Heritage tourism's economic contribution: A Pennsylvania case study

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Abstract

Heritage tourism is a growing field, both from a visitation perspective and in terms of research efforts. This article adds value by reporting results of a study that estimated the economic contributions of heritage tourism in a major state in the U.S. Patterns of visitor behavior and spending detailed within these data could be used by future researchers as a benchmark for estimating the economic contribution of heritage tourism in other regions. Survey data were collected at dozens of diverse heritage-related attractions across hundreds of miles of geography in Pennsylvania using traditional printed questionnaire instruments as well as a mobile/online questionnaire instrument. A total of 3,524 completed questionnaires were collected and analyzed. The study estimated that tourists spent 7.5 million days/nights visiting survey sites, purchasing US$2 billion worth of goods and services attributable to heritage tourism. Limitations of the study are discussed along with implications for future research.

Keywords

economic contribution, heritage tourism, IMPLAN, mobile/online questionnaire, QR images

Introduction

This is a report on a study commissioned by the Commonwealth of Pennsylvania to better understand the growth in heritage tourism. This growth has been noted by Bowitz and Ibenholt

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(2009) and Bonn, Joseph-Mathews, Dai, Hayes, and Cave (2007), who have described heritage tourism as one of the fastest growing segments of the tourism industry.

The study described here also builds on the notion that heritage tourism can be an economic development driver that has been explored by Dong et al. (2013) and Timothy and Boyd (2006). Dong et al. (2013: 181) noted that "in the United States, many rural communities rely on tourism for economic growth to compensate for declines in manufacturing, agriculture, extraction of natural resources, and population." This is very much the case in Pennsylvania, where many heritage-related sites are located in smaller urban and rural areas with weak local economies (McGrath et al., 2016).

This relates directly to the present study, the primary research objective of which was to answer the question: what kind of economic impact has this growth in heritage tourism had on Pennsylvania's heritage tourism industry? By extension, the findings of the study could be of interest to those studying heritage tourism in other geographic areas.

Methods

The study employed a quantitative survey method, using a blended paper and mobile/online approach. The survey was administered over eight months during the spring, summer, and fall of 2014.

The study's sample was broad, focusing on many types of heritage-related attractions across hundreds of miles of Pennsylvania's designated heritage areas (DHAs). A sample of five of the 12 DHAs were selected by the research partnership covering diverse sites that are primarily historical (Johnstown Flood Museum), cultural (Amish communities), industrial (Hershey chocolate factory), natural (Pennsylvania's "Grand Canyon"), and historically preserved (Frank Lloyd Wright's Fallingwater). The literature includes many studies on single attractions or regions, but few studies have sought to measure heritage tourist economic behaviors across such a broad range of attractions. The five DHAs selected for this study were: Allegheny Ridge, Lincoln Highway, National Road, Pennsylvania Route 6, and Susquehanna Gateway. Of these DHAs, all follow to some extent the types of heritage trails described by Timothy and Boyd (2014). Specifically, Lincoln Highway, National Road and PA Route 6, each of which follow early highway corridors, are "human-created linear courses that were not developed specifically to be a tourist trail but function as one anyway" (Timothy and Boyd, 2014: 21). On the other hand, Susquehanna Gateway, which largely follows the contours of a river, is an example of "organically-evolved cultural routes ... which follow linear-shaped natural resources such as rivers" (Timothy and Boyd, 2014: 20). Allegheny Ridge, which follows both river systems as well as the path of the historic Pennsylvania Main Line Canal, contains elements of both route types.

Respondents were encouraged to complete a paper questionnaire instrument or were given a printed invitation card that included a QR image that could be scanned by free software available on most smart mobile devices. QR images or "codes" were invented by Denso Wave Inc. in Japan in 1994 to track parts in the automobile manufacturing industry (Atkinson, 2013). For the purposes of this study, the researchers created a unique image using a free Google service known as "Google URL Shortener" that simplifies long URL addresses. Scanning this image directed respondents to the mobile/online version of the questionnaire (see Online Appendix A for a visual of the study's invitation card featuring the QR image as well as page views of the online and mobile questionnaire).

The combined number of paper and mobile/online questionnaires totaled 3,524, with respondents from 1,678 different zip codes from throughout the United States representing visitors from 46 states. Respondents also included visitors from 16 foreign. In addition, the sample included 240 destination zip codes located throughout Pennsylvania.

To operationalize the visitation measures, the study followed the methodological recommendations of Stynes and White (2006) using questionnaire items incorporated into both the paper and mobile/online instruments. Visitation location data was collected by the question "where are you staying?" Visitation duration data was collected by the question "if staying away from home, how many nights will you be in the area?" Travel party size data was collected by the question, "how many people are in your travel party (including yourself)?" Traveler origination data was collected by the question "where is your home?" allowing options for zip code and/or home city/town. This allowed researchers to determine whether visitors were local or nonlocal. This determination was based on a technique employed by a National Park Service visitor spending study (Cullinane et al., 2014) that defined "local" visitation as a respondent whose home zip code was located within 60 miles of the survey site and "nonlocal" as respondents with zip codes located beyond 60 miles. This plus-or-minus 60-mile distance analysis was made using ArcGIS software, a geographic information system technology product. This software has great potential when applied in the tourism field, as evidenced by another recent visitor study in Hungary by Varjú et al. (2014).

Finally, using another method recommended by Stynes and White (2006), visitation spending data were collected by the question "how much do you plan on spending each day on the following items during your visit?" with spending options for eight spending categories: "amusements (movie tickets, raft rentals, etc.)," "hotel, motel, B&B (bed and breakfast)," "restaurants and bars," "retail purchases (clothing, souvenirs, etc.)," "camping fees," "gasoline," "groceries," and "local transport (tour bus, taxi, shuttle, etc.)."

Findings

Findings include the estimation of heritage tourism economic contribution in the five study DHAs described earlier, and an extrapolation of the findings of this sample to all 12 DHAs in Pennsylvania.

Economic contribution of the five study DHAs

Table 1 illustrates that the majority of spending for day visitors was most concentrated in three categories: restaurants and bars, amusements (which include admission fees and activities), and retail purchases. Conversely, the majority of spending for overnight visitors staying at a hotel,

Table 1. Visitor spending patterns of by visitor type and industry sector.

Visitor type	Motel, hotel, B&B (%)	Camping fees (%)	Restaurants and bars (%)	Amusements (%)	Groceries (%)	Gas and oil (%)	Local Transport (%)	Retail purchases (%)
Day: local	0	0	32	29	6	13	0	19
Day: nonlocal	0	0	30	30	5	13	1	20
Overnight: hotel/motel	34	0	22	16	3	8	1	16
Overnight: other	0	5	30	22	8	12	2	20

Table 2. Nonlocal visitor spending contribution estimates for the five study DHAs.

Spending contribution estimates	Designated heritage areas				
	Allegheny Ridge	Lincoln Highway	National Road	Route 6	Susquehanna Gateway
Nonlocal or overnight visitors only					
Visitors (party days/nights)	344,903	1,034,486	626,045	4,336,559	209,535
Heritage visitor spending (000's)	$65,606	$258,873	$151,750	$1,056,641	$62,251
Direct effect					
Jobs	564	2603	1667	9641	568
Labor income (000's)	$14,164	$53,628	$30,318	$216,916	$12,117
Value added (GDP) (000's)	$19,534	$82,316	$48,862	$318,603	$195,01
Output (000's)	$33,386	$147,854	$90,403	$558,669	$34,326
Total effect					
Jobs	699	3260	2050	12,271	735
Labor income (000's)	$20,914	$78,396	$45,873	$316,157	$19,152
Value added (GDP) (000's)	$31,137	$126,814	$75,890	$499,413	$32,470
Output (000's)	$52,300	$225,530	$137,340	$891,101	$56,282

Note: DHAs: designated heritage areas; GDP: gross domestic product. All currency estimates are in US$.

motel, or B&B tended to be more concentrated in the category of lodging expenditures, although spending on amusements and retail purchases was also important to this group.

To estimate the economic contribution of each of these spending patterns, the researchers matched the data collected from the questionnaire instrument with industry sectors identified by the IMPLAN V3 software package (IMPLAN, 2015).

The researchers also looked at regional contributions to measure the likely loss in economic activity within the local region in the absence of the heritage area identified attraction, event, or park. This analysis excludes spending by local residents (spending by visitors from within 60 miles of each site) and focuses exclusively on dollars entering the region from the outside. As Table 2 indicates, outside day and/or overnight visitors to the five study DHAs attract annual spending ranging from a low of US$62.3 million for Susquehanna Gateway to US$1.06 billion for PA Route 6. The number of total jobs supported ranges from a low of 735 in Susquehanna Gateway to 12,271 in PA Route 6; total output ranges from a low of US$56.2 million in Susquehanna Gateway to US$891 million in PA Route 6.

The visitor spending totals in Table 2 were based on data collected at heritage-related attractions, events, and parks. The job estimates are not full-time equivalents but include full- and part-time jobs, consistent with employment estimates of the Bureau of Labor Statistics. Output represents the sales of businesses in the region with one exception: sales in the retail trade sector are only the retail *margins* on retail sales and therefore exclude production and manufacturing costs related to the cost of goods sold. Income is measured as labor income, which includes wages and salaries, payroll benefits, and income of sole proprietors. Value added includes labor income as well as profits and rents and indirect business taxes. The research team believes that value added is a preferred measure of the contribution of an activity or industry to gross state product because it measures only the value added by that activity/industry net of the costs of all nonlabor inputs to production.

Table 3. Contribution estimates for all 12 Pennsylvania DHAs by industry sector.

Industry Sector	Jobs	Labor income (million dollars)	Value added (GDP) (million dollars)	Output (million dollars)
Direct effects				
Restaurants and bars	7926	174,606	240,446	460,153
Other amusement and recreation industries	6214	150,228	199,111	326,430
Hotels, motels, and B&Bs	2294	69,292	155,447	251,074
Retail establishments	1491	39,207	59,087	82,335
Grocery and convenience stores	507	14,182	18,959	28,172
Transit and ground transportation services	353	10,175	9141	16,640
Gas stations	311	9620	14,066	21,018
Camping and other accommodations	235	10,566	12,802	22,422
Total	19,333	477,881	709,062	1,208,247
Secondary effects	6375	320,233	554,233	938,844
Total effects	25,708	798,114	1,263,295	2,147,091

DHAs: designated heritage areas; GDP: gross domestic product; all currency estimates are in $ US.

Extrapolation of economic contribution to all 12 DHAs

To provide a more complete picture of the contribution of heritage-defined visitor spending across the entire Commonwealth, the research team developed a method to project the findings of the five study areas to all 12 of Pennsylvania's DHAs. The researchers collected heritage-related visitation data provided by the DHAs, which totaled approximately 38.2 million each year across all 12 DHAs. Survey data allowed the research team to narrow this raw estimate to those who can be conservatively counted as out-of-state heritage visitors. To accomplish this, only the out-of-state percentage of visitors to the five study DHAs was used and applied to the total visitor count provided by all 12 DHAs.

This conservative calculation projected 7.5 million out-of-state party days/nights primarily attributed to DHAs and their heritage-defined partners, attractions, and events.

Based on an analysis of this data using IMPLAN software, these 7.5 million heritage visitor party days/nights contributed to more than US$2 billion of visitor related total output. The direct economic contributions are estimated to include 19,333 jobs, US$477.8 million in labor income, and US$709 million in value-added effects, as noted in Table 3. Including secondary effects, the total contribution of visitor spending to the state economy was 25,708 jobs, US$798 million in labor income, and nearly US$1.3 billion in value-added effects.

Discussion of findings

This research confirms that heritage tourism supports a substantial number of jobs across Pennsylvania, particularly within the restaurant, amusement, lodging and retail industries, findings that build upon existing literature on the contribution of heritage tourism. Specifically, this study employed methods tested by researchers who helped perfect the IMPLAN analysis technique of contribution estimation including Cela et al. (2009), Strauss and Lord (2001), and Stynes and Sun (2004). The findings also align with previous work by Stynes and Sun (2004) estimating that about two-thirds of spending by DHA visitors was primarily attributed to heritage attractions—and this spending would be lost to the local region in the absence of these facilities and programs.

Implications of findings

This economic contribution data presented here should provide DHA administrators with strong monetary evidence of the contribution of Pennsylvania heritage tourism efforts. These findings can also be used by heritage-related tourism attractions beyond the Commonwealth to help quantify the significant economic value of heritage tourism.

Methods used in this study also suggest that future research can be assisted through the use of QR image technology to simplify mobile/online survey administration. Using this technology, future studies will be able to offer visitation questionnaires on mobile smart devices anywhere—even in cars or hotel rooms. Another methodological implication is the use of the ArcGIS software tool to easily identify "local" versus "nonlocal" visitors by simply comparing the geographic coordinates of the heritage site and the respondents' home zip code.

The study also identified spending patterns for visitors at heritage-related attractions that could be used by future researchers (those not conducting their own usage pattern survey) to estimate the economic contribution of heritage tourism in other areas.

Limitations of findings

The economic contribution of DHA visitation was based on input–output model (IOM) methods used in previous research. One challenge was attributing visitation to a specific heritage attraction. Not all visitations to a DHA are exclusively heritage related, but the researchers attempted to mitigate this issue with two questionnaire items: "Please list a few of the facilities/attractions you have visited/or will visit during your stay in our area;" and "Was one or more of these attractions the *primary* reason for your trip to our area?"

The study's IOM approach also has inherent limitations, including the fact that models like IMPLAN estimate positive economic impacts of visitor spending, but do not measure possible negative economic impacts that could occur. They also do not take other factors into account like other approaches such as the Computable General Equilibrium model (CGE) that is used to estimate changes in the total output of an industry rather than final estimated consumer demand (Watson, Wilson, Thilmany and Winter, 2007). The CGE approach is viewed by some researchers (Watson et. 2007; Dwyer et. al, 2004) as superior to the IOM technique because it takes into consideration other factors such as interactions between the local economy being studied and the economy of the surrounding area and the nation (Dwyer, et al, 2004).

Finally, the focus upon Pennsylvania DHAs limits the generalization of results beyond the boundaries of the Commonwealth. Heritage tourism sites in other states may have unique characteristics that could create differences in results, such as variations in state funding of heritage attractions or their proximity to major population centers.

Declaration of conflicting interests

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Supplemental material

The online appendix is available at http://teu.sagepub.com/supplemental.

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