

Economic Impact of the 2012 “6 Hours of Warrior Creek” Mountain Bike Race

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October 5, 2013

Introduction

The focus of this study is providing the estimated total economic impact of 6 Hours of Warrior Creek Mountain Bike Race (6hoursofwarriorcreek.com). 6WC takes place annually on the first Saturday of April at the Kerr-Scott Dam and Reservoir which is managed by the US Army Corps of Engineers. The event brings in around 300 participants to the Wilkesboro, North Carolina area. The event heavily encourages tourist spending in Wilkesboro, primarily through advertising and local lodging options on their website. This study will consider how nights and party size affect the amount of money each participant spends and the economic impact of the event day.

The data was gathered from an online survey hosted by SurveyMonkey, which was emailed to participants after the 2012 event. Of then 368 2012 participants, 200 responded to the survey for a 54% response rate. The sample size was reduced by removing local residents and those who did not answer all of the questions and reported that they did not spend any money locally. The sample size for analysis is 94.

Total spending was gathered by summing the amounts of several spending variables (Table 1). The average amount of money each respondent spent on food during the event was \$85. The average amount of money spent on lodging during the event was \$100. The average amount of money spent on traveling to the location was \$96. The average amount spent on tourist activities and other spending categories \$15. The average total amount spent during the event was \$296.

The two variables that were used to determine the main drivers of total spending are the number of nights spent in Wilkesboro and the amount of people in each participant's travel party that were not also riders. The range of nights spent is 1 to 6, with an average of 1.56 nights. Party size has a range of 1 to 8, with an average of 2.38.

There are two other variables in the statistical model: income of participants and whether participants visited other tourist attractions. The average income is \$72,000. Thirty-one percent of the sample visited other tourist attractions. This means very few respondents chose to see other tourist attractions around the Wilkesboro area.

Statistical Results

This study estimates the effects of nights spent, party size, participant income of participants and visiting other attractions, using ordinary least squares analysis, on total spending during the event.¹ In Table 2, there are two regression models. Model 1 is a linear regression model with all variables measured in levels. Model 2 is a double-log model with all variables measured after taking the natural logarithm.

The coefficients on nights stayed, party size and attractions are all statistically significant at

¹ Thrane, Christer, and Eivind Farstad. "Domestic tourism expenditures: The non-linear effects of length of stay and travel party size." *Tourism Management* 32(1):46-52, 2011.

the 5% level in the linear model. For every night stayed in the area \$103 is spent. For every additional party member there is an increase in \$30 of spending. If participants visited other attractions, spending increases by \$148. In the double-log model all of the coefficients on the independent variables are statistically significant at the 5% level. Using double-logs the regression coefficients can be interpreted as elasticities. Spending increases by 46% if participants visit other area tourist attractions. If the number of nights stayed doubles then spending would increase by 53%. If the party size doubles then spending would increase by 22%. The income elasticity is 0.23 which means that for every 10% increase in income, total spending increases by 2.29%.

Economic Impact

The economic impact of 6 Hours of Warrior Creek will be shown by taking the averages for all spending variables and multiplying it by the Type 2 tourism multiplier of 1.661. A Type 2 multiplier takes regional economic linkages and money spent by workers of the region as a multiplier on spending by participants. Type 2 is the most appropriate multiplier because it will show the full effects of spending by participants. Under this Type, for every \$100 spent by a participant, output will increase to \$166.10. Of the 368 participants, roughly 348 participants are visitors to the Wilkesboro, NC area. If each participant spends \$296, then total spending would be \$103,029 and total economic output with a Type 2 multiplier will be \$171,131.

The models in the study show three significant factors on spending: the nights stayed in Wilkesboro, the party size and if the visitors went to tourist attractions in the region. Using these factors, a simulation of the economic impact of different party sizes, nights stayed, and if they choose to visit other tourist attractions can be created. For example, if every participant spent an extra night in Wilkesboro and decided to see local tourist attractions, average spending increases to \$495. The extra night and visiting tourist attractions will result in an increase of total spending to \$172,250, with a total economic output of \$286,107. If participants didn't stay an extra night, but brought one more person and visited local tourist attractions there is an increase in average spending to \$421. Total spending increases to \$146,623 and total economic output is \$243,541.

Conclusions

The purpose of this study is to show the economic impact of 6 Hours of Warrior Creek on the Wilkesboro, North Carolina economy. The results show that the number of nights stayed in Wilkesboro, the number of people in the travel party and if the participant visited tourist attractions are significant contributors to the amount of spending by each participant. The economic impact of 6WC on event day is \$171,131. The economic impact increases by 67% if participants spend an extra night and decide to visit local tourist attractions. The organizers of 6 Hours of Warrior Creek should work with local tourism groups and businesses to encourage participants to spend an extra night and spend the day before or after the event to visit local Wilkesboro attractions.

Variable	Description	Mean	Std. Dev.
Party	Travel party size	2.38	1.673
Nights	Total number of nights spent in the area	1.56	0.756
Food	Total amount spent on food	85.37	83.28
Lodging	Total amount spent on lodging	99.78	104.4
Travel	Total amount spent on travel	96.28	78.43
Tourist	Total amount spent on tourist activities	2.18	13.15
Other	Other spending	12.45	42.55
Attractions	1 if visited other tourist attractions, 0 if not	0.31	0.46
Income	Individual income in 2011 dollars	72,340	26,768
Sample Size = 94			

	Total Spending		ln(Total Spending)	
	Coefficient	Standard Error	Coefficient	Standard Error
Constant	-59.68	71.35	2.455	1.209
Nights	103.15	26.72		
Party	29.52	12.26		
Income	0.001	0.001		
Attractions	147.98	43.21	0.455	0.128
Ln(Nights)			0.534	0.145
Ln(Party)			0.218	0.093
Ln(Income)			0.229	0.108
R ²	0.377		0.373	
F-statistic	13.45		13.24	
Sample Size	94		94	