Economic Impact Study of McLean County Museum of History-
Cruisin’ with Lincoln on 66 Visitor Center

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Abstract
The aim of this paper is to determine the McLean County Museum of History's total effects, as well as the visitor center's total effects (thus far), on the Bloomington-Normal economy by calculating an aggregate monetary value for income earned to all businesses within the community. This will be done through an economic impact study, keeping in mind that "input-output modeling and aggregate income multipliers are particularly important" (Llop & Arauzo, 2012). It is hoped that this research will further our knowledge about the impact of cultural activities and how they are transmitted throughout the economy. This will help organizations aimed at tourism to better understand and plan the allocation of resources in an efficient manner.

Keywords
community impact, economic impact, economic benefit, museums, tourism, Central Illinois, Bloomington-Normal

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Economic Impact Study of McLean County Museum of History-Cruisin’ with Lincoln on 66 Visitor Center

Arica Williams

I. Introduction

A new addition to the Mclean County Museum of History was opened in April of 2015 with the goal of attracting more international tourists to the museum, as well as to the Bloomington-Normal community. The addition was specifically “designed to attract to downtown Bloomington more than 40,000 people a year who come to Illinois to drive on Historic Route 66, including weekend travelers and thousands of European and Asian vacationers” (Warnick, 2014).

The latest addition is a visitor center that combines “two great brands,” Abraham Lincoln and Route 66 (Warnick, 2014). The exhibit features stories about dining, lodging, and traveling during Lincoln’s era and during the golden days of Route 66 (Mclean County Museum of History, 2014). The Cruisin’ with Lincoln on 66 Visitor Center allows tourists to learn about two key historic features of Illinois in one place. It is speculated that the visitor center will attract 20,000 people to the Bloomington-Normal area by April of 2018, of which 5,000 will visit the museum, increasing the museum’s earned income from sales of admission tickets (Mclean County Museum of History, 2014).

The visitor center was funded by multiple organizations to cover the expected $519,330 cost. The Department of Commerce and Economic Opportunity/ Illinois Office of Tourism contributed a grant to the museum for $249,000, almost half of the cost of the new addition. The Bloomington/Normal Convention and Visitors Bureau and the McLean County Museum of History funded the remaining costs of the project.

When comparing the funding of the visitor center to other projects across the community (found in Table 1 in the Appendix), it is apparent that the award granted to the McLean County Historical Society is significantly larger than the majority of the other grants. Due to the large sum of funding granted to this project, it is important to get a better understanding of the economic impact of the addition of the visitor center. This will allow us to see whether the museum’s original goals are on the path for success and allow us to determine whether the resources could have gone to another museum in the state of Illinois or to another project in the community that would have been more efficient and beneficial. A similar study on the economic impact of heritage tourism in Northeastern Iowa agrees “the discretionary nature of expenditures in heritage tourist places makes it crucial to understand visitor spending patterns. This is key in demonstrating the economic contribution to the community for the tourism planners” (Çela et al, 2009). To be clear, the purpose of this paper is not to conclude whether the Cruisin’ with Lincoln on 66 Visitor Center has attracted enough new visitors to be on course for its three-year goal of 5,000 visitors or to decide what alternative institution the funds could have gone to; however, the results of this research may aid in determining whether the 5,000 visitors goal will be met in 2018.

The aim of this paper is to determine the McLean County Museum of History’s total effects, as well as the visitor center’s total effects (thus far), on the Bloomington-Normal economy by calculating an aggregate monetary value for income earned to all businesses within the community. This will be done through an economic impact study, keeping in mind that “input-output modeling and aggregate income multipliers are particularly important” (Llop & Arauzo, 2012). It is hoped that this research will further our knowledge about the impact of cultural activities and how they are transmitted throughout the economy. This will help organizations aimed at tourism to better understand and plan the allocation of resources in an efficient manner.

II. Literature Review

The importance and positive effect of cultural assets, such as museums, has been recognized and
researched by many scholars (Çela et al, 2009; Listokin et al, 2011; Llop and Arauzo-Carod, 2012). State and federal grants are provided to organizations, such as museums, because it is recognized that the cultural assets the organization provides to the public creates a positive economic impact in the community in which it resides (Koos, 2014; Warnick, 2014). Furthermore, it is acknowledged that the increase in tourism that is a result of these cultural assets also have positive impacts on the community (Çela et al, 2009; Harris, 1997; Zhou et al, 1997).

Several methodologies can be used to measure the economic impact of a museum and the resulting tourist activities; however, input-output modeling and the use of regional multipliers have been widely used by scholars (Çela et al, 2009; Harris, 1997; Llop and Arauzo-Carod, 2012; Zhou et al, 1997). The input-output model was first proposed by Wassily Leontief (1941) after he realized that a fundamental relationship exists between the size of outputs in an industry and the volume of inputs going into that industry. As summarized by Miller and Blair (2009), Leontief used a “system of linear equations, each of which describe the distribution of an industry’s product through the economy” and involves the “flow of products from each industrial sector” (p.1). The result of these linear equations was a database, created by Leontief, in the form of small tables for the U.S. economy in 1919 and 1929.

Input-output analysis must be used with caution as all models have their flaws. Carl Christ (1968) points out such flaws in the assumptions inferred from the use of Leontief’s input-output model. Christ demonstrates that the assumption of a constant return to scale is unrealistic and empirical results must reflect upon this flaw. Furthermore, input-output analysis also assumes that there is only one process used for the production of each output, which excludes all choice about the proportion in which inputs are to be combined in the production of a given output. Since input-output tables are not derived from data in the same year in which empirical studies are conducted, one must take these underlying assumptions into account when reporting results. However, even Christ concedes that “input-output is the best technique now available for handling problems that require a picture of the production function of the entire economy (1968, p.168). Many developments of this model helped transform input-output analysis and the subsequent RIMS II tables we use today.

One such development was the integration of national accounting into input-output tables. Under the direction of Richard Stone (1961), social national accounts were built around input-output concepts, the former of which is used to track economic activities on a national scale. It was Stone’s goal to have a quantitative foundation in order to make Leontief’s input-output theory relate effectively to empirical data.

Originally, Leontief’s input-output tables analyzed the impact of the monetary value of final demand; however, current tables include earning multipliers. In 1977 Pyatt et al. formed “an input-output system for the income and outlay accounts for sectors which receive income, make transfers among themselves, spend for consumption, and save” (Sohn 1986, p. 22). This results in multipliers that illustrate the relationship between earned income of an employee and its effect on the economy. Our research makes use of such earning multipliers by applying them to the salaries of employees from the McLean County Museum of History. The usage of earning multipliers has become another fundamental way to measure the impact of industrial changes in the economy.

The most important development of Leontief’s input-output analysis that relates to this research is its use as a method of regional analysis. The relationship between industries at the regional level differs significantly from the national level. Therefore, production in an industry may have different inputs (for example, rural areas may receive energy from wind power, whereas urban areas would not) and there is also a different proportion of leakages within each region (Miller and Blair 2009, p. 69). Walter Isard (1951) first theorized the use of input-output analysis at the regional level, and Moore and Petersen (1955) first applied input-output analysis at the regional level to the state of Utah. Since the 1970’s the Bureau of Economic Analysis has produced regional input-output multipliers, found in the RIMS II model, by adjusting national input-output relationships with regional data. The RIMS II model has expanded beyond the state level, including multipliers that are available for individual counties. Our research specifically uses the RIMS II model for McLean County. In addition to the use of input-output tables at the regional level, Harris (1997) discusses the application of regional multipliers in the context of tourism impact studies, which
this research empirically investigates.

We will briefly review the main findings of previous empirical literature that has used the input-output model to give context to our methods. Leontief himself conducted multiple empirical studies using his input-output model for multiple applications such as employment, pollution, and decrease in war spending. In a 1965 study, Leontief et al. aimed to determine the regional and industrial effects of a hypothetical reduction in military spending, accompanied by an increase in non-military demand, on employment using a coefficient matrix that makes use of data from 1958, and includes eighty industries. The research concluded that since the shift in the composition of final demand left employment levels the same, the economic impact is seen as a shift in labor among different industries and regions. This study demonstrates that input-output analysis can be applied to a wide range of activities in an economy.

In fact, the input-output model is the most commonly used method to measure the economic impact of cultural assets. Llop and Arauzo-Carod (2011) conducted an economic impact study for a newly built museum by quantifying the amount of new productive income and employment created in the local economy. They used an input-output subsystem analysis to determine if an economic impact was created beyond the cultural industry. Subsystems are useful in that they can show inter-industry effects of the demand shock of a cultural activity. The use of subsystems allows researchers to differentiate the economic impact between service related activities (retail shops, restaurants, hotels, etc.) and unrelated activities such as agriculture, manufacturing, etc. (Llop and Arauzo-Carod 2011, p. 864). However, this research does not focus on the detailed impact of the McLean County Museum of History, but the overall impact on the local economy. Llop and Arauzo-Carod’s study is useful for this research because it can aid us in determining what industries are most impacted by tourist expenditure, spurred from the visitation of cultural assets, similarly in the way we measure the impact of out-of-town visitors due to the Cruisin’ with Lincoln on Route 66 Visitor Center.

III. Data & Methodology

This research has two objectives. The first goal is to conduct an economic impact study of the McLean County Museum of History. The other purpose of this study is to conduct an economic impact study of the subsequent spending by new visitors attracted to the Bloomington-Normal community due to the development of the Cruisin’ with Lincoln on Route 66 Visitor Center. As a result of this research, we will be able to determine the amount of new visitors the museum needs to attract in order to justify the $519,330 spent on the new Visitor Center.

We will first determine the economic impact of the McLean County Museum of History by utilizing the Regional Input-Output Modeling System (RIMS II), which was derived from the Bureau of Economic Analysis. The multipliers that will be used are based on a national input-output table that used data from 2002 and include regional data from 2010 to make the multipliers specific to McLean County. According to RIMS II, the museum is classified un-
under the industry cluster #712000, “Museums, Historical Sites, Zoos and Parks.” The output multiplier for this industry is 1.2224, indicating that every additional dollar of museum expenditure delivered to final demand will generate $1.2224 in economic output in the community. The output, earnings, and employment multipliers for this industry can be found in Table 2 of the Appendix. The museum’s annual expenditure, number of jobs provided, and annual employee earnings come directly from the museum’s financial report and internal data. We must take into account that the regional multipliers may not be perfectly accurate due to the constantly changing relationship among sectors in the local economy. However, the multipliers were generated specifically using data from McLean County. It is also very valuable that the information provided by the museum is fully accurate and is not provided by a sample.

After calculating the economic impact of the museum, we must also calculate the economic impact of visitor spending within the community. To do so we must find the expected number of visitors to come to the community due to the visitor center, as well as calculate their expected average daily expenditure. The Museum’s “Proposal for the Development of a Tourism Visitors Center,” identifies the expected number of visitors by referring to a museum near by that is focused on Route 66. There are 40,000 annual tourists that come for the Route 66 attractions in Illinois. From these visitors, 20,000 visit Pontiac alone, which is in close proximity to the Bloomington-Normal community. Therefore, museum executives believe that after three years they will be able to attract 20,000 individuals to the Bloomington-Normal area as well. Based on admissions to the McLean County Museum of History since the opening of the visitor center, we can estimate the percentage of local, non-local and international visitors we expect to visit the museum. Between April 23, 2015 and August 29, 2015 the museum had 5,863 visitors. Of those, 1,751 signed the museum guest book and indicated where they were from. Of those who signed the guest book 10.9% were international visitors, 32.3% were out-of-state visitors, 26.7% were non-local, in-state visitors, and 30% were local visitors (see Figures 2 and 3). Although these percentages do not come from a representative sample, they are the best estimates available for this study because they come from data that is directly taken from museum admissions. We will use these percentages to calculate how many visitors from each subgroup we expect to impact the community due to the visitor center.

It is also essential that we know the visitors’ average expenditure based on their subgroup. We must calculate the expected average daily spending of national and international visitors separately because “in terms of spending, U.S. travelers were significantly outspent by international travelers in almost every category” (Listokin et al, 2011). To calculate these estimated expenditures we will be using a survey on Route 66 travelers that was conducted by Rutgers and the State University of New Jersey in collaboration with the National Park Service Route 66 Corridor Preservation Program and World Monuments Fund (Listokin et al, 2011). Of the 4,160 individuals who answered the survey, 85% were from the United States and 15% were International travelers. The survey results relevant to this study calculated the average expenditure of U.S. travelers and international travelers in many categories, including lodging and camping, eating and drinking, and gas and oil (Figure 1 in the Appendix). The study also calculated the average days spent on Route 66 (11.1 days for U.S. travelers and 11.2 days for International travelers) and the average days spent within each state on Route 66 (1.2 days in IL for U.S. travelers and 1.4 days in IL for International travelers) (Listokin et al, 2011, 224-226). Based on these computations, we will calculate the average expenditure per U.S. (non-local) and international visitor that will in turn be used to estimate the economic impact of visitor spending in the Bloomington-Normal community (calculations can be found in Table 3 in the Appendix). Since the Route 66 survey did not identify the average expenditure of local visitors we will be using the estimated average expenditure for local visitors that was presented in the “Proposal for the Development of a Tourism Visitor Center” (also in Table 3). Although we are using estimates as a proxy for visitor spending, the source from which the estimates are calculated are coming from a survey specifically for Route 66 and serve as a better proxy than any other survey that has been conducted on natural heritage areas. We will use these average daily expenditures, along with expected new visitors calculated by the museum, to conduct the economic impact study of new visitors coming to the community because of the visitor center.

IV. Results
A. Mclean County Museum of History
The McLean County Museum of History's total annual expenditure and annual salary and wages expense from year ending March 31, 2014 can be found in Table 4. Using the output multipliers in Table 2 we calculated the annual economic impact of the museum. The output multiplier for this industry is 1.2224, indicating that every additional dollar of museum expenditure delivered to final demand will generate $1.2224 in economic output in the community. The earnings multiplier is 0.5339, indicating that for every additional dollar spent by the Museum, the total dollar change in earnings of households employed by all industries will be $0.5339. The employment multiplier is 16.8447, indicating that for each additional $1 million in output delivered to final demand, there will be an increase of 16.8447 jobs that occurs in all industries. Due to its annual operations it is estimated that the Museum has an average $1.78 million annual economic impact on the community, supports the employment of about 25 individuals, and funds approximately $239,000 in additional household earnings by all industries. These findings are consistent with the findings of Llop & Arauzo-Carod (2011), which determined that there was a positive economic impact in the host community of a newly built museum. Although Llop & Arauzo-Carod used a subsystem analysis for their methods, the input-output method we employed is very similar. The only difference is that the subsystem analysis identifies for spending in particular industries.

B. Tourism Expenditure

Due to the new Cruisin' with Lincoln on Route 66 Visitor Center, it is expected that more tourists from Route 66 are visiting Bloomington-Normal, and hence spending money in the community. Between April 23 (when the Visitor Center opened) and August 29, 2015 there have been approximately 5900 visitors to the Museum. Of those, 1750 signed a guestbook and indicated where they were from. The percentages of visitors who are international, out-of-town, and local are indicated in Table 5. We then applied those percentages to the actual number of visitors to determine approximately how many visitors were from each subgroup. This is important to distinguish because international visitor expenditure within the community varies greatly from out-of-town visitors and local visitors (Listokin et al, 2011).

Using the visitor expenditure amounts found from the Route 66 survey in Table 4, we may calculate the expected total expenditure by each subgroup (Table 6), determine the percentage of total expenditure spent on the most affected industries (Food service, Lodging, and Retail Trade), and multiply those percentages by the total expenditure for each subgroup (Table 7). According to the Illinois Bureau of Tourism, out-of-town visitors in Illinois spend approximately 24% of their total expenditure on food services, 17.2% on lodging, and 5.5% on retail. If we employ these percentages to the total expenditure per subgroup we may calculate the expected expenditure of each subgroup for the most affected industries. We are assuming in these calculations that local visitors will spend all expenditure on food service and, therefore, we do not apply lodging expenditure percentages to the total local expenditure of $48,400.

Now that we know the expected visitor expenditure by industry we may determine the economic impact of visitor expenditure in the community. We multiplied the total expenditures by subgroup and industry, found in Table 7, by the output multipliers for each respective industry, found in Table 2, to determine the total economic impact of visitor spending within the community. Between April 23 and August 29, it is expected that the total economic impact of tourism spending due to the new visitor center was approximately $445,000, assuming the community reaps the full benefit of visitor expenditure (Table 8). Furthermore, visitor expenditure had a total economic impact on the food service, lodging, and retail trade industries of approximately $217,900, $141,000 (assuming that 100% of out-of-town/international visitors stay overnight), and $86,100, respectively. If we assume only ten percent of out-of-town and international visitors stay overnight in the community their expenditure would, instead, have an economic impact of $14,100 for the lodging industry and, therefore, a total impact of $318,150. The results of this research are consistent with the methods and results found in the research of Cela et al (2009) in that there is a positive economic impact from tourist spending in the community due to a cultural asset.

V. Conclusions

This research is consistent with many other studies as it concludes that cultural assets, such
as the McLean County Museum of History, have a positive economic impact of approximately $1.78 million on the Bloomington-Normal community annually from operating expenses. Moreover, the Museum’s new Visitor Center has attracted visitors to the Bloomington-Normal area. These visitors have spent approximately $361,800 within the community, which has created an additional economic impact of $445,000. Assuming that only ten percent of visitors stayed overnight would still create an economic impact of $318,150. The grant provided to the Museum for the creation of the new Visitor Center was $249,000. This study confirms that the funds and grants provided to the Museum had a sizable return on investment and informs city planners that investing in heritage and cultural assets in the community produces economic benefits. Furthermore, for the community to realize the full benefits of visitor expenditure it must continue to create updated and new infrastructure that will entice visitors to stay in the community for longer periods of time.

Further research on the Museum’s economic impact to the community could include an in-depth analysis of tourist spending on specific industries or tourist expenditure as a function of distance travelled. These research endeavors would require detailed museum visitor surveys. It could also be useful to compare the economic impact of specific cultural assets, such as museum, festivals, and performing arts centers, to aid city planners in determining which cultural assets bring the largest return on investment in terms of economic impact.

Appendix
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References


