

SECTION 5: TASK 3 - ESTIMATING TOTAL DIRECT VISITOR SPENDING (DIRECT ECONOMIC IMPACTS)

Analysis of an event's economic impact requires identification of visitor's (non-local participants/spectators, etc), direct expenditures. This usually involves identifying the number of persons who come from outside the study area (visitors) to attend the event and estimating the associated expenditures.

The basic methodology for measuring visitor expenditures involves the following:

- Identifying the number of visitor to the area because of the event.
- Separating the Visitors by Type.
- Choosing a Unit of Analysis.
- Identifying Spending Categories.
- Surveying Visitors.
- Calculating Total Visitor Spending.

3.1 Identifying the Number of Visitor

Accurate estimation of total visitors spending cannot be achieved without reliable figures on the number of event visitors (non-local participants, spectators, etc.). Estimating the number of visitors to an event most often involves calculating total attendance and estimating (via survey data) the percent of the total comprised by visitors.

The difficulty associated with estimating the number of persons attending an even depends upon the nature of the event and associated venue(s). Deriving attendance at events held at enclosed facilities such as arenas, theatres, stadiums, etc. can be achieved via ticket sales, turnstile counts or head counts upon entry. Events held at enclosed arenas but consisting of a number of consecutive games/performances with no admission charge and where people come and go is clearly more difficult. However, attendance counts are still attainable by monitoring crowd size, the number of people who come and go, and asking entrants if this is the first time they have entered the facility that day/weekend, etc. Estimating attendance can be quite difficult for open-access events, especially for ones spread out over several venues.

The number of visitor participants at an event can usually be attained through registration information, a count of participants per team for a sample of teams,

extrapolated over the total number of visitor teams, or a count of all visitor participants if feasible. Estimating the number of visitor spectators is more problematic. For a number of recreation events, the majority spectators would be closely associated with participants. Therefore, the number of visitor spectators can be estimated from a survey of participants. Obviously this strategy may not be applicable for all events. A survey of spectators can identify the proportions that are local versus visitors and those associated with visiting participants. Survey data can provide information on spending by both types of visitors.

3.2 Separating the Visitors by Type

Since spending can vary significantly across different types of visitors, it is preferable to estimate spending within defined visitor types or segments. Segments can be defined in several distinct ways, keeping in mind that the purpose of the segmentation is to differentiate spending profiles for the visitor types. Commonly used segments include:

- a) Participant vs. spectator
- b) Distance traveled
- c) Length of stay (overnight visitors vs. day trips)
- d) Accommodation type

Visitors should also be segmented by type of transportation if significant numbers use other than private automobiles and recreation vehicles. For example, visitors arriving by air will have spending patterns quite different from auto travelers. After accounting for these segmentation variables, further segmentation by demographic or socioeconomic groups may be useful.

3.3 Unit of Analysis

The units of analysis in recreation and tourism studies vary in terms of:

- a) The number of individuals in the group or party
- b) The time period covered.

Since recreation events usually encompass a short period of time (day/weekend) it is recommended that party trip be used as the basic unit of analysis for spending. Per day estimates can be derived from party trip estimates by dividing by the length of stay in the area. Direct question regarding average daily expenditures (which would be combined with average length of stay, in days) are complicated by the fact that visitors may be present for fractions of given days (arrival and

departure days) and may/may not include these fractional days (or include them in different ways) in their spending estimate.

Operationally, the “party” is generally defined as all persons arriving in the same vehicle or staying in the same room or campsite. A “trip” encompasses the time from when the party leaves their permanent home until the time they return or otherwise terminate the given trip. In estimating impacts on a particular region, spending may be measured from when the visitor enters the region to when they leave.

3.4 Spending Categories

There are two reasons to measure spending within a set of spending categories. First, subjects provide more accurate and complete estimates of spending if spending is itemized within major categories. The categories also serve to identify the kinds of spending that are relevant and should be reported. The measurement of spending within well defined categories will identify the kinds of products and services being purchased, and in turn the types of businesses directly receiving these funds. Identifying the sectors receiving the spending is critical to tying spending changes to a regional economic model.

The type and number of spending categories will vary with the study purposes. For trip spending, the following minimum level of details is recommended:

- Lodging - divided between campgrounds and motel/hotel
- Food - divided between restaurant meals and groceries
- Transportation - divided between auto/RV gas and oil, other auto-related expenses (repairs, parts, etc), and public transportation where appropriate (air, rail, taxi, etc.)
- Recreation and entertainment fees and admissions,
- Souvenirs and other retail purchases.

Note that many recreation events require individual or team registration fees. This is usually measured directly from event registration data.

3.5 Estimating Total Direct Expenditures

It is now time to make use of the data collected (estimated) in terms of: the number of visitors (and visitor types) and the average expenditure in the specified spending categories (segmented by visitor types).

Combining this data allows calculation of visitor expenditure by visitor type and total visitor expenditure by all visitors.

Mathematically we can estimate total visitor spending using the following basic formula, which is a summation of the average spending for each segment times the number of persons in that segment.

$$S_j = N \times \sum_{i=1}^m M_i \times B_{ij} \quad (1)$$

where

S_j = total spending within the designated region in category j , $j = 1, \dots, J$

N = total number of visitors

m = number of segments

M_i = segment i 's share of total visits, $i = 1, \dots, m$

and B_{ij} = average spending of a member of segment i on category j (the s_{ij} vector is known as a "spending profile").

This approach requires three pieces of information:

1. Total visitors (N) - the information must come from visitation records/estimates.
2. Segment shares (M_i) - the proportion of visitors comprised by each of the different subgroups or segments based on visitor types.
3. Spending profiles by segment (B_{ij}). Spending profiles must generally be estimated in surveys of your visitors. By including the variables that define key segments in the survey, you can generate individual spending profiles for each segment.

As an example, consider the following data from a study on the economic impact of The 1998 Junior National Basketball Championships in Halifax. Table 4.1 below shows the average expenditures (by spending category) for two visitor types (competitors and coaches/managers) obtained via a survey. Note that accommodations are not an expenditure category because players and coaches/managers were housed at Saint Mary's University and the costs borne by the tournament organizers.

Table 5.1**Average Expenditures for Participant Visitors**

| Expenditure Category | Competitor | Coach/Manager |
|-----------------------------|-------------------|----------------------|
| Restaurant meals/beverages | \$6.36 | \$60.00 |
| Grocery/convenience stores | 12.50 | 20.00 |
| Other retail | 17.36 | 20.00 |
| Gas/auto repairs | 3.57 | 0.00 |
| Tax/car rentals | 0.54 | 80.00 |
| Recreation/entertainment | 7.32 | 0.00 |
| Other | 3.57 | 0.00 |
| Total | \$91.21 | \$180.00 |

All ten of 10 Canada's provinces were represented in both the Women's and Men division. This translates into a total of 180 visitor participants and 36 visitor coaches/managers (10 players and 2 coaches /managers per team). Combining the average expenditure figures from Table 4.1 with the total number of non-resident visitor competitors and coaches/managers gives the total expenditures in Table 4.2. Visiting competitors spent a total of \$16,420 with spending being concentrated in the Restaurant Meals/Beverages (51%) and Retail Sectors (19%). Visiting coaches/managers spent a total of \$6,480 mostly for Taxi/Car Rentals (44%) and Restaurant Meals/Beverages (33%). Total spending for visiting competitors and coaches/managers was \$22,900.

Table 5.2

**Total Expenditures by Visitor
Competitors and Coaches/Managers**

| | Competitor | Coach/Manager |
|----------------------------|-------------------|----------------------|
| Number | 180 | 36 |
| Expenditure | | |
| Restaurant meals/beverages | \$8,345 | \$2,160 |
| Grocery/convenience stores | 2,250 | 720 |
| Other retail | 3,125 | 720 |
| Gas/auto repairs | 643 | 0 |
| Tax/car rentals | 97 | 2,880 |
| Recreation/entertainment | 1,317 | 0 |
| Other | 643 | 0 |
| Total | \$16,420 | \$6,480 |