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## V. STUDY RESULTS - ECONOMIC IMPACT ANALYSIS

The underlying purpose of an Economic Impact Analysis (EIA) in a study like this is to determine the effect on the local economy of visitors or tourists who are drawn to an area by a particular attraction or event. For example, something like Mount Rushmore attracts many tourists to an area, as does an event like the Super Bowl. When tourists visit an area they spend money—on lodging, food, entertainment, and other items. These expenditures provide income to the owners and employees of lodging facilities, grocery stores, restaurants, retail stores, and other commercial establishments. In turn, the owners and employees spend this income on similar things, resulting in what economists call a “multiplier” effect. In other words, a dollar spent passes through many hands (is re-spent), resulting in an overall economic impact greater than one dollar.

In many areas, tourism is an important industry and a mainstay of the local economy. Cities and states often compete vigorously to attract tourists because of this economic benefit. In addition to the income generated by the private sector, this economic activity also increases state and local taxes, particularly sales and income taxes, thereby providing important revenues to state and local governments.

Often it is not too difficult to develop an estimate of how many tourists come to an area because of a particular attraction or event, e.g., Mount Rushmore or the Super Bowl. Tickets are sold. Hotels fill up. There are usually specific indicators such as these that can be used to estimate how many people came for the specific attraction or event. However, in this case study there are a number of reasons to visit the Outer Banks, the obvious ones being beach- or ocean-related, not bicycle-related. Even if tourists come for bicycling, are they attracted by the overall quality of bicycling in the area (e.g., flat terrain, scenic views, and temperate climate), or by the quality of the bicycle facilities that are available (wide paved shoulders, multi-use paths, etc.)? The answer is probably not one or the other but some combination of both. No matter how scenic or flat, bicyclists are not likely to be attracted to an area where the bicycling is difficult or unsafe.

In order to deal with these issues, several questions were included in the surveys that were designed to help us determine the extent to which bicycling in general, and bicycle facilities in particular, were important in the decision to visit the area. These questions were:

1. How important was the activity of bicycling in your decision to come to this area?
2. How would you rate the overall quality of bicycling in the area?
3. How would you rate the overall quality of bicycle facilities in the area?
4. How important will the quality of bicycling be in a decision for you to return to the area at a later date?

Each of the questions could be answered on a scale of one to five (1-5), with 1 being Not Important/Poor/Not a Factor and 5 being Very Important/Excellent/A Great Deal. This information was used to assess the degree to which some of the economic benefit accruing from the tourists could be reasonably attributed to bicycling, or to bicycle facilities.

Three key types of information were needed for this purpose:

1. The average amount of money that the tourists spend while on their trip (and what they spend it on).
2. The total number of tourists.
3. The proportion of these tourists that were strongly influenced to visit by bicycling in general, or by the availability of bicycle facilities in particular.

Because of the uncertainties mentioned above, and the inherent difficulty of developing a precise estimate in this kind of analysis, it was decided to develop a range of estimates of bicyclists for whom it could reasonably be argued that they were strongly attracted to the Outer Banks by bicycling. Certain assumptions

were developed, based on state and local tourism information. According to the North Carolina Department of Commerce' *Domestic Region Travel Study*, approximately 11 million tourists visited all North Carolina coastal areas in 1999. Information from the Outer Banks Chamber of Commerce indicated that seven million tourists visit the Outer Banks each year. Information was not available on the actual number of visitors to the northern Outer Banks, the area of study. It is safe to assume, however, that at least four million tourists visit this part of the Outer Banks as it is substantially more developed and has more tourist attractions, accommodations and amenities than other Outer Banks destinations.

Surveys conducted in the three visitor centers in the northern Outer Banks revealed that 17 percent of the general tourists do some bicycling while on their trip there. Seventeen percent of 4,000,000 results in 680,000 tourists. Obviously, only some of these tourists were influenced to come to the Outer Banks primarily because of bicycling, or more specifically because of the bicycle facilities available. Therefore three estimates of tourists who were likely to have been attracted to a significant degree to the Outer Banks by bicycling were developed —a high, medium and low estimate.

The *high estimate* was based on the percentage of bicycling tourists who gave a rating of five (Very Important) to the question “How important was the activity of bicycling in your decision to come to this area?” This was 15 percent of the bicycling tourists. Fifteen percent of 680,000 tourists leave 102,000 tourists.

The *mid-range estimate* was developed by reducing the high estimate by the percentage of bicycling tourists who not only answered a five on the above question, but also gave a rating of four or five to the question “How would you rate the overall quality of bicycle facilities in the area?” The intention of this step was to narrow the estimate down to only those bicycling tourists who were not only familiar with the bicycling facilities in the area but who also had a very favorable opinion of them. This reduced the high estimate by another 40 percent, to 40,800 bicyclists.

The *low estimate* was intended to provide an absolute “bedrock” number. It includes only those respondents who gave a rating of five to the above two questions, and who also gave a rating of five to the additional question “How important will the quality of bicycling be in a decision for you to return to this area at a later date?” This step reduced the medium estimate by another 25 percent, to 10,200 annual bicyclists.

The surveys also determined the average amount of money spent per person per day while on their trip (on accommodations, meals, recreation, shopping, etc.), and the average number of days on the trip. This allowed the calculation of the annual amount of money spent by the bicycling tourists for each estimate, which is summarized in the following table:

**Table 7. Estimated annual expenditures for bicycling tourists on the northern Outer Banks, based on survey data.**

<b>\$/person/day</b>	<b>Average Days on Trip</b>	<b>High Estimate Annual \$</b>	<b>Mid-range Estimate Annual \$</b>	<b>Low Estimate Annual \$</b>
\$175	8.3	\$145.0 million	\$58.0 million	\$14.5 million

Finally, the annual expenditure amounts were analyzed by an economic impact computer model (IMPLAN) at North Carolina State University that estimates the economic impact of these expenditures. The model provides economic impact estimates based on data specific to the Dare County area by using the annual expenditures of tourists and adjusting these expenditures to reflect two concepts:

- Not all the money spent there stays there. An amount estimated at 22 percent flows outside the county in the form of federal and state taxes and contributions.
- The money that is spent gets re-spent and produces what is known as a “multiplier effect.” For example, money spent on motel accommodations ends up in the paychecks of the motel employees. They spend part of it on groceries. That money ends up in the paychecks of grocery store employees. And so on. The estimated multiplier effect for Dare County is 1.32.

The economic impact calculation is therefore:

$$\text{Total Spending} \times 0.78 \times 1.32$$

Similarly, the computer model estimates the number of jobs produced by these expenditures by including a “job multiplier effect.” For Dare County, it is estimated that 31.1 jobs result from every \$1 million spent. The number of jobs created or supported through tourist expenditures is therefore calculated:

$$[(\text{Total Spending} \times 0.78) / \$1 \text{ million}] \times 31.1$$

The resulting economic impact analysis outcomes for the high, mid-range, and low estimates are summarized in Table 8. The mid-range estimate of an annual economic impact of \$60 million and 1,400 jobs supported was chosen as a conservative and justifiable middle ground; however, a good case could be made for the higher estimate.

**Table 8. Varying estimates for numbers of riders, jobs created and/or supported, and the overall economic impact, annually, based on conservative to high ranges.**

Estimate	Estimated Number of Riders Annually	Annual Economic Impact	Number of Jobs Supported Annually
High Estimate	102,000	\$149 Million	3,517
Mid-range Estimate	40,800	\$60 Million	1,407
Low Estimate	10,200	\$15 Million	352

The Visitor Center survey also asked the question: “Did the activity of bicycling make the duration of this trip longer (more days) than if biking wasn’t involved? If yes, by how many days?” This information was used to determine the economic impact of just these extra days. Interestingly, the result was \$59.1 million, almost identical to the mid-range estimate above.

A natural question that arises is how these benefits compare to the cost of constructing the bicycle facilities that were built in the area. Table 3 on page 14 notes the total cost of these facilities was \$6,727,303. (It should be noted that the costs are for the most part one-time capital expenses while the benefits are on-going annual amounts.)