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Cultural Tourism in Indiana:

THE IMPACT AND CLUSTERING OF THE ARTS AND CREATIVE ACTIVITIES IN THIS RECESSION

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ABSTRACT

In this study we report the impact of cultural tourism focusing on the arts and creative sectors. We find that, in the Hoosier State, the arts and creative activities account for more than $4.9 billion in economic activity directly, employing more than 43,000 workers. These activities generate more than $1.6 billion in value-added production and pay almost $43 million in business-related taxes (sales, property and license fees) annually. Further we find that these activities significantly cluster in two of our state's largest metropolitan areas—Indianapolis and the Chicago area. Additionally, universities play a significant role in the arts and creative sectors with the top ranked locations for the arts located proximally to the largest universities in the state. We also find that traditional tourism (some of which is arts-related) will suffer less cyclical downturn than the economy as a whole. This finding echoes earlier research on the issue. However, in the one cultural tourism sector for which we have lengthy data, we find strong evidence of countercyclical economic activity. So, museums, zoos, and parks may see increased income as a result of the overall income declines, but, during this recession state and local tax revenues, which are so critical to many museums, zoos, and parks; experienced significant declines. More critically, the drop in financial asset values has dramatically reduced private endowments, which affect institutional operations, especially for many museums in the state.

INTRODUCTION

Travel to a location to enjoy a county fair, a theater production, artistic works, architecture, a movie, festival or museum is cultural tourism. Virtually all of us, often unwittingly, engage in cultural tourism, as either producers or consumers of these goods—or both. Indiana is fertile ground for cultural tourism. From the virtually uncountable number of local festivals, to the robust county and state fair activities, to the hundreds of museums, to movie premiers at Ball State, to the basketball hall of fame, to covered bridges and the architecture of downtown Columbus or to re-enactments of

great battles to living history encampments, Indiana enjoys a wide variety of cultural tourism activity.

Much has been written on the benefits of cultural tourism to individuals. Educators know the benefits of bringing history alive through visits to Conner Prairie. Museums permit us to reflect on our heritage, from glass jar manufacturing to auto racing. Artistic venues allow us to see the world through another's eyes and perhaps see our world differently. The architecture of our great towns reminds us of the promising future dreamed by Indiana's early pioneers. Fully valuing these aspects of our lives would be a daunting task. Fortunately, we are economists, and while we acknowledge the vast and deep contribution of these activities to our communities, we have a far easier task here. We seek only to estimate the artistic and creative component of cultural tourism and measure the effect the current downturn has on these sectors.

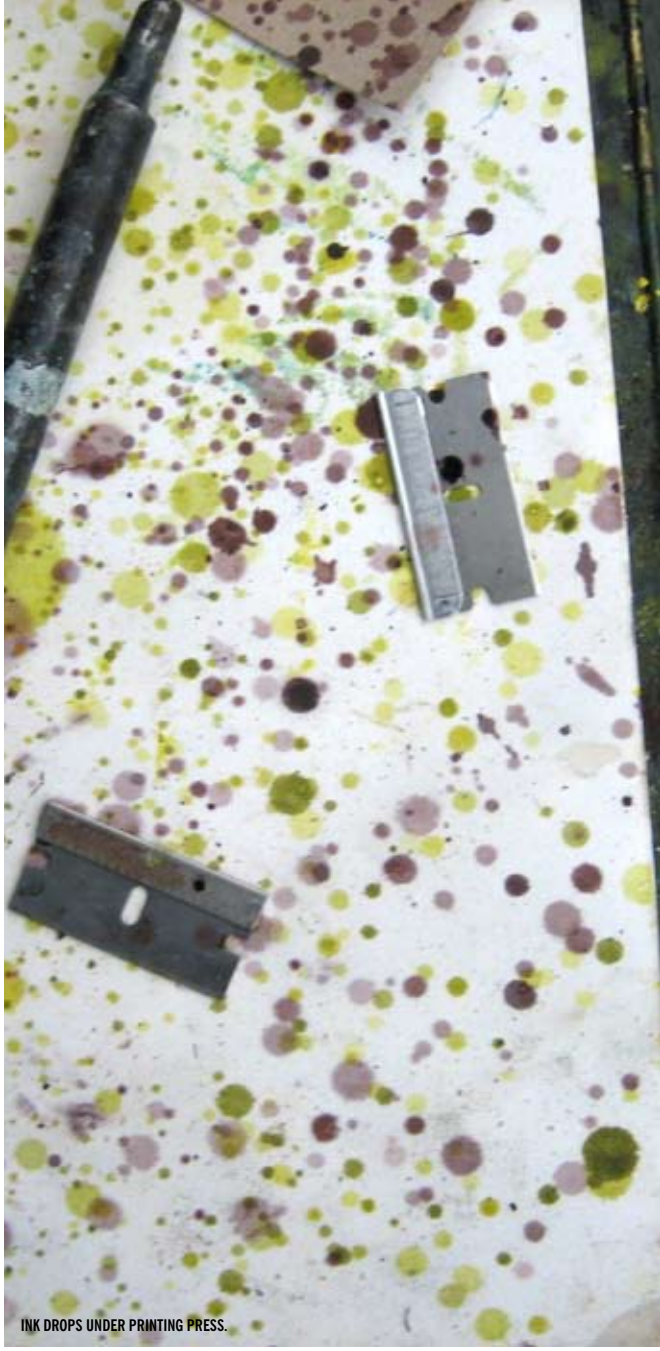
This report documents the economic benefits of cultural tourism in Indiana. We believe this is the first large scale estimate of the size and scope of cultural tourism in the Hoosier State. This study has four elements; a brief review of other studies of cultural tourism, a description of the size of cultural tourism in Indiana, its clusters, and its economic impact. This is followed by an estimate the effect of the current recession on the industry. We conclude with a summary of our findings.

OTHER STUDIES

The majority of studies of the size and scope of tourism show remarkably little differentiation in their approach to estimating impacts. The majority of empirical tourism studies rely upon elements of input-output models or econometric estimates. This former approach employs known inter-regional trade relationships to estimate impacts of a particular activity. These models are very popular and well understood with results that are easily communicated. The latter type of study is typically more complex and are often used to isolate impacts from a single activity, such as a fair or festival.

Both types of studies rely upon data that captures the underlying level and complexity of economic activity associated with tourism. Here the methods used to collect data differ significantly depending upon the type of tourism activity estimated. Surveys of visitors are often used to capture information about individual tourists, their spending patterns and the scope of their activities. This type of work is especially helpful in understanding tourist related events that are of short duration. Use of secondary data, from Census, Department of Commerce, or Department of Labor sources represent a second common approach to populating models of tourism impact. Secondary data is useful when an annual impact for a broad activity or region is the intent of a study.

Econometric studies of tourism include work by Bonham, Fujii and Mak [1992] who test the impact of a new hotel tax on hotel revenues using an empirical model which captures the incremental, effect of the imposition of a tax on hotel revenues. Hicks [2008] estimated the impact of the Superbowl on host cities, using a panel of all Superbowl cities since



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1970. Combs and Elledge [1979] estimated the impact of hotel taxes on different income groups, finding that demand for hotel occupancy was not responsive to the rate of hotel/motel taxes.

Input-output models of tourism include the Wagner [1997] estimate of tourism on Brazil using a variant of an input-output model. Thaiprasert and Hicks [2009] estimated the impact of accommodations (hotels and motels) in Indiana using an input-output model. Stevens, Treyz, Ehrlich and Bower [1983] introduced the use of non-survey data for inter-regional impact estimates.

These methods illustrate the total amount of economic activity dedicated to a tourism event, or measure some element of tourism related policies (such as an innkeeper's tax). Other studies seek to simply account for different types of activities. The Craft Organization Development Association (CODA) performs a nationwide analysis of arts and crafts related activities. Partnering with individual state members, CODA aids in the production of state level reports (See The West Virginia Crafts Study: The Impact of Crafts on the State Economy, West Virginia Small Business Development Division, 2003). This study identified a very narrow sub-sector of the arts and crafts, finding that over 2,500 craftsmen in West Virginia contributed over $80 million in economic activity in the state.

A study of Montana artists (Adair, 2005) found that artists in the state (very narrowly defined) contributed $233 million to the economy and provided 4,200 full time equivalent jobs. This study is interesting since it identified the share of expenditures on art-related activities from out-of-state buyers was 77 percent.

DATA AND ANALYSIS

The approach we employ in this estimate is similar to most other studies of tourism's impact. However, instead of relying on survey research on tourism activities, we exploit secondary data on the actual expenditures on cultural tourism related economic activity within the state. We then use

TABLE 1: ECONOMIC DATA OF ART-RELATED SECTORS IN INDIANA, ($M)

	Output	Employment (Persons)	Value-Added	Indirect Business Taxes
Museums and Collections				
Museums, historical sites, zoos, and parks	149.6	2,155	78.4	1.9
Total	*149.6*	*2,155*	*78.4*	*1.9*
Performing Arts, Visual Arts, Photography, Arts School and Services				
Photographic services	267.4	3,819	104.4	7.2
Performing arts companies	125.0	5,839	49.9	3.7
Independent artists, writers, and performers	74.6	1,166	21.5	0.5
Promoters of performing arts and sports and agents for public figures	129.7	3,300	89.5	5.3
Total	*596.6*	*14,124*	*265.3*	*16.6*
Film, Radio and TV				
Motion picture and video industries	639.0	4,624	87.6	3.0
Radio and television broadcasting	883.8	5,163	252.6	3.1
Total	*1,522.8*	*9,787*	*340.2*	*6.1*
Design and Publishing				
Periodical publishers	207.6	1,066	73.1	1.1
Book publishers	777.3	2,972	244.5	4.6
Database, directory, and other publishers	298.1	1,064	153.1	2.2
Specialized design services	366.8	3,007	141.8	3.8
Advertising and related services	1,031.8	9,064	389.8	6.4
Total	*2,681.6*	*17,173*	*1,002.4*	*18.1*
Grand Total	*4,950.6*	*43,238*	*1,686.2*	*42.8*

an input-output model to estimate the total effect of arts and creative endeavors related to cultural tourism in Indiana. This methodology, like the others employed by tourism researchers does not tell us how fully we value cultural tourism. It does give us the lower bound on the value of cultural tourism, as well as a comprehensive commercial and fiscal economic impact of the sectors directly related to these activities. What is omitted from this estimate is the impact of cultural tourism that is a 'spillover' from this activity. So, we cannot capture the spending on food and drink accommodations or other expenditures not related directly to the arts and creative activities by cultural tourists.

Another question often posed in tourism research involves the share of local spending on tourism-related activities. That is largely a moot point. Tourism slows the leakage of economic activity as well as promoting the inflow of consumption. A dollar spent on either is equal.

This study will employ a traditional input-output model to estimate the impact of cultural tourism in Indiana in 2008. We use a statewide input-output model with a Social Accounting Matrix (SAM) structure. The SAM element of the input-output model permits us to estimate the size and scope of household contributions that would be missing from a simple input-output modeling framework. The data we employ is derived from the Department of the Census, County Business Patterns, and IMPLAN augmented by data from Dun & Bradstreet, a commercial data vendor. We adopt a few simplifying assumptions for our analysis. Because there is not a 'cultural tourism' sector (much less one for tourism) we must rely upon a more conservative definition of activities to define cultural tourism.

Our focus on the arts and creative activities component of cultural tourism leads us to the definition employed by the Americans for the Arts. This definition includes activities related to museums, historical sites, zoos and parks, performing arts of all types, media development and broadcasting, and digital design. Estimates of these sectors' contributions to Indiana's economy appear in Table 1.

In the Hoosier State, the arts and creative activities account for more than $4.9 billion in economic activity directly, employing more than 43,000 workers. These activities generate more than $1.6 billion in value-added production and pay almost $43 million in business related taxes (sales, property and license fees) annually. For details of these activities by county, see Appendix I.

A map of these activities is useful in providing geographic dimension to the artistic activities occurring in Indiana. Figure 1 displays a cluster map of the region, identifying individual activities at the county level. From the figure, although the arts and creative activities appear to be distributed across the state, two major cluster regions could be identified. One is around Indianapolis, the other extends from the Chicago area. Figure 2 shows the top ten counties for input and output in the arts and creative sectors. Notably these appear to form around the state's major universities.

FIGURE 1: ART AND CREATIVE ACTIVITY CLUSTERS – INDIANA COUNTIES

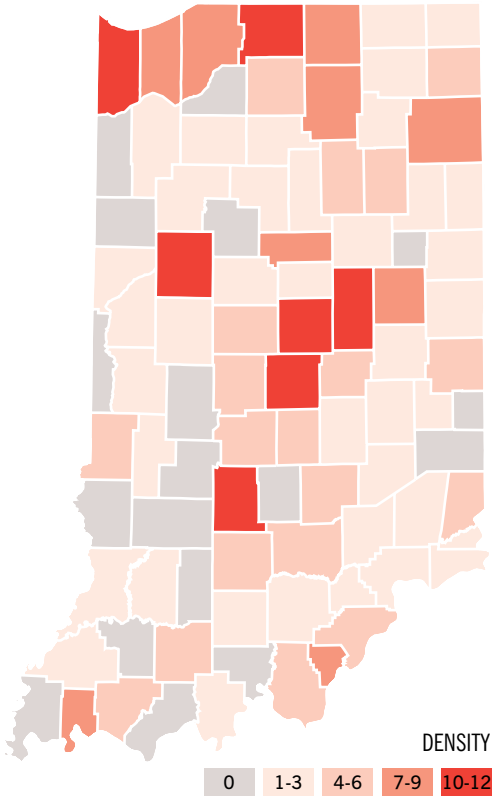

FIGURE 2: TOP TEN COUNTY OUTPUT AND EMPLOYMENT IN ART AND CREATIVE SECTORS – INDIANA COUNTIES

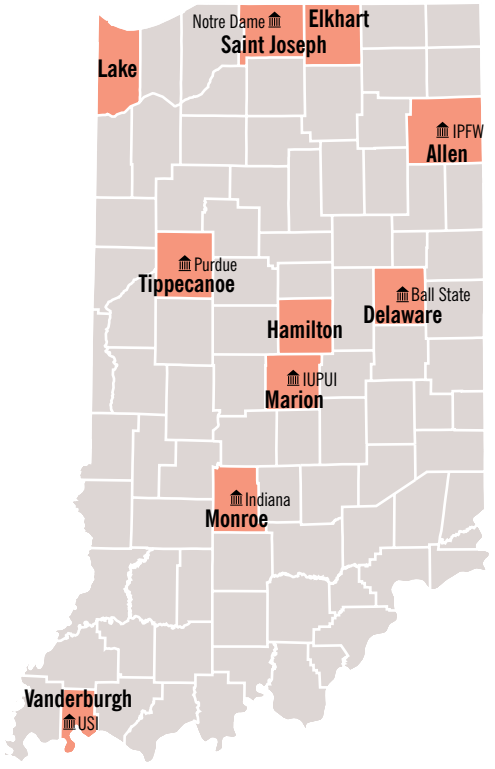

TABLE 2: ECONOMIC IMPACT OR MULTIPLIER EFFECT OF ARTS AND CREATIVE SECTORS IN INDIANA, 2006 AND 2008

2006 Total Impact	Direct	Indirect	Induced	Total Effect
Output ($ million)				
Museums and collections	149.6	55.8	90.7	296.1
Performing arts, visual arts, photography, art school and services	596.6	222.0	215.1	1,033.7
Film, radio and TV	1,522.8	1,037.9	498.3	3,059.0
Design and publishing	2,681.6	1,081.5	878.0	4,641.1
Total	*4,950.6*	*2,397.2*	*1,682.1*	*9,029.9*
Employment (person)				
Museums and collections	2,155	601	836	3,592
Performing arts, visual arts, photography, art school and services	14,124	2,431	1,983	18,538
Film, radio and TV	9,787	9,339	4,594	23,720
Design and publishing	17,173	9,019	8,094	34,286
Total	*43,238*	*21,390*	*15,507*	*80,135*
Value-Added ($ million)				
Museums and collections	78.4	31.6	51.5	161.5
Performing arts, visual arts, photography, art school and services	265.3	120.5	122.3	508.1
Film, radio and TV	340.2	396.6	283.3	1,020.1
Design and publishing	1,002.4	556.7	499.2	2,058.3
Total	*1,686.2*	*1,105.4*	*956.3*	*3,747.9*
Indirect Business Taxes ($ million)				
Museums and collections	1.9	2.9	5.3	10.1
Performing arts, visual arts, photography, art school and services	16.6	9.7	12.6	38.9
Film, radio and TV	6.1	29.6	29.2	64.9
Design and publishing	18.1	38.3	51.4	107.8
Total	*42.8*	*80.5*	*98.5*	*221.8*

2008 Total Impact	Direct	Indirect	Induced	Total Impact
Output ($ million)	6,173.5	2,989.5	2,097.6	11,260.6
Employment (person)	53,924	26,673	19,338	99,935
Value-added ($ million)	2,102.8	1,378.5	1,192.5	4,673.8
Indirect business taxes ($ million)	53.3	100.4	122.7	276.4

The size of the activities is an important gauge of its regional contribution. However, economists have long reported sector 'economic impacts' or 'multipliers' as a measure for a sector's overall contribution to a region's economy through the flow of revenues locally. Table 2 displays the economic impacts or multiplier effects of these arts and creative sectors in Indiana in 2006 and 2008. For details of the economic impacts by county, see Appendix II. Understanding the multiplier effect is straightforward. An output multiplier of a sector is the sum of direct, indirect, and induced effects of that sector. For example, a one dollar increase in demand on output (goods and services) of a sector is considered the 'Direct Effects.' A portion of that one dollar increase in output (e.g. theater attendance) is used by the sector to create a new round of demand for output from other sectors (e.g. restaurant meals). This new round of demand is termed the 'Indirect Effects.' Finally, the combined direct and indirect effects of that one dollar increase in the new demand also results in increased household spending. As a result, spending by households on goods and services also increases due to increases in production. This household spending increase is known as the 'Induced Effects.' In the case of output, the multiplier effect considers the effect of revenue that is spent locally. The employment effect determines the effect on jobs that produce the output at different stages. The value-added multiplier effect is a subset of the output multiplier effect, looking only at the effect on

payroll, profit, and indirect business taxes. This multiplier effect is also a method of appreciating the size and scope of backward linkages of this sector within a region.

TOURISM AND THE RECESSION

The effect of this recession on cultural tourism is a matter of great interest. A few studies have attempted to answer specific questions about tourism and recessions. Goodrich [1991] examined the dual effects of Desert Storm and the 1990-1991 recession on tourism, focusing on the industry response to the recession and war. Bull and Church [1996] examined the impact of recessions on the accommodations industry, examining the impact on regional economic activity.

More critical to this analysis is the response of tourism expenditures to changes in income – particularly during a recession. In order to estimate this we use data on tourism related activity in each of Indiana's 92 counties from 1969 through 2007. These data are available from the Bureau of Economic Analysis' Regional Economic Information System. The three sectors for which good data is available are: accommodations, museums and amusements. Clearly, only one of these sectors is primarily a cultural-tourism-related activity. However, we offer our estimates in order to better evaluate the overall effect of the recession on tourism, and to place the effect of the recession on cultural tourism in context.

Our model estimates income elasticity of tourism related personal income. Mathematically:

$$E_{t,i} = \frac{\%\Delta T_i}{\%\Delta \mathrm{PI}}$$

Where the elasticity, E, of tourism with respect to income, is simply the ratio of the annual percentage change in tourism incomes to the percentage change in personal income. This is expressed empirically as:

$$\log (T_{ti,t,i} - T_{i,t-1}) = \alpha + \alpha_i + \eta \log(PI_{i,t} - PI_{i,t-1}) + e_{i,t}$$

Where the estimated value η is the elasticity value from the time series, cross sectional model, for Indiana's counties.

The elasticity measurement is useful in explaining the growth or decline of tourism related activity over several business cycles across Indiana. In this effort we estimate the elasticity of tourism incomes in Indiana with respect to overall personal income in Indiana, and the United States as a whole. We estimate the following elasticities:

TABLE 3: TOURISM-RELATED ELASTICITIES

Activity	Response to Changes in US Income	Response to Changes in Indiana Income
Accommodations	0.78***	0.93***
Amusements	0.97***	0.76***
Museums, zoos, and parks	-2.19*	-1.78***

* denotes statistically significant at the 10% level
*** denotes statistically significant at the 1% level

These results partially confirm existing study findings, but at least one finding holds particular interest. We find that the traditional tourism industries of both accommodations and amusements are fairly insensitive to changes in income. In both cases, a one percent decline in personal income nationally would result in a decline between 75 cents and a dollar in incomes in these industries. We find that accommodations are slightly more responsive to changes in Indiana incomes. This may reflect a tendency for in-state tourists to remain at home instead of spending a night in a hotel or motel during a recession. The effect on amusements is reversed. Indiana's amusement parks and other activities are even less sensitive to changes in Hoosier incomes than to changes in national incomes. This may mean that in-state tourists are even less influenced by overall economic conditions when choosing an amusement park than out-of-state visitors.

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Other studies have performed similar analysis. Van Soest and Kooreman [1987] found that the income elasticity of domestic travel expenditures was a 0.7. This means that a one percent increase in incomes would result in a 0.7 percent increase in domestic travel expenditures. Similarly, a one percent decrease in income would result in a 0.7 percent decrease in consumer travel expenditures. Others studies find that international travel is highly responsive to income changes.

Our analysis offers a very interesting result that merits some additional discussion. We found that income related to museums, zoos and parks displayed a negative income elasticity. This suggests significant counter-cyclicality in museum expenditures. It would appear from these results that Hoosiers actually increase spending on cultural activities during a downturn. Since 1969, growth in museum, zoo and park revenues during recessions was 0.19 percent, while during non-recession years the average growth rate was 0.13 percent. Other researchers have noted the counter-cyclicality of cultural tourism. In a widely respected paper on the geography of tourism, Britton [1991] noted the counter-cyclical nature of cultural tourism.

A recently published survey in the UK reported significant increases in visitorship at UK museums, with a third seeing increases (see Culture Crunch? The Art Fund Museum Survey September 2008 – March 2009). The study noted that budgets were down, though given the higher share of private and pay-for-attendance museums in the U.S. these findings would likely differ.

If we focus on this recession, a far more nuanced result emerges. Our estimate of income elasticity for museums, zoos and parks indicates that incomes in these areas should actually have risen since the beginning of the year. First quarter personal income shows a 0.4 percent decline. This should have resulted in more than a 0.8 percent increase in incomes for museums, zoos and parks. Importantly, the national personal income results enjoy very weak statistical significance, so should be viewed with caution.

Sadly, this result does not take into account the effect of state and local spending declines, which have been nearly universal nationwide, on these venues. More significantly, these findings do not account for lost revenues from endowments and charitable giving that have a very uneven effect upon museums, zoos and parks. The result is that during this recession, visits and ticket sales could be higher than in earlier times, but individual venues could still be suffering from significant financial difficulty related to the downturn.

SUMMARY

In this study we report the impact of cultural related tourism focusing on the arts and creative sectors. We find that in Indiana, the arts and creative activities account for more than $4.9 billion in economic activity directly, employing more than 43,238 workers. These activities generate more than $1.6 billion in value-added production and pay almost $43 million in business related taxes (sales, property and license fees) annually. Further, we find that these activities significantly cluster around India-

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napolis and Chicago—two of the state's largest metropolitan areas. Universities play a significant role in the arts and creative sectors with the top ranked locations for the arts located proximally to the largest universities in the state.

In turning our attention to the recessionary impact of tourism, we find that traditional tourism (some of which is arts related) will suffer less cyclical downturn than the economy as a whole. This finding echoes earlier research on the issue. However, in the one cultural tourism sector for which we have lengthy data, we find strong evidence of countercyclical economic activity. So, museums, zoos and parks may see increased revenue as a result of the overall income declines. We note that this recession differs from others. In this recession, the decrease in state and local tax revenues have created significant pressures on many museums, zoos, and parks. More critically, the drop in financial asset values has dramatically reduced private endowments, which affect institutional operations especially for many museums in the state.

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APPENDIX I: ART AND CREATIVE SECTORS OUTPUT AND EMPLOYMENT BY COUNTY, 2006*

County	Output ($ Million)					Employment (Persons)				
	Museums and Collections	Performing Arts, Visual Arts, Photography, Arts School and Services	Film, Radio and TV	Design and Publishing	Total	Museums and Collections	Performing Arts, Visual Arts, Photography, Arts School and Services	Film, Radio and TV	Design and Publishing	Total
Adams	-	0.7	1.3	14.1	16.0	-	18	8	83	109
Allen	**8.6**	**25.4**	**191.1**	**177.9**	**403.0**	**159**	**626**	**1,240**	**1,345**	**3,370**
Bartholomew	0.2	4.5	16.1	1.5	22.2	1	82	107	9	199
Benton	-	0.0	-	-	0.0	-	1	-	-	1
Blackford	-	0.1	-	0.3	0.4	-	10	-	3	13
Boone	-	8.4	10.2	18.6	37.2	-	117	77	142	335
Brown	-	1.4	0.9	1.7	4.0	-	26	5	15	45
Carroll	-	0.4	-	1.0	1.4	-	6	-	11	16
Cass	0.2	1.2	2.2	0.5	4.1	1	18	14	5	38
Clark	0.3	8.2	1.7	7.0	17.2	5	188	13	73	279
Clay	-	5.0	1.0	-	6.1	-	102	8	-	110
Clinton	-	0.5	5.2	-	5.7	-	6	35	-	41
Crawford	0.1	0.1	-	-	0.2	2	8	-	-	10
Daviess	-	0.5	4.5	2.4	7.4	-	7	33	15	54
Dearborn	5.8	9.1	2.3	1.1	18.3	15	133	18	10	176
Decatur	-	0.0	8.9	-	8.9	-	1	61	-	62
De Kalb	2.4	1.2	2.2	5.1	10.9	48	15	17	36	116
Delaware	**5.5**	**55.0**	**12.5**	**16.6**	**89.6**	**99**	**845**	**91**	**123**	**1,157**
Dubois	0.2	3.0	11.9	2.4	17.4	6	47	84	23	161
Elkhart	**1.9**	**10.2**	**36.9**	**60.9**	**109.9**	**37**	**281**	**244**	**482**	**1,045**
Fayette	0.0	0.5	2.3	0.3	3.1	1	12	16	3	31
Floyd	-	6.6	14.6	49.1	70.3	-	193	110	436	739
Fountain	-	1.2	1.2	-	2.4	-	19	9	-	28
Franklin	-	0.6	-	0.3	0.8	-	9	-	3	12
Fulton	-	0.5	1.6	2.2	4.4	-	22	11	14	48
Gibson	0.1	0.5	6.3	0.3	7.2	1	6	45	3	55
Grant	-	4.4	10.7	1.0	16.1	-	93	78	9	180
Greene	-	0.9	-	-	0.9	-	16	-	-	16
Hamilton	**13.7**	**41.4**	**14.6**	**466.2**	**535.9**	**270**	**1,922**	**93**	**2,119**	**4,403**
Hancock	2.9	1.5	5.5	5.7	15.7	14	75	41	51	182
Harrison	3.9	5.9	3.3	7.4	20.4	30	84	25	2	141
Hendricks	2.2	10.1	12.3	15.0	39.6	11	161	95	139	405
Henry	0.7	0.7	5.6	3.9	10.9	19	11	40	26	96
Howard	1.5	4.2	3.4	43.5	52.6	36	70	24	326	457
Huntington	0.1	3.3	12.5	4.2	20.2	2	44	92	23	161
Jackson	-	3.6	7.5	0.2	11.3	-	188	50	1	239
Jasper	-	0.2	10.1	0.6	10.9	-	6	70	8	84
Jay	-	0.9	4.5	-	5.4	-	16	33	-	49
Jefferson	0.3	0.9	8.2	2.2	11.6	5	16	60	14	94
Jennings	0.2	0.4	1.5	0.1	2.3	1	13	10	1	25
Johnson	0.9	6.4	12.5	19.5	39.3	24	147	95	112	379
Knox	0.1	2.6	9.5	0.5	12.7	2	46	67	4	119
Kosciusko	-	3.5	16.9	14.1	34.5	-	118	110	110	338
Lagrange	-	0.2	-	2.7	2.9	-	3	-	19	22
Lake	**1.6**	**42.4**	**55.4**	**89.3**	**188.7**	**14**	**1,236**	**405**	**624**	**2,278**
La Porte	0.7	5.7	13.3	69.4	89.1	11	103	97	304	514

* Some data suppressed due to missing values or confidentiality.

CONTINUED: APPENDIX I: ART AND CREATIVE SECTORS OUTPUT AND EMPLOYMENT BY COUNTY, 2006

County	Output ($ Million)					Employment (Persons)				
	Museums and Collections	Performing Arts, Visual Arts, Photography, Arts School and Services	Film, Radio and TV	Design and Publishing	Total	Museums and Collections	Performing Arts, Visual Arts, Photography, Arts School and Services	Film, Radio and TV	Design and Publishing	Total
Lawrence	0.5	2.2	9.1	2.8	14.6	10	39	64	22	136
Madison	5.7	11.1	19.5	33.7	69.9	35	480	136	161	812
Marion	**65.9**	**162.1**	**472.0**	**995.2**	**1,695.2**	**894**	**2,240**	**2,772**	**6,539**	**12,446**
Marshall	1.3	0.6	6.6	12.5	21.0	6	9	43	74	133
Martin	-	0.0	-	0.4	0.4	-	2	-	2	4
Miami	0.1	0.5	1.9	0.1	2.6	1	10	13	1	25
Monroe	**2.0**	**9.8**	**46.0**	**171.7**	**229.6**	**46**	**230**	**307**	**940**	**1,523**
Montgomery	0.2	-	5.8	2.8	8.8	1	-	42	21	64
Morgan	0.2	0.8	5.8	7.1	14.0	1	15	43	38	97
Newton	-	0.1	-	-	0.1	-	2	-	-	2
Noble	0.4	0.0	1.6	0.4	2.4	2	3	10	3	18
Ohio	1.3	0.2	1.6	-	3.1	24	14	10	-	48
Orange	0.2	5.1	2.8	-	8.1	4	110	18	-	132
Owen	-	0.2	0.3	-	0.6	-	14	2	-	16
Parke	1.0	0.9	1.2	-	3.1	23	31	8	-	62
Perry	-	0.8	3.9	3.9	8.6	-	14	29	31	74
Pike	-	0.8	-	-	0.8	-	53	-	-	53
Porter	0.2	5.0	10.8	31.8	47.8	1	149	72	263	485
Posey	0.5	0.8	0.4	-	1.6	2	24	3	-	29
Pulaski	-	-	1.2	1.3	2.5	-	-	9	8	17
Putnam	0.2	0.9	0.1	0.8	2.0	1	23	1	7	32
Randolph	0.7	1.6	0.4	1.8	4.5	15	42	3	8	69
Ripley	-	0.6	0.1	0.5	1.2	-	8	1	6	16
Rush	-	0.7	3.0	0.8	4.5	-	10	20	6	36
Saint Joseph	**5.7**	**32.5**	**100.9**	**118.6**	**257.6**	**93**	**966**	**627**	**888**	**2,574**
Scott	-	0.3	2.6	0.1	3.0	-	20	18	1	39
Shelby	0.3	1.0	6.1	4.7	12.1	1	14	46	47	108
Spencer	-	-	0.4	-	0.4	-	-	3	-	3
Starke	-	0.1	1.0	-	1.1	-	5	7	-	12
Steuben	0.5	0.6	4.1	1.7	6.8	2	9	21	15	48
Sullivan	-	0.1	1.0	-	1.1	-	5	7	-	12
Switzerland	-	1.2	1.5	1.1	3.9	-	25	10	12	47
Tippecanoe	**1.6**	**11.8**	**55.7**	**30.1**	**99.3**	**23**	**266**	**365**	**197**	**851**
Tipton	-	3.9	2.1	1.7	7.7	-	212	16	15	243
Union	0.1	0.3	-	-	0.3	1	19	-	-	20
Vanderburgh	**1.1**	**21.2**	**126.1**	**66.4**	**214.8**	**27**	**317**	**755**	**537**	**1,636**
Vermillion	-	1.0	-	-	1.0	-	66	-	-	66
Vigo	1.6	4.3	41.1	19.9	67.0	45	104	273	155	577
Wabash	2.8	1.6	3.5	5.2	13.0	60	16	25	58	159
Warren	0.3	2.3	-	-	2.6	1	157	-	-	158
Warrick	0.4	6.8	8.6	5.3	21.2	2	85	66	49	203
Washington	-	0.3	0.1	1.6	2.0	-	11	1	13	25
Wayne	0.6	1.4	17.9	41.3	61.1	13	31	121	270	434
Wells	-	1.1	1.6	0.5	3.3	-	21	11	5	38
White	0.2	1.5	2.6	1.0	5.2	3	25	20	10	58
Whitley	-	0.0	0.5	6.2	6.8	-	1	4	47	52
Indiana	149.6	596.6	1,522.8	2,681.6	4,950.6	2,155	14,124	9,787	17,173	43,238

APPENDIX II: ECONOMIC IMPACTS OR MULTIPLIER EFFECTS OF ART AND CREATIVE SECTORS OUTPUT AND EMPLOYMENT BY COUNTY, 2006*

County	Output Impact ($ Million)					Employment Impact (Persons)				
	Museums and Collections	Performing Arts, Visual Arts, Photography, Arts School and Services	Film, Radio and TV	Design and Publishing	Total	Museums and Collections	Performing Arts, Visual Arts, Photography, Arts School and Services	Film, Radio and TV	Design and Publishing	Total
Adams	-	0.9	1.6	18.0	20.5	-	21	11	127	159
Allen	14.7	40.0	338.5	285.8	679.0	225	774	2,517	2,428	5,943
Bartholomew	0.3	6.1	26.0	2.0	34.3	2	99	208	14	323
Benton	-	0.0	-	-	0.0	-	1	-	-	1
Blackford	-	0.2	-	0.3	0.5	-	10	-	4	14
Boone	-	11.7	22.3	28.9	63.0	-	157	183	256	595
Brown	-	1.8	1.4	2.3	5.5	-	31	8	22	61
Carroll	-	0.6	-	1.3	1.9	-	7	-	15	22
Cass	0.3	1.6	2.8	0.6	5.3	2	23	24	7	56
Clark	0.6	11.8	2.2	10.3	25.0	7	230	19	113	370
Clay	-	5.7	1.6	-	7.3	-	111	13	-	124
Clinton	-	0.6	6.4	-	7.0	-	7	46	-	54
Crawford	0.1	0.1	-	-	0.3	2	8	-	-	10
Daviess	-	0.6	7.3	3.1	11.0	-	8	58	22	88
Dearborn	8.8	12.5	3.6	1.6	26.4	46	170	30	15	261
Decatur	-	0.0	15.8	-	15.9	-	1	120	-	121
De Kalb	3.4	1.6	3.5	6.4	14.9	59	19	29	51	158
Delaware	9.5	84.4	21.4	26.1	141.4	149	1,191	174	239	1,753
Dubois	0.3	4.0	20.2	3.3	27.8	7	59	302	35	404
Elkhart	2.9	14.5	54.3	87.7	159.4	48	336	406	779	1,568
Fayette	0.1	0.7	2.9	0.4	4.0	1	14	22	4	41
Floyd	-	9.3	32.5	79.6	121.5	-	225	265	760	1,250
Fountain	-	1.4	1.9	-	3.4	-	22	16	-	38
Franklin	-	0.7	-	0.3	1.0	-	10	-	4	14
Fulton	-	0.6	2.4	2.9	5.9	-	24	19	22	65
Gibson	0.1	0.7	9.6	0.4	10.8	1	8	75	4	88
Grant	-	5.6	16.8	1.4	23.8	-	109	171	15	295
Greene	-	1.0	-	-	1.0	-	18	-	-	18
Hamilton	24.0	62.5	23.3	673.3	783.2	383	2,300	173	3,784	6,640
Hancock	4.6	2.0	10.4	8.6	25.6	34	83	86	84	288
Harrison	5.6	7.9	6.4	10.0	29.9	47	105	50	29	232
Hendricks	3.7	15.5	24.1	24.1	67.4	27	219	202	241	690
Henry	1.0	0.9	8.3	5.4	15.7	24	15	73	43	154
Howard	2.2	5.3	4.3	59.4	71.2	45	84	38	512	680
Huntington	0.1	4.5	25.7	6.0	36.4	3	58	205	44	309
Jackson	-	5.0	10.9	0.2	16.0	-	206	81	2	289
Jasper	-	0.3	18.2	0.9	19.4	-	8	141	11	160
Jay	-	1.2	6.8	-	8.0	-	21	54	-	75
Jefferson	0.5	1.2	15.4	2.8	19.8	6	19	130	21	175
Jennings	0.3	0.6	1.8	0.1	2.8	2	14	13	1	30
Johnson	1.6	9.7	25.3	27.6	64.1	32	183	205	191	610
Knox	0.1	3.6	16.2	0.7	20.6	2	57	126	6	191
Kosciusko	-	4.8	28.6	20.7	54.1	-	133	217	182	533
Lagrange	-	0.3	-	3.3	3.6	-	4	-	27	31
Lake	2.8	65.9	99.3	134.0	302.1	27	1,480	793	1,068	3,369
La Porte	1.1	8.2	23.8	89.9	122.9	16	131	190	508	845

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CONTINUED: APPENDIX II: ECONOMIC IMPACTS OR MULTIPLIER EFFECTS OF ART AND CREATIVE SECTORS OUTPUT AND EMPLOYMENT BY COUNTY, 2006

County	Output Impact ($ Million)					Employment Impact (Persons)				
	Museums and Collections	Performing Arts, Visual Arts, Photography, Arts School and Services	Film, Radio and TV	Design and Publishing	Total	Museums and Collections	Performing Arts, Visual Arts, Photography, Arts School and Services	Film, Radio and TV	Design and Publishing	Total
Lawrence	0.7	2.8	16.8	4.0	24.3	13	47	132	36	228
Madison	9.3	17.0	40.7	47.1	114.0	79	603	354	317	1,353
Marion	112.7	248.7	875.8	1,573.4	2,810.6	1,326	2,985	5,833	11,358	21,501
Marshall	1.9	0.9	11.4	17.3	31.5	14	12	85	132	243
Martin	-	0.0	-	0.5	0.5	-	2	-	3	5
Miami	0.2	0.7	2.4	0.1	3.3	1	12	17	1	32
Monroe	3.6	15.0	92.4	250.2	361.2	64	283	749	1,682	2,778
Montgomery	0.2	-	9.9	3.8	13.9	2	-	78	30	110
Morgan	0.3	1.1	9.1	8.6	19.1	2	18	73	53	146
Newton	-	-	-	-	-	-	-	-	-	-
Noble	-	-	-	-	-	-	-	-	-	-
Ohio	1.7	0.3	2.0	-	4.0	28	15	13	-	56
Orange	0.3	5.7	3.6	-	9.5	5	118	25	-	147
Owen	-	0.3	0.4	-	0.7	-	15	3	-	17
Parke	1.4	1.1	1.9	-	4.3	27	33	14	-	74
Perry	-	1.0	7.1	5.4	13.5	-	17	56	46	120
Pike	-	0.9	-	-	0.9	-	55	-	-	55
Porter	0.3	7.1	16.3	48.3	72.0	2	174	121	446	744
Posey	0.6	0.9	0.5	-	2.0	4	26	4	-	34
Pulaski	-	-	2.2	1.6	3.8	-	-	22	12	34
Putnam	0.3	1.1	0.1	1.1	2.6	2	26	1	10	39
Randolph	0.9	2.1	0.6	2.4	6.0	18	48	5	15	85
Ripley	-	0.8	0.1	0.7	1.6	-	11	1	8	20
Rush	-	0.9	3.7	1.0	5.7	-	12	26	10	48
Saint Joseph	10.1	52.1	173.4	191.5	427.1	141	1,189	1,457	1,656	4,443
Scott	-	0.4	3.2	0.1	3.7	-	21	23	1	46
Shelby	0.4	1.3	12.6	7.0	21.4	3	18	102	72	195
Spencer	-	-	0.5	-	0.5	-	-	4	-	4
Starke	-	0.1	1.3	-	1.4	-	5	9	-	15
Steuben	0.7	0.7	5.6	2.4	9.5	5	12	43	22	83
Sullivan	-	0.1	1.3	-	1.4	-	5	9	-	15
Switzerland	-	1.4	1.8	1.4	4.6	-	27	13	15	55
Tippecanoe	2.5	16.9	104.0	42.0	165.5	35	323	763	321	1,441
Tipton	-	4.7	4.0	2.1	10.8	-	222	32	20	274
Union	0.1	0.3	-	-	0.4	1	19	-	-	21
Vanderburgh	1.9	31.8	220.9	107.2	361.9	37	428	1,543	943	2,951
Vermillion	-	1.2	-	-	1.2	-	69	-	-	69
Vigo	2.5	6.4	66.6	29.3	104.8	56	127	494	256	933
Wabash	3.8	2.1	4.9	7.3	18.1	73	22	38	85	219
Warren	0.4	2.8	-	-	3.2	2	161	-	-	164
Warrick	0.7	9.0	17.8	7.7	35.2	5	108	142	73	328
Washington	-	0.4	0.1	2.0	2.6	-	12	1	19	32
Wayne	0.9	2.1	28.1	63.1	94.2	16	38	208	492	754
Wells	-	1.5	2.1	0.7	4.3	-	26	15	8	49
White	0.3	1.9	5.4	1.4	9.0	4	31	46	16	97
Whitley	-	0.0	0.7	7.9	8.6	-	1	5	66	73
Indiana	296.1	1,033.7	3,059.2	4,641.1	9,030.1	3,592	18,537	23,721	34,286	80,136

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