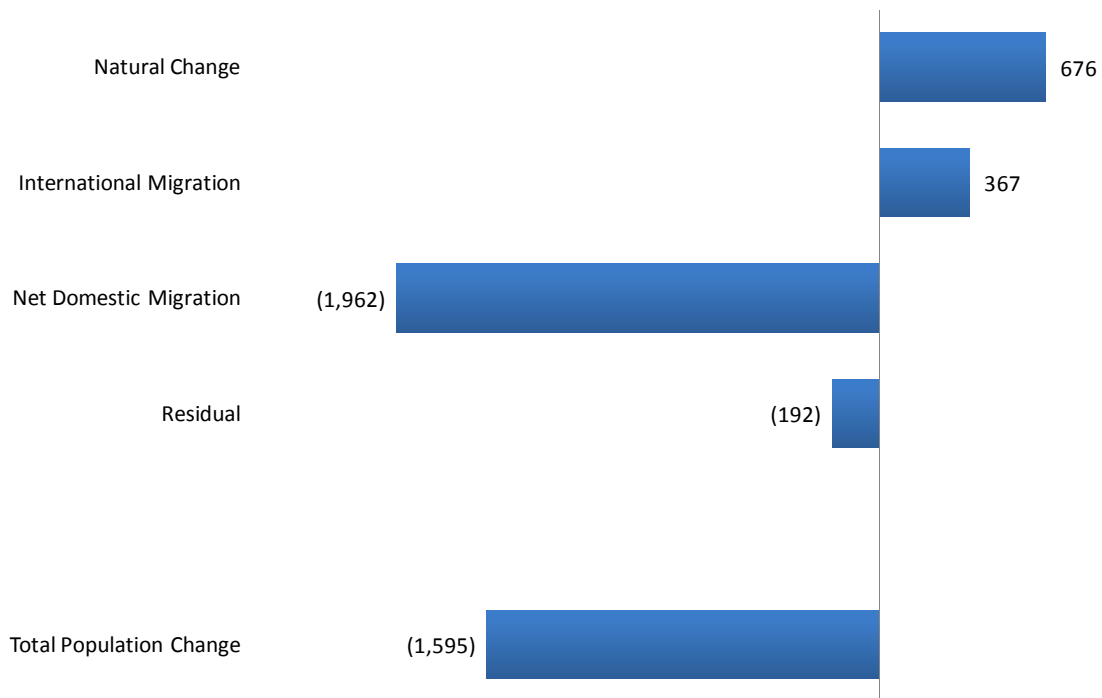
Between July 2000 and July 2009, the county saw a reduction of 1,598 persons. Natural change of 676 represents the number of births in the county minus deaths. Domestic migration is the simple movement of persons from one county to another, regardless of their citizenship. In this category, the county had 1,962 more persons moving out of the county to another county than moved into the county. International migration, those that came to the county directly from another country, was positive at 367. And the residual, which is primarily unallocated net domestic migration, was -192. The sum of the components yields the total change.

The inability of the region to stabilize its population despite relative strong job growth should be of a concern to area planners. There are two common reasons for this. The first is that the region is serving as a regional trade and employment center for an otherwise stagnant or declining larger region. Accordingly people take jobs in the county but continue to reside in their more rural communities. The

second reason could be that the jobs that were developing were either not of the duration or of the level of pay to induce and sustain immigration.

Figure 6

Components of Population Change in Clinton County, 2000 to 2009



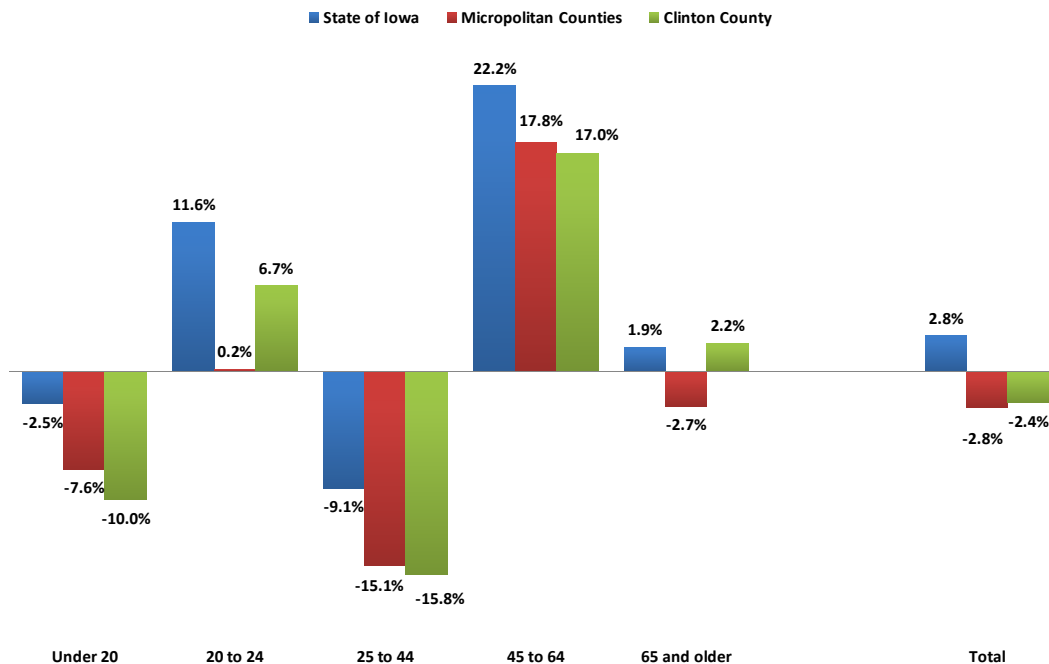
An economy's ability to grow is a direct function of the number of persons it has in prime workforce ages. Those young adults, in this case ages 25 to 44, represent the supply of labor (regardless of education and skill levels) that all businesses require as they grow or start up. Healthy economies have a good supply of those workers primarily because those ages of workers are more mobile and self-locate to areas where their employment prospects are better.

Figure 7 displays the changes that have occurred in Clinton County, all other micropolitan sized counties, and in the state of Iowa this last decade among major demographic groups (Micropolitan counties contain an urban area with a population between 10,000 and 49,999). In that critical young adult category, the state of Iowa posted a 9.1 percent decline this last decade. Among micropolitan counties

and in Clinton County, that group declined by 15.1 percent and 15.8 percent respectively. This erosion severely undercuts the region’s ability to compete for new firms in that its available prime labor supply is eroding. In addition, there is an inter-generational echo. Micropolitan counties lost 7.6 percent and Clinton County realized a 10.0 percent decline in the number of young persons. By losing young adults, Clinton County as well as the remaining micropolitan areas are losing the children that those young adults have and the children they would have had. Finally, while all comparison levels post gains in persons ages 45 to 64, those gains are the result of normal expansions in the “baby boom” category. Those populations, while certainly work-worthy, have much higher likelihoods of being employed and having reached peak earnings. They are not a major source of available labor for business expansion or a major source of productivity growth.

Figure 7

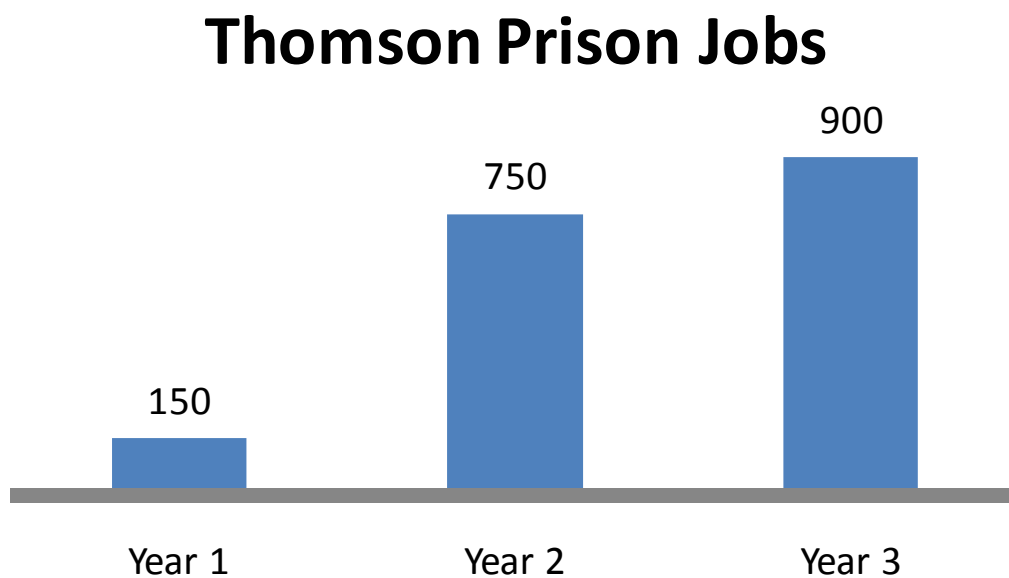
Age Cohort Population Changes, 2000 to 2009, for Iowa, All Micropolitan Counties, and Clinton County



The Regional Economic Values of the Thomson Correctional Center

The Thomson Correctional Center (TCC) would be a federally operated maximum security facility located in Thomson, IL. After spending approximately \$15 million in renovations and upgrades, the facility would become fully operational over a three year period and would ultimately employ 900 federal workers (see Figure 8).

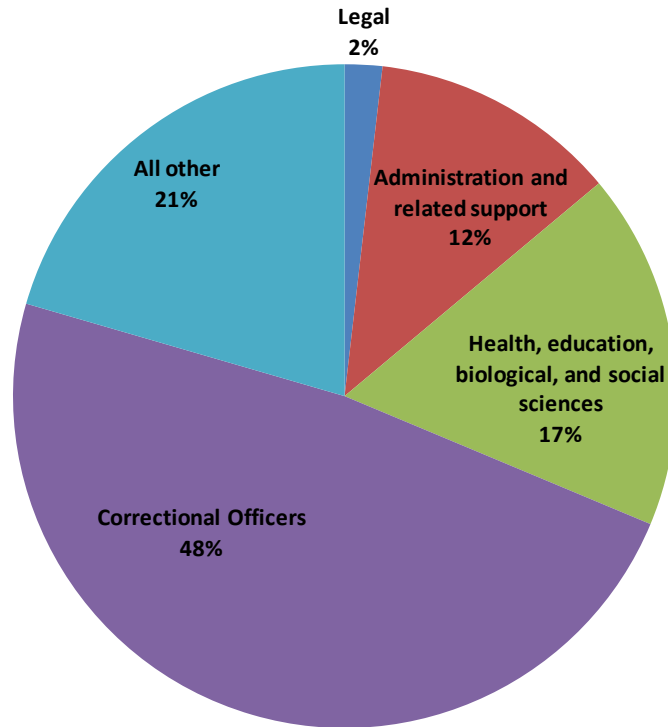
Figure 8



Unlike many federal operations, over 97 percent of the U.S. Bureau of Prison's (BOP) workforce is made up of field employees. In 2010, the average earnings for all workers were \$64,192. According to Figure 9, just under half of U.S. BOP employees are correctional officers, 17 percent are health, counseling, or education related jobs, and 21 percent are miscellaneous support staff. According to the aforementioned environmental assessment, the U.S. BOP upon acquisition and at full operation would transfer 350 workers into the facility, a substantial fraction it is assumed would be experienced administrative and supervisory positions. Another 550 workers would be hired from the region. The preponderance of hires would fall within the federal GS7 through GS9 occupational grades, which have a pay range of \$41,200 to \$65,500.

Figure 9

U.S. Bureau of Prisons National Staffing Patterns



In calculating the regional economic impacts of the TCC, it is important to understand how much new productivity is going to be added to the regional economy. The region for this analysis is defined as Clinton County in Iowa, and Carroll and Whiteside County in Illinois. These are the counties from which the majority of workers will be expected to be drawn and ultimately reside, and this is the territory where large fractions of purchased inputs to the facility will originate. Some workers will reside outside of this region, but for practical purposes the majority of economic consequences will be realized within those three counties.

Table 2 contains the basic direct data used for the regional economic impact modeling exercise. Staffing and annual operating costs increased progressively through year three at which time the TCC would be operating at full staffing. Annual operating costs would be \$122 million by the third year, and all employee earnings would amount to \$62.1 million.

Table 2

Thomson Correctional Center Direct Data

	Year 1	Year 2	Year 3**
TCC Prison Staffing*	150	750	900
Annual Operating Costs \$	37,000,000	112,000,000	122,000,000
Payroll / Earnings \$	10,343,100	51,715,500	62,058,600
Renovations \$	15,000,000		

*350 would be employee transfers, and 550 would be new hires

** Year 3 would be the base year from which final economic impacts would be declared

In economic development parlance, all of the federal spending for the operation of the prison represents a net direct gain in regional productivity; that is, were it not for the proposed federal spending, that productivity would not exist in the broader region. Consequently, the acquisition and operation of the TCC would represent a true economic impact to the region in so far as the region's economy would be larger as a consequence.

Understanding Impact Model Terminology

Before proceeding further, it is important to learn how to read input output tables. The expected regional economic impact is measured using an input-output (IO) model of the area of scrutiny. For this study, a three-county set of industrial accounts was fabricated so that the results as closely as possible represented the primary region's economic structure.

The tables that are produced in IO models display the amount and the types of economic activities that are generated by operating the federal prison in the region. There are four categories of economic information that will be produced in subsequent tables:

- ▶ Total industrial output. This is the value of what is produced in the industries that are evaluated.
- ▶ Total value added. Value added is composed of wages and salaries to workers, returns to management to sole proprietors, incomes from properties and other investments and indirect tax payments that are part of the industrial production processes. Value added is the same thing as Gross Regional Product, and it is the standard manner in which we gauge the size of an economic activity, especially on a comparative basis.

- ▶ Labor income. Labor income is a subset of value added. It is composed of the payments to workers and the proprietors' incomes. Labor incomes are useful for regional analysis because very large fractions of them accumulate to resident workers, whereas incomes from investments, for example, mostly accumulate out of the region of scrutiny.
- ▶ Jobs. Jobs are not the same as employed persons as many people have more than one job. There are, therefore, more jobs in an economy than employed persons. In addition, not all jobs are equal. Some are seasonal, others are part-time. The modeling system provides an annualized value of the jobs associated with some level of industrial output even if the jobs only occur during a short period of time.

There are three levels of economic activity that are summarized.

- ▶ Direct activity. This refers to all of the economic values listed above in the industries that are assessed. These are the direct annual operational characteristics of the Thomson Correctional Center.
- ▶ Indirect activity. All firms require inputs into production such as supplies, services, wholesale goods, transportation, banking services, and utilities. When levels increase or decrease in the direct sector, that influences the demand for inputs.
- ▶ Induced activity. This occurs when workers in the direct firm and workers in the indirect, the supplying, sectors spend their labor incomes on typical household needs. This stimulates another round of regional economic activity that, in turn, stimulates jobs and pays incomes.

The sum of these three levels of economic activity provides the estimate of the total economic value of a particular kind of industrial production or government activity.

This study only assumes regionalized economic impact gains as a result of the TCC as the vast majority of the operational, labor force, and other activities associated with it will be constrained to a reasonably circumscribed territory. Given the size of the facility and its total employment, it would be inappropriate to use a statewide model for estimating regional economic outcomes.

The Results

Table 2 describes the direct values that were entered into the input output model that was built for the three-county region. This impact evaluation will focus on describing the value and consequences of the TCC becoming an ongoing federal operation. That means its full economic value to the region will be

achieved in the third year of operation. Prior to that point, the facility will be expanding, and there will be construction activity. The very short term value of construction activity will be displayed first. While those values, in the short run, may be meaningful to a region, they are temporary and extremely limited in their localized impacts. Economic impact analysis, when done properly, always segregates capital development from ongoing economic activity recognizing that jobs associated with the former are temporary and literally disappear when construction finishes, while ongoing operations jobs continue and become a constant component of a regional economy. And when describing the ongoing value of an enterprise or institution to a region once at full production or operation, one never combines construction activity with those ongoing values.

Short Term Construction Activity

The proposal for the TCC anticipates \$15 million in construction and renovation to accommodate federal security standards. In general, the technical, durable goods, and specialized construction needs of modern high security prisons will be obtained in significant quantities from suppliers and contractors external to the region. In consequence, this analysis only allows 50 percent of the proposed construction and renovation spending to accumulate to regional construction firms. Whether that is a reasonable or unreasonable assumption cannot be ascertained from the information that is available from the U.S. BOP or from interviews with Clinton area officials.

Table 1 displays the short term construction impacts that would be due to the new federal construction and renovation spending at the TCC. If \$7.5 million were spent purchasing construction services from area suppliers, that level of spending would support, on an annualized basis, the equivalent of 72 jobs making \$3.06 million in labor incomes. Those construction activities would require \$1.16 million in input supplies from the regional economy, which would in turn require 9 jobs making \$375,555 in labor income. When the direct and indirect job holders converted their labor incomes into household spending, they would induce \$1.77 million in output, which in turn would require 19 jobs making \$577,375 in labor incomes. The sum of the direct, indirect, and induced values constitute the total temporary impact associated with the construction activity. For just one year, the value of that construction would equate to \$10.4 million in regional industrial output and 101 jobs earning \$4.01 in labor incomes.

Table 3

Limited Duration Construction Impacts

	Direct	Indirect	Induced	Total
Total Output \$	7,500,000	1,159,688	1,773,673	10,433,361
Value Added \$	3,447,190	573,510	1,048,834	5,069,534
Labor Income \$	3,058,960	375,555	577,375	4,011,889
Jobs	72	9	19	101

TCC Operational Impacts

Table 4 displays the progressively increasing annual economic impact of the operation of the TCC facility through its third year and thereafter. For the purposes of regional planning, before explaining the values, we can look at the total job creation of years one and two compared with the third year. The TCC will be producing about 20 percent of expected job impacts in year one, but by year two it will producing about 85 percent of its final year economic impacts. Consequently, regional economies will greatly accommodate the prison operations during the second year as it rapidly moves to full staffing and, therefore, its full economic impact in the regional economy by year three.

Table 4

Thomson Correctional Center Economic Impacts

	Direct	Indirect	Induced	Total	
Year One					
Total Output \$	37,000,000	8,310,665	6,528,865	51,839,530	
Value Added \$	10,343,100	3,962,542	3,852,600	18,158,243	
Labor Income \$	10,343,100	2,605,448	2,130,598	15,079,146	
Jobs	150	66	70	287	
Year Two					
Total Output \$	112,000,000	18,177,617	28,923,105	159,100,722	
Value Added \$	51,715,500	8,667,125	17,065,780	77,448,405	
Labor Income \$	51,715,500	5,698,802	9,439,520	66,853,822	
Jobs	750	145	312	1,207	
Year Three and Thereafter					
Total Output \$	122,000,000	19,714,105	34,375,924	176,090,029	Total Multiplier
Value Added \$	62,058,600	9,399,725	20,283,144	91,741,469	1.48
Labor Income \$	62,058,600	6,180,501	11,219,145	79,458,246	1.28
Jobs	900	158	371	1,428	1.59

Only the year three values from Table 4 represent the annualized full worth of the facility to the region. When the TCC is in full operation^{*}, it will have an annual budget of \$122 million. It will have 900 workers making \$62.058 in total earnings (remembering that earnings encompass wages and salaries plus all employer-provided benefits). The TCC is expected to purchase \$19.7 million in inputs from the three-county region annually, which will require 158 jobs earning \$6.18 million to produce and deliver. When the prison workers and the supplying sector workers convert their earnings into household spending, they will induce \$34.4 million in output, which will require 371 jobs making \$11.2 million in labor income. Combined, the TCC will boost the region's total output by \$176.1 million, support \$91.74 million in regional value added (or GDP), and provide \$79.5 million in labor income to 1,428 total jobs.

The year three data also contain a column of multipliers. These represent the ratio of the total value to the direct value. The output multiplier of 1.44 means that for every dollar's worth of spending at the TCC, \$.44 in additional output occurs in the rest of the three-county region. The labor income multiplier of 1.28 means that for every dollar of labor income generated at the facility, \$.28 in labor income is sustained in the rest of the regional economy. Finally, the job multiplier of 1.59 means that for every job at the TCC, there are 59/100th of a job in the rest of the economy. The modeling system reports a relatively low labor income multiplier as the facility is not expected to make robust levels of purchases from the three-county region for much of its operating needs. It is also low because there are substantial trade leakages among the counties into neighboring larger trade centers.

* The modeling system does not contain a specific prison line-item – no modeling system does. The modeling for this exercise was done by combining a section that identifies all federal employee-only spending impacts with another sector in the model. The remainder of the TCC operating budget was allocated to the “state and local government enterprises” sector. That sector is capital and technology intensive, as would be the case in a modern prison. The sector was modified in the modeling system, however, to substitute primarily energy and energy feedstock inputs with wholesale purchases that would simulate the need to purchase foodstuffs, paper products, clothing, and other essential supplies necessary to run a modern prison. The amalgamation of the two sectors allows the modeling system to simulate the prison's operations in the region.

Were this analyst privy to the expected detailed operational budget of the TCC and the expected location of all of its goods and services providers on an annualized basis, an intricate “bill of goods” model could be constructed that much more accurately estimated the probability of regional purchases and, hence, the regional multiplier effects associated with regional supplies to the facility. As the facility is a planned activity, there are no reliable data from which to estimate those purchasing relationships, and any input from the U.S. BOP would have been speculative at best unless it was based on actual an actual U.S. BOP prison operation. Consequently, we are left to utilizing the expected values that are contained in the modeling system across a wide array of industrial inputs, institutional, as well as household spending patterns.

Apportioning the Economic Impacts within the Region

The modeling exercise ascribed a three-county primary region for localizing the primary economic impacts of the TCC. As this report has been requested by the City of Clinton, estimations were made to determine the expected amounts of economic gains that should accumulate to the city and to Clinton County.

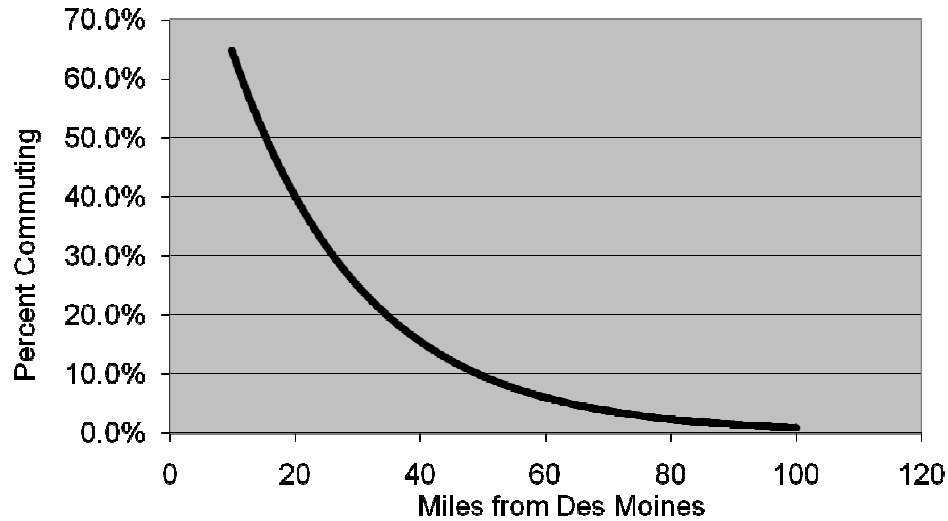
There are two primary factors that were analyzed. The first was the regional supply of housing within a 65 minute drive from the TCC. The second was the regional supply of labor within the same territory. A 65 minute drive was considered the maximum commuting distance, and there is substantial evidence from regional studies that the probability of a community's or a facility's workers spending more than an hour commuting is less than 5 percent. Owing to its size the Quad City population was included in the housing and labor supply calculations as a hefty portion of the area was within the 65 minute threshold, and the weighted travel time for the entire Quad City region was 64 minutes to the TCC. The metropolitan area of Dubuque, however, was not included as its average travel time was over 70 minutes.

Figure 10 illustrates the effects of labor force participation in a strong central economy, in this case the Des Moines area economy, given distance from the city. This curve was developed using 2000 Journey to Work data from the U. S. Census. It is readily evident that given immense size of the Des Moines area economy, around 5 percent of an outlying labor force located 60 would be willing to commute 60 miles, which in commuting time translates to roughly 70 to 75 minutes of driving. The same type of curve would be evident in any metropolitan county in Iowa. Iowa's micropolitan areas, too, would have a similar incommuting pattern, though the curve would decline more sharply because of their smaller size.

The TCC despite the desirability of employment at the facility, however, would not have the same strong draw as is evidenced in the figure: first, it is a comparatively small employer given all of the employment that is occurring in the region. Second, the occupational demands are highly specialized and there are extraordinary barriers to entry into federal employment. It's ostensible "gravity" to attract outlying labor is therefore limited. It is nonetheless useful to use such a modeling description to estimate the possibility of workers traveling to TCC from outlying areas and demonstrate the potent disincentive distance has on living in one area and working in another.

Figure 10

Percent of neighboring labor force commuting to central city



In compiling the labor and housing supply model for the TCC analysis, 20 locations in the two states were used as possible suppliers of labor and homes. The primary measurement territory involved southern Jackson, Clinton, and northern Scott County in Iowa, southern Jo Davies, Carroll, Whiteside, and northern Rock Island County in Illinois. By describing the region that widely, the analysis is able to take into account a wide group of communities in Illinois and Iowa that would conceivably serve as homes to workers as well as suppliers of workers. The number of housing units was weighted by the area median values as compared to the weighted reference area median. Higher median home values were used to indicate a desirability to live in an area, all things equal. The labor force values were adjusted by the fraction of the area's population that had a college degree compared to the weighted average for the whole reference area. As federal jobs at the pay levels advertised would be considered, regionally, extremely good jobs, it would be expected that labor force members in areas where, on average, education levels were higher would be more competitive for those positions.

The next part of the estimation takes into account these localized weighted housing or labor force supply values and discounts the disincentives of distance. Those calculations were done using a modified Huff's probability formula where:

$$\text{Huffs Weighting Factor} = \frac{\left(\frac{\text{City Housing Units}}{\text{Distance to TCC}^2} \right)}{\sum \left(\frac{\text{Combined Area Housing Units}}{\text{Combined Distance to TCC}} \right)^2}$$

The same estimation procedure was used to determine the potential labor supply to the facility where labor supply is substituted for housing units in the formula above. The denominator is squared to represent the disincentive of distance on commuting (as illustrated starkly in Figure 10). In so doing, closer locations receive higher scores and the effects of distance diminish sharply the probability of working at the TCC. The average of the two factors was used to ascertain the expected probability of Clinton City and Clinton County capturing the economic impacts associated with the operation of the TCC.

Table 5 provides the modeled probabilities of where either housing might be sought or labor might be supplied that would work in the TCC. The average value of the two indicators represents the best estimation of TCC worker residential probabilities. These factors, however, are not appropriate for estimating the distribution of the economic impacts reported in Table 4. The reason for that is that very large fractions of TCC supplies and household shopping activity will accumulate to regional trade centers irrespective of residential decisions. Accordingly, the City of Clinton and the Quad City area in general would be expected to benefit from increased sales transactions that are greater than their contributions to the facility's labor needs.

This apportioning exercise estimates that there is a 35 percent likelihood that TCC workers will live in the City of Clinton, whether already residing there and finding work at the TCC or coming from some other place and deciding to reside in Clinton.* The remainder of the county has a 5 percent probability. They are additive, so 40 percent of the TCC employee-related activity would be expected to accumulate

* As the TCC is considered net new productivity to the study region, the estimated job and income economic impacts are to be expected. Due to a prolonged recession, however, there is a high amount of slack in regional workforces. That means that a higher than average number of workers are unemployed or otherwise not fully employed. An increase in employment at TCC may take up some of that workforce slack, but not result therefore in as much in-migration of new workers or their families as a consequence until the regional labor supply qualified to work at the TCC is fully utilized. At that point, there will be incremental boosts in demand for area housing beyond that demanded by those workers that would be transferred into the region by the U.S. BOP. In short, regional new housing demand will not match the growth in jobs that were estimated and local policy makers need to be mindful of that fact.

to the county at large with the vast majority of that fraction located in Clinton City proper. The Quad Cities, owing to the sheer size of its housing and labor supply, may be the home for nearly one in four of the facility’s workers. The next most desirable probability is Fulton, IL, at 7 percent, followed by Thomson, IL, at 5 percent. The remaining workers are projected to be scattered across the rest of the measurement territory, and 9 percent are expected to live beyond the area of evaluation.

Table 5

Estimates of Area Housing and Labor Supply

	Housing Probability	Labor Force Probability	Average
Clinton City	36%	35%	35%
Rest of Clinton County	5%	5%	5%
Quad Cities	21%	28%	24%
Fulton, IL	8%	6%	7%
Thomson, IL	6%	5%	5%
Remainder of the measurement area	14%	13%	14%
Outside of the measurement area	9%	9%	9%

The overall ability of the City of Clinton to capture both workers’ and TCC input demand is accentuated by the city’s proximity to the facility and by virtue of its overall trade position in the area. The city will capture input sales and household spending disproportionate to the probabilities displayed in Table 5 by virtue of its strong position as a regional trade center. In 2009, the city posted a trade pull factor of 1.37, which means that it was serving all of the trade needs of the equivalent of 27 percent more persons than the population of Clinton $(1-1/1.37)= 27\%$. Accordingly, it should realize more than 35 percent of the region-wide economic impacts that were reported in Table 4. For example, it should realize the vast preponderance of trade opportunities that would result from housing developing in and around the Thomson area as that small community has no trade to speak of. Countywide, however, the probability of gain diminishes. The county has a trade pull factor that is less than 1.0, which means that it suffers significant net trade leakage to larger nearby trade centers. Stated differently, Clinton City should be able to adequately capture much of the trade growth that accumulates in the housing and labor supply that is located within its existing trade area, but its ability to capture incremental trade

from areas beyond their primary trade area will probably not be enhanced greatly, though it should be improved.

Discussion

Economic impact analyses are projections of the consequences of productivity changes in a regional economy. In the case of the TCC, net new federal spending will boost the region's economy. There will be multiplier effects, as well, as the TCC will require regionally supplied supplies and services, and the workers at the facility will require regionally supplied goods to satisfy household consumption. The boost to the region grows incrementally until the third year when the facility becomes fully operational. Given the data that have been made available from the U.S. BOP or from independent research of the annual operating characteristics of the Bureau, the findings in this study are quite consistent with the type of consequences regional economists would expect were a facility of this type to commence operation and sustain operations for the foreseeable future.

The regional job and labor income findings in this study are greater than those that were reported in the "Environmental Assessment for the Federal Bureau of Prisons' Acquisition and Activation of Thomson Correctional Center as Administrative United States Penitentiary Thomson", August 2010. I am not privy to the procedures used by the consulting firm in determining both job and labor income outcomes in that study, but I am confident that the declaration of those values in that study was much too small.

This ISU study identified 1,478 total job impacts earning a combined \$79.5 million in labor income as the annual regional economic impact when the TCC is staffed fully. The environmental assessment conducted on behalf of the U.S. BOP found 1,179 jobs, but a mere \$19.1 million in regional labor income gains. For some reason the consultants appear to not have counted the earnings that would accumulate to the TCC workers as part of their regional labor income gains. In modeling systems, we count incomes where they were earned. It is this researcher's opinion that those values are therefore in error and should not be used for regional planning purposes.

Appendix: City of Clinton Resolution Requesting the Study

RESOLUTION NO. 2010-284

RESOLUTION APPROVING AN ECONOMIC IMPACT STUDY TO BE PERFORMED BY IOWA STATE UNIVERSITY TO DETERMINE THE VALUE OF INTER-INDUSTRIAL TRANSACTIONS WITHIN A REGION

WHEREAS, economic impact studies project the regional income and job growth due to changes in regional economic activity, and

WHEREAS, the federal prison at Thomson will create a discernable impact on the Clinton regional economy, and

WHEREAS, if in conducting a short-term, construction-related economic impact study the participants can provide detailed data on capital spending by type as well as the amount and type of spending that is contracted locally a construction impact evaluation can be compiled, and

WHEREAS, the on-going operation of the prison facility, the type of goods and service which are expected to be procured locally, and the total labor requirements and payroll costs will assist in the impact analysis to be adjusted to more reflect the region, and

WHEREAS, the economic impact analysis that considers both the construction impacts and the on-going operational impacts will be conducted for the region for a fee of \$5,400;

THEREFORE BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF CLINTON, IOWA that an economic impact study by the Iowa State University Extension at the cost of \$5,400 be approved.

Adopted: **July 27, 2010**