



**The Economic Impact of the Nature Valley Bicycle Festival:  
A Pilot Study of the Stage 5 Menomonie, WI Road Race**

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*This study examines the economic impact of the Stage 5 Menomonie, WI Road Race. The Menomonie Road Race provide entertainment for an estimated 2000 spectators in Menomonie, and an additional 1000 spectators as the peloton raced through Eau Galle, Elmwood, Knapp, and Boyceville WI. Data collected from 133 spectators from the road race was used to estimate the total economic impact of the bicycle race on the local Menomonie economy. Results indicated that 47 percent of spectators at the bicycle race traveled from outside of Menomonie, 89 percent of the spectators have some form of post-secondary education, 60 percent of the spectators come from a household whose income is at least \$60,000, and spectators spent an average of \$47 on refreshments, meals, souvenirs, etc... during the road race. These results showcase the social and economic importance of the Nature Valley Bicycle Festival on the area as it was estimated to generate over \$65,000 for the local Menomonie economy.*

**JEL Classification Codes:**

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**Introduction:**

On June 19, 2010, Menomonie, WI hosted Stage 5 of the professional bicycling road race of the Nature Valley Bicycle Festival. This was the first time in the Festival's 12-year history that a stage of the race has been held outside of Minnesota. Dunn County, in which Menomonie resides, is well known as a premier bicycle destination with bicycle-friendly roads, rolling hills and long climbs that add the extra challenge that many pro bike racers have been fervently requesting. The 95-mile pro men's road race and 76-mile pro women's road race started with a parade lap around the University of Wisconsin-Stout campus and then headed into the challenging western Dunn County terrain, and finished with four laps on a larger circuit around UW-Stout campus.

This pro/elite bike racing spectacle is a brutal contest of endurance as riders fly by at break-neck speeds shoulder to shoulder and wheel to wheel over the route that challenges even the most experienced riders. While the pro men and women racers are away, the Greater Menomonie Area Chamber of Commerce hosted a bicycle festival and expo for spectators from 11 a.m. to 5 p.m., on the Clock Tower Plaza, at the intersection of Main and Broadway streets. The festival included bike and fitness displays, stunt rider demonstrations, children's games, a secure bike corral for spectators who pedal to the event, and a series of three amateur bike races ranging from 30 to 45 minutes in duration on a one mile criterium lap around UW-Stout campus.

The 2010 Nature Valley Bicycle Festival was held from June 16<sup>th</sup> to June 20<sup>th</sup> with six stages including a time trial, three short circuit races (criteriums) in the downtowns of St. Paul, Minneapolis and Stillwater, and lengthy road races in Cannon Falls, MN, and now in Menomonie, WI. The Nature Valley Bicycle Festival started in 1998, and has now grown into a

top ranked national bicycle race featuring 150 professional men and 100 professional women racers and attracting spectators from across the upper Midwest.

While pro bicycle racing is a dazzling sport of endurance featuring some of the top athletes in the world, it is important to recognize the economic impact that the race has on the area. The Fiscal and Economic Research Center (FERC) at the University of Wisconsin-Whitewater surveyed the spectators to estimate the economic impact that the road race has on the region.

This study will examine the economic impact of the Menomonie, WI Road Race on the local economy using the tourism model IMPLAN. This Input/Output (I/O) modeling system is a cost-effective way to measure total tourism impacts on an area's economy. The results from the analysis will contribute to tourism literature by providing evidence that bicycle race events provide a significant contribution to local economies.

### **Literature Review:**

Sport tourism has been defined as “all forms of active and passive involvement in a sport activity, participated in casually or in an organized way for noncommercial or business/commercial reasons that necessitate travel away from home and work locality” (Standeven and DeKnop 1999). Turco (1997, 1998) states that communities host sport events for three core reasons: to provide local entertainment to the community, to enhance community pride, and to stimulate spending in the host community's economy. He further states that of three purposes, the economic motive is primary because “the ability to determine economic impact of sporting events is of great value to sport providers and destination marketers in any community since the outcome may be the deciding factor in future resource allocation decisions regarding their services” (Turco, 1998). Literature regarding the economic impact of bicycle

racing events is limited, however there have been a few documented studies regarding the contribution of bicycling and other related events to local economies.

The use of input-output models to determine the economic impact of sport tourism events is limited. Furthermore, input-output models are limited in that they do not reveal the distribution effects of tourist spending across different household segment (Holland and Wyeth 1992). However, input-output analysis models are widely accepted and useful measures of tourist's economic impact on an economy. One of the most widely used input/output modeling systems is IMPLAN. According to the Nelson Institute for Environmental Studies Center for Sustainability and the Global Environment *Valuing Bicycling's Economic and Health Impacts in Wisconsin* study utilizing IMPLAN found the direct economic impact resulting from 12,993,647 days of bicycling recreation in Wisconsin totaled \$532,883,557. Furthermore, this study found the total economic impact (direct + indirect + induced) to be over \$924 million, which translated into 13,193 full-time-equivalent jobs. This study however combined four different bicycling activities including: roadways, trails, single-day bike events/tours, and multi-day tours. Single-Day Bike Events/Tours for resident daily expenditures averaged \$76.17 and was the same for Non-Resident Daily Expenditures. This average daily expenditure for Single-Day Bike Events/Tours translated into \$3,865,913 in direct economic impacts for Wisconsin residents, and \$2,319,548 in direct impact for non-residents (Grabow, Han, and Whited, 2010). A study prepared by Bicycle Federation of Wisconsin estimated that the economic impact of Manufacturing, Wholesale/Distribution, Retail/Service, and other services using the REIM Model generated \$556 million and 3,420 jobs. However, tourism related to cycling was undetermined at the time of study, but is considered a very significant portion of 11.7 million tourism industry in Wisconsin.

Daniels and Norman (2003) estimated the economic impacts of visitor expenditures at seven regular, participant-based sport tourism events. The primary data collection of expenditure profiles was used in conjunction with an input-output model to determine economic impact estimates for these South Carolina events. The Cooper River Bridge Run/Walk was the most comparable tourism event that relates to the Menomonie Road Race<sup>1</sup>. Daniels and Norman utilized the IMPLAN modeling system to estimate the economic impact of the Run/Walk. The Run/Walk was estimated to have generated participants of nearly 31,000 who spent an average per person daily of \$82.22. This translated into a direct impact of \$3,535,632 and a total impact of over \$6 million for the local economy. This event's popularity can be attributed to the fact that there was a comparatively low competitive orientation which helped create such a significant impact to the economy.

There were an estimated 434,000 spectators over the seven stages of the Tour of Missouri in 2008. Nearly 75 percent of all spectators came from less than 50 miles to view the venue. The total amount of spent by spectators of the event was \$29.8 million. Out-of-state tourists generated the most expenditures of \$15.6 million. The total for non-local Missourians was \$10.4 million and the total spent by locals was \$3.8 million. Spectator demographics indicate that the average income level of non-Missourians is \$95,338 and Missourians is \$81,905. Therefore, spectators to the Tour of Missouri in general are relatively wealthy.

### **Methodology:**

On June 19, 2010, the Fiscal and Economic Research Center (FERC) at the University of Wisconsin-Whitewater randomly surveyed the spectators to estimate the economic impact that the road race has on the region. FERC members in collaboration with the Tainter/Menomine Lake

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<sup>1</sup> The remaining six sport tourism events are: the Palmetto Tennis Championships, Southeast Regional Championship Regatta, the National Softball Association Girls Fast-pitch World Series, Soccer Six National Championships, Carolina Golf Association Senior Amateur Championships, and the St. Giles Youth Soccer Classic.

Improvement Association randomly surveyed spectators about the amount of money they spent or plan to spend because of the bike race, their household income, their highest level of household education, and tracked the amount of money spectators were spending by category (i.e., refreshments, meals, souvenirs, etc.). There were a total of 133 unique surveys completed by spectators while attending the Menomonie Road Race. These surveys provided the data necessary to implement into the specific categories for use the IMPLAN model. The basic assumption of the IMPLAN model is that the fundamental information in I/O analysis involves the flow products from producers to consumers. The data provided by the surveys provides the information contained in an inter-industry transactions tables categorized by the individual spending category. IMPLAN provides a baseline calculation of the economic impact of tourism spending within an economy and we will discussed in more detail later.

### **Profiles of Bike Race Spectators:**

The Stage 5 Menomonie Road Race turned out to be quite a popular event with estimates of nearly 2,000 spectators throughout the course of the day. Spectators hailed from as far away as Mission Viejo, California area to Brooklyn, New York. Of the spectators surveyed, a majority, 52.6 percent, were from the Menomonie, WI area and nine percent were from Eau Claire, WI. Of the surveyed spectators that were drawn to the bike race, the main attendance drivers were “Newspapers” with 52.6 percent and “From Other People” with 48.1 percent (See Table 1). Therefore, local advertising and word of mouth were significant contributors to spectator attendance for the road race. Of the people surveyed, 50.4 percent were male and 49.6 percent were female (See Table 2), and 66.2 percent of the spectator surveyed were married (See Table 3). Of the spectators, only 11.3 percent were actually related to a bike race participant (See Table

4), and only 5.3 percent viewed all the races throughout the day, while 42.1 percent witnessed one race (See Table 5).

Approximately 21 percent of the spectators surveyed held either a high school diploma or a two-year degree. An additional 27 percent held their master's degree and 8.3 percent held their doctoral degree. Furthermore, 42.9 percent of the spectators held a bachelors degree representing the largest percentage per unique education level (See Table 6), and had a median rate of income between \$60,000 - \$79,999. This is greater than the average household income of Dunn County, which is only \$36,650. However, spectators with incomes less than \$40,000 represent the largest per unique household income level (See Table 7).

It is important to note the spending patterns of the spectators before, during, and planned expenditures after the bike race. Of the spectators surveyed, a total of 63.2 percent spent money on refreshments and snacks during the bike race, 48.1 percent some amount of money on meals during or planned to spend on meals after the bike race, 27.8 percent purchased souvenirs from local merchants, 20.3 percent spent money on local transportation to and from the bike race, 27.3 percent planned to spend money on other events in Dunn County, 14.3 percent spent money on food at local grocery store for the bike race, but only 3.8 percent of the spectators spent money on overnight accommodations for the bike race. Those who spent money on refreshments and snacks spent, on average, \$8.84, and those who spent money on meals before or after the bike race spent, on average, \$12.69. Table 8 shows the average spending per person of all people surveyed.

The spectators also indicated their most memorable experiences which included: "participating in the 30 mile community race," "the people," "the racers," "the start of the men and women's race," and the "expo events and festival activities."

## **The Economic Multiplier**

There were two major forms of economic impact on Dunn County because of the bike race. The first is the direct impact caused by expenditures from the spectators at the bike race, such as on meals purchased before or after the bike race and refreshments and/or snacks purchased while attending the bike race. The second impact is the expenses paid by the bike race and local employers such as salaries to employees. In order to determine the economic impact of the bike race on the community, the 2008 IMPLAN economic modeling system was utilized. This modeling system produces an economic multiplier, which is a quantitative measure of economic impact that takes into account the interconnectedness of all levels of an economy. When dynamic changes take part in one segment of an economy, there will be residual effects throughout the entire system. This change will typically result in a greater total impact than the original injection of capital expenditures into the economy. Input-output modeling is the most commonly used method to assess the economic impact of tourism by many other states as well as at the national level (University of Vermont, n.d.)

The IMPLAN I/O Model is a mathematical model that contains datasets describing the inter-industry linkages within an economy. The I/O Model illuminates these inter-sectoral linkages and thus can be used to measure the impacts of spending as they reverberate through the economy. This is because most industries within a economy are linked to multiple other industries through the purchases of intermediate inputs. Thus many sectors within an economy are indirectly rely on the revenue generated through that initial impact of a final sale to consumers. However, every time that money is spent within an economy, a portion of the money will “leak” out of the local economy through taxes or money being spent directly outside of the local economy. Therefore, only a fraction of the money spent at the bike race will likely stay in

the local Menomonie economy. Insurance to cover the bike race might be paid to a company in a different state. The vendors who worked the expo booths might be from outside the county, and the products that the vendors are selling could have been designed and manufactured by people from outside the local community. Each of these examples and a myriad of other possibilities give money the opportunity to “leak” out of the local community and to have impact on other areas.

In order to calculate the impact of expenditures by the Menomonie Road Race and money spent by spectators in Dunn County, an IMPLAN Input/Output (I/O) analysis model was implemented. The IMPLAN model has the ability to determine the overall economic impact that the initial spending from the spectators at the bike race has on the local economy. IMPLAN will estimate the cumulative impact of an initial expenditure to one sector of the economy on the economy as a whole. The IMPLAN model utilizes the data gathered in the surveys and estimates how different spending categories affect the local economy in terms of a direct effect, indirect effect, and induced effect. This I/O model provides the means to acquire and determine these effects. The IMPLAN model uses the summation of the following three effects to measure overall economic impact:

- **Direct effect** refers to production changes associated with a change in the demand for a good or service itself. The “direct effect” is the initial impact to the local economy, which is exogenous to the model. Case-in-point for the bike race is the direct spending brought to fruition by the spectators.
- **Indirect effect** refers to the secondary impact caused by changing input needs of directly affected industries (e.g., the additional input purchases to produce additional output). This effect involves inter-industry transactions: the Menomonie Road Race has a demand for locally produced materials need to produce their product (often foodstuff). The success of the Menomonie bike race affects all the suppliers to the bike race.
- **Induced effect** refers to the changes in household spending due to the additional employment generated by the direct and indirect effects. This induced effect measures the effects of the changes in household income: the workers of the bike race and the suppliers to the bike race spend money at local restaurants, grocery stores, and businesses.

The data set that was used to assess the economic impact of the Menomonie Road race includes the direct spending by the bike race spectators throughout the day. This economic impact initiated by the bike race spectators is measured across labor income (all forms of employment income, including employee wages and benefits, and proprietor income), value added (the difference between an industry's or an establishments total output and the cost of its intermediate inputs and output), and industry sales (value of industry production).

The Menomonie Road Race spectators contributed over \$65,000 in industry sales in the local economy and helped create about 1.5 annual full-time jobs with a total labor income of \$22,207. The "Menomonie Road Race labor income multiplier" is 1.20 ( $22,207/18,465$ ), which suggest that for every dollar of labor income earned by employees of the bike race, an additional 20 cents of income is earned in the community. Additionally, the "Menomonie Road Race value added multiplier" is 1.28 ( $33,363/25,992$ ), which suggests that for every dollar of value added, an additional 28 cents is contributed to the local community's gross domestic product. Finally, the industry sales multiplier created by the spectators of the bike race is 1.23 ( $65,453/53,135$ ), implying that for every dollar sales because of the bike race; an additional 23 cents of economic activity will be generated in Dunn County (See Table 9).

Based upon estimates of 38,000 spectators<sup>2</sup> over the course of the five cities in five days, the FERC was able to extrapolate stylized estimates for the total economic impact of the Nature Valley Bicycle Festival. By extrapolating the average person spending profile from the Menomonie Road Race, approximating that this average spending profile is the same for every spectator in each of the stages of the Bicycle Festival, we were able to determine the projected effect that the Bicycle Festival has on the regional economy. Given an estimated attendance of

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<sup>2</sup> St. Paul, MN 10,000 Spectators, Cannon Falls, MN 1,000 Spectators, Minneapolis, MN 15,000 Spectators, <sup>2</sup> St. Paul, MN 10,000 Spectators, Cannon Falls, MN 1,000 Spectators, Minneapolis, MN 15,000 Spectators, Menomonie, WI 2,000 Spectators, Stillwater, MN 10,000 Spectators

38,000 spectators, who spent an average of approximately \$59 on food, transportation, tourism products, and other events combined (See Table 8), the Bicycle Festival was able to inject over \$1,000,000 directly into the regional economy in conjunction with another \$234,000 through indirect and induced effects. This direct monetary impact led to a projected creation of 28 jobs for the regional economy (See Table 10). These forecasts showcase the economic importance of the Nature Valley Bicycle Festival and the significant effect it has on the regional economy.

**Conclusion:**

The Menomonie, WI Road Race as a part of the Nature Valley Bicycle Festival was an exciting and action packed spectacle to behold. Racers and spectators from across the U.S. were able to jointly enjoy the thrill of day as the races unfolded. It is important to note that the Menomonie, WI area is a great cycling venue for amateurs and pro athletes alike, and proved to be a great addition to the Bicycle Festival as it moved out of its traditional location in Minnesota to the new venue in Wisconsin. Additionally, not only was the road race able to generate social value for the residents of Dunn County and traveling spectators, but also created a valuable economic impact for the region.

The combined direct impact of the Menomonie Road Race by expenses of race and by the spectators is \$65,453, and the creation of 1.5 jobs. These economic impacts will grow with continued investment in the Bicycle Festival in Menomonie. The results from the analysis showcase how nearly all facets in the Dunn County economy are positively affected by the bringing the bike race to region. With the injection of more than \$65,000 into the economy, the businesses of the Menomonie area are directly benefited. Furthermore, the areas that are most positively affected by the addition of the bike race to region are local restaurants, grocery stores, and local vendors. Although the “indirect” spending category is not as large as hoped, this is

actually to be expected due to the fact that a large portion of this money has “leaked” out of Dunn County.

The extrapolation of the Menomonie Road Race survey data allowed the FERC to estimate the total economic impact of the Nature Valley Bicycle Festival on the regional economy. The estimates indicate that the Bicycle Festival was able to generate an economic impact well over \$1.2 million in sales of food, transportation, and other tourism products. This then led to the anticipated creation of 28 jobs. Thus, the Bicycle Festival provided a significant contribution to the regional economy.

The IMPLAN model estimates that Dunn County was able to generate over \$65,000 during the one afternoon operation between the expenditures produced at the bike race, and the money spent throughout the day by the spectators in the community. It is clear that the bike race had a significant impact on local community of Menomonie and throughout the Dunn County region even during the small period of operation. Continued investment in the road race will not only provide benefits to the local community and Dunn County as whole in economic terms, but also in social terms for years to come.

The popularity of the Menomonie Road Race can be expounded upon by addressing the needs of the spectators of the event. Through our analysis it has been made apparent that for the most part the spectators of the event are older, wealthier (60 percent of the spectators had incomes of \$60,000 and above), highly educated (90 percent of the spectators had some form of education beyond secondary), and are not related to the bike racers (89 percent). This client base creates a haven for new sponsorship to thrive in years to come with continued investment in the growth of the road race in Menomonie.

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	<b>News-papers</b>	<b>Internet</b>	<b>Radio</b>	<b>Fliers</b>	<b>Other People</b>
<b>No</b>	47.40%	64.70%	70.70%	66.90%	51.90%
<b>Yes</b>	52.60%	35.30%	29.30%	33.10%	48.10%

<b>Married</b>	66.20%
<b>Unmarried</b>	33.80%

<b>Male</b>	50.40%
<b>Female</b>	49.60%

<b>No</b>	88.70%
<b>Yes</b>	11.30%

<b>0 Races</b>	42.10%
<b>1 Race</b>	42.10%
<b>2 Races</b>	4.50%
<b>3 Races</b>	4.50%
<b>4 Races</b>	1.50%
<b>All Races</b>	5.30%

<b>Less than High School</b>	0.80%
<b>High School</b>	10.50%
<b>2-Year Degree</b>	10.50%
<b>Bachelor's Degree</b>	42.90%
<b>Master's Degree</b>	27.00%
<b>Doctoral Degree</b>	8.30%

<b>Less than \$40,000</b>	24.00%
<b>\$40,000 - \$59,999</b>	16.50%
<b>\$60,000 - \$79,999</b>	21.10%
<b>\$80,000 - \$99,999</b>	15.80%
<b>\$100,000 - \$119,999</b>	11.30%
<b>\$120,000 or more</b>	11.30%

<b>Refreshments and/or Snacks at the Bike Race</b>	\$8.84
<b>Meals Purchased before/after the Bike Race</b>	\$12.69
<b>Food Purchased at a Local Grocery Store</b>	\$6.35
<b>Souvenirs from Local Merchants</b>	\$8.28
<b>Local Transportation (Gas, Parking, Tolls, Rental Car, etc.)</b>	\$6.71
<b>Overnight Accommodations (Hotel or Motel)</b>	\$4.02
<b>Other Events in the County</b>	\$12.14

**Table 9: Multiplier Effect Calculation of Spectator Spending  
Stage 5 Menomonie, WI Road Race**

	SPENDING CATEGORY			Total
	Direct	Indirect	Induced	
<b>Labor Income</b>	\$18,465	\$1,917	\$1,825	\$22,207
<b>Value Added</b>	\$25,992	\$3,406	\$3,965	\$33,363
<b>Industry Sales</b>	\$53,135	\$5,821	\$6,497	\$65,453

**Table 10: Estimated Multiplier Effect Calculation of Spectator Spending  
Nature Valley Bicycle Festival**

	SPENDING CATEGORY			Total
	Direct	Indirect	Induced	
<b>Employment</b>	26	1	1	28
<b>Labor Income</b>	\$350,800	\$36,400	\$34,700	\$421,900
<b>Value Added</b>	\$493,800	\$64,700	\$75,300	\$633,900
<b>Industry Sales</b>	\$1,009,600	\$110,600	\$123,400	\$1,243,600

