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Who is a Tourist? A Comparison of Straight Line and Driving Distances

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Abstract

The purpose of this study was to determine if the definition of a tourist calculated by travel distance and method used to calculate that distance has an effect on who is considered a tourist. Three commonly used travel distance oriented definitions of a tourist and two methods of calculation are offered for these purposes. The three definitions of a tourist used in this study were: (1) Travel distance of greater than 50 miles, (2) Travel distance of greater than 100 miles, and (3) Travel distance of greater than 50 miles including a night's stay. The two methods of calculating travel distance were straight line distance and driving distance. This research found that both the definition of a tourist and the method of distance calculation had a significant effect on who was considered a tourist.

Introduction

Tourism destination marketing organizations (DMOs) and other tourism organizations often receive matching funds for new product development and marketing based on the number of tourists who visit a destination or attraction such as a special event (NC Commerce, 2007). In addition, to determine the economic impacts of tourism and tourist events in a region, economists must use certain criteria to define a tourist who is injecting "new money" into the local economy. Traditionally, the word tourist has been defined using a parameter such as distance traveled or time spent away from one's home area (Masberg, 1998). However, definitions of tourists have changed over time, and there are now many criteria to choose from such as residence, purpose of travel, length of stay and distance traveled. (Masberg, 1998; Hunt & Layne, 1991; TIA, 2005). Three popular definitions of a tourist based on travel distance and length of stay include:

1. "One who travels away from home for a distance of at least 50 miles (one way)…whether he stays over night or returns the same day" (NTRRC, 1973 as cited in Hunt & Layne, 1991 p.8).

2. "Anyone traveling more than 100 miles" (Masberg, 1998, p. 68).

3. "A person who takes a trip 50 miles or more away from home, one way, that included one night or more away from home" (TIA, 2005).

While determining how far one travels seems fairly straight forward, it has been found that travel distance estimates given by the traveler themselves can be prone to various external factors such as time and spatial perception, and therefore are frequently overestimated (Raghubir & Krishna, 1996; Rietvelt, Zwart, van Wee & van den Hoorn, 1999). Because of overestimates by travelers, DMOs and tourism organizations often rely on straight line distances calculated from zip codes with the use of GIS or other software to determine travel distance. However, there is a concern that the use of straight line distance may not be a realistic estimate of actual travel distance and may under represent the number of tourists who are visiting a destination or attending a special event. This research addresses this problem by comparing zip code based straight line distances with estimated driving distances between two zip codes calculated individually with a commercial web based application.

The two underlying research questions for this study were:

Research Question 1: Are the travel distances calculated by straight line distance and driving distance significantly different?

Research Question 2: Does the method of travel distance calculation (i.e., straight line distance vs. driving distance) within each definition of a tourist (i.e., more than 50 miles, more than 100 miles, more than 50 miles and an overnight stay) have a significant affect on the number of respondents who are classified as tourists?

Methods

To address these research questions, data that was collected in a survey of visitors to Jackson County North Carolina was utilized (Chancellor & Norman, 2002). The original purpose of the study was to gather data on travel patterns, activity choices, sources of travel information, and demographic characteristics of visitors residing outside of the county. Nine locations throughout the county were chosen as intercept points. A mobile interviewer conducted personal interviews, using a systematic selection system. Surveying occurred on 70 randomly selected days during the summer tourist season. One thousand and eight individuals were intercepted and 809 participated in the study, for a response rate of 80.3%. Forty-eight cases were then removed because of invalid or missing zip codes, resulting in 761 cases.

Results of the study revealed that 61.5% of the respondents were male and that 29.7% were between 40-49 years old. Over three-fourths of the respondents (80.5%) were married and 44.8% had a four-year college degree, while 18.8% had a graduate degree. Two thirds of the respondents (66.7%) were employed full time, and 19.7% were retired. One-fourth of the respondents (27.1%) made $100,000 annually; with the average annual salary was $72,275. Florida provided nearly one-fourth (23.8%) of all visitors, while 19.9 % were from North Carolina, and 14.4% were from Georgia. More visitors were from Atlanta (6.3%) than any other city; Charlotte was a distant second accounting for 3.2%, while Tampa provided 2.1%.

Nine out of ten (89.0%) of respondents stayed at least one night on their trip. Over forty percent (41.7%) made the decision to travel more than three months in advance and almost 73.1% of the respondents had previously visited Jackson County, averaging 14.72 visits. Nearly one-half (49.0%) chose this time to visit because it was when they could get away and 50.4% cited personal experience as an influence on their travel decision. One-fourth of respondents (26.9%) used the Internet for travel information. The vast majority (92.3%) of respondents did not report a location when asked which other areas they considered before making the destination decision. Mountains were cited by 13.8% of respondents as the reason this destination was chosen, while family and friends in the area and know it and like it tied for second (10.5%).

Research Findings

Travelers were asked to provide their home zip code. Distances were then calculated between the traveler's home zip code and the zip code of the interception site (n=9) using Spheresoft Zip Code Tools (www.spheresoft.com) to calculate straight line distances. MapQuest (www.mapquest.com, using the shortest driving time filter) was used to calculate the estimated driving distance between the two zip codes. A paired t-test was conducted to determine if there was a significant difference between the travel distance as determined by straight line distance and driving distance. There was a significant ($t = -37.771$, $p<.001$) difference between the mean straight line distance ($\bar{X} =306.82$ miles) and mean driving distance ($\bar{X} =386.29$ miles).

A series of chi-square tests were conducted to determine if the method of travel distance calculation within each definition of a tourist had a significant affect on the number of respondents who were classified as tourists to Jackson County, North Carolina. Results of the chi-square test ($\chi^2=295.12$, $p<.001$) for Definition 1 (travel distance greater than 50 miles) found that the number of tourists calculated by straight line distance (90.7%) was significantly less than those calculated by driving distance (96.2%). Results of the chi-square test ($\chi^2=459.00$, $p<.001$)

for Definition 2 (travel distance greater than 100 miles) also indicated that the number of tourist calculated by straight line distance (81.1%) was significantly different than those calculated by driving distance (87.7%). Lastly, results of the chi-square test (χ^2=608.51, p<.001) for Definition 3 (travel distances greater than 50 miles and an overnight stay) showed that the number of tourists calculated by straight line distance (85.8%) was significantly less than those calculated by driving distance (88.2%).

Conclusions

The results revealed that straight line distances were significantly less than the estimated driving distance and significantly underestimated the percentage of visitors who were classified as tourists. Within each definition of a tourist, the results found that using driving distance instead of straight line distance always resulted in significantly more tourists. Based on these findings, it can be concluded that the use of driving distance is a more realistic measure of how far a visitor traveled to the region and that it provides an improved measure of travel distance in defining who is a tourist. This research revealed the need for an affordable application suited to calculating numerous driving distances at once. The use of driving distances as a calculation factor for tourists would become far more practical if such an application existed. Finally, this study was limited to only three definitions of a tourist and it would be interesting to explore other definitions and their relationships with travel distances as well as the travel patterns that visitors utilize in their trips (Hwang & Fesenmaier, 2003).

Application of Results

This research found that how travel distance is calculated was related to the number of visitors who are considered tourists. Therefore it is recommended to use driving distance to calculate tourist counts regardless of what definition of tourist is being used. However, the state of North Carolina grants tourism organizations the option of using travel distance criteria (greater than 100 miles) or visitors from out of state to determine tourist counts as criteria for Tourism Matching Funds, which give aid to local communities and non-profit tourism organizations with their local and regional tourism marketing and development projects (NC Commerce, 2007). As a result, two additional chi square tests were conducted to determine which of these methods allowed by the state of North Carolina would be more beneficial to a tourism organization that wishes to receive Tourism Matching Funds.

Results of the first chi-square test (χ^2=34.79, p<.001) revealed that out of state tourists (80.5%) were significantly less than those calculated by a straight line distance of greater than 100 miles (81.5%). Results of the second chi-square test (χ^2=76.46, p<.001) revealed that out of state tourists (80.1%) were also significantly less than those calculated by a driving distance of greater than 100 miles (87.8%). Based upon these findings, it would be more beneficial for Jackson County and other tourism organizations within North Carolina to use the criteria of travel distance greater than 100 miles, using driving distance, in their attempt to receive Tourism Matching Funds.

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