Guidelines: Survey Procedures for Tourism Economic Impact Assessments of Ungated or Open Access Events and Festivals

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Table of Contents

I. WHAT IS THIS GUIDEBOOK ALL ABOUT? 9

A. Introduction 9
1. Background 9
2. Goals 9
3. Different information needs, event types, and measurement requirements 9
4. Which set of guidelines is most appropriate to meet your information needs? 12
5. Partners 12
6. Benefits to funding organizations 13
7. Benefits to event planners & organizers 13

B. Basic Questions You Should Ask 13
1. What is "tourism economic impact"? 13
2. Why is *incremental* spending such an important concept? 14
3. Tourism economic impact is *different* from how much money was spent by tourists 14
4. Are there other ways to measure the success of an event? 14
5. Should every event measure its tourism economic impact? 15
6. Why estimate an event's *tourism* economic impact? 15
7. Check with sponsors and partners before deciding what to measure! 15
8. What steps does an event organizer have to take to estimate tourism economic impact? 15
9. Where can you learn more about tourism economic impact measurement? 16

C. Special measurement considerations for ungated events 16
1. Counting attendees at ungated events is complex and labour intensive. 16
2. Steps required to obtain an estimate of total attendance 16
3. Setting reasonable boundaries for *what* you will measure 18
4. Do you need to hire research experts? 18
5. Where else can you obtain help? 18
6. What do you need to estimate your event's tourism economic impact? 19

II. DESIGNING A TOURISM ECONOMIC IMPACT STUDY 22

A. IMPORTANT CONCEPTS 22
1. Event type 22
2. How many *attendees* came to the event? 22
3. How many *locals* and how many *tourists* came to the event? 25
4. Who is a *tourist?* 25
5. Who is your tourist? 26
6. Substitution effects 26
7. The importance of your event in the tourist's *destination choice* ("Casuals") 26
8. "Time switchers" 27

B. Four components to a tourism economic impact study 27
An Overview 27
1. Attendee counts 27
2. Tallying attendees 27
3. Attendee survey 28
4. Analysis plan 30
5. Documenting the study process 30

C. Other types of studies 33
1. On-site spending study 33
2. Non-market value studies 33
3. A decision tree 34

III. ESTIMATING & TALLYING ATTENDEES 35

A. Key concepts & issues 35
1. Elements required for attendee counts and on-site tally 35
2. Important definitions for tallies and counts 35
3. Sampling: How the "part" can represent the "whole" 36
4. A "stint" is the sampling unit 36
5. Attendee counts 36
6. Attendee tallies (the tally interview) 37
7. Recruitment for the attendee survey 37

B. Implementation guidelines for tally interviews 38
1. Different events require different approaches to stint samples 38
2. Approaches for "counting" attendees 39
3. A special note about age cut-offs for "attendees" 39
4. How to estimate staff requirements for tallying 39
5. More information about tallying attendees 43
6. What happens if you "miss" a stint? 45
7. "Interviewer stints" 45
8. Number of tally interviewer stints required to meet Attendee Survey completion targets 46
9. *Sampling* tallied household parties for attendee survey 47
10. What if your event does not attract enough *tourists* to achieve 200 attendee survey completions? 48
11. Number of interviewers required 49

IV. DESIGNING A SAMPLING PLAN FOR COUNTS AND TALLIES 51

A. Designing a generic sampling plan for counts and tallies 51
1. Estimating the number of interviewer stints you require 51
2. All times and locations must have an opportunity to be in your stint sample 53

B. The stint sampling plan 53
1. Three basic steps 53
2. Two types of random sampling plans 54

3. A generic simple random sampling plan 54
4. A generic stratified random sampling plan 57

C. Stint sampling plans for ungated events 62
1. Introduction 62
2. Using a grid map for identifying counting and tallying stint locations 62
3. Two examples of grid maps: contiguous and non-contiguous zones 62
4. Example 1: Contiguous site 63
5. Example 2: Non-contiguous site 66
6. Tallying a random sample of attendees during a stint 71

V. MEASURING EVENT ATTENDANCE 72

A. AERIAL PHOTOGRAPHY 72
1. Using aerial photography to estimate attendance: an overview 72
2. Detailed site map 73
3. Count zones for photographs 73
4. Identifying peak attendance time periods 73
5. Aerial photographs 73
6. Counts from aerial photographs 74
7. Estimates of capacity and occupancy in covered areas 74
8. Special calculations for counting attendees 75
9. Using tally data to adjust for people who were not in the photo 75
10. Tally questionnaire 76
11. Tally interviewers 77
12. Adjusting "counts" to "tally" data for *excluded* attendees 77
13. Estimating total attendance, *tourists* and *locals* 78
14. A weighting and projection plan for aerial photographs 78
15. A step-by-step description of the weighting and projection process 79
16. Estimating attendance by place of residence 88
17. What do you do with the ratios by place of residence? 89

B. PARKING LOT COUNTS 90
1. Using parking lot counts to estimate attendance: an overview 90
2. What you need for parking lot counts 91
3. Detailed site maps 91
4. Counting vehicles & occupants 92
5. Using tally data to adjust vehicle counts for total attendance estimates 95
6. Additional questions for the tally questionnaire 96
7. Tally interviewers 99
8. Adjusting "counts" to "tally" data for *excluded* attendees 99
9. Estimating total attendance, *tourists* and *locals* 100
10. A weighting and projection plan for parking lot counts 100
11. A step-by-step description of the weighting and projection process 101
12. Estimating gross attendance 104
13. Estimating attendance by place of residence 114

14. What do you do with the ratios by place of residence? 115

C. PARADE COUNTS....116
1. Using parade counts to estimate attendance: an overview....116
2. Map of the parade route....116
3. Counters per zone (stint) 117
4. Extrapolating from counted zones to all zones 117
5. Using tally data to adjust for people who were not at the parade....117
6. Calculating unduplicated attendance 117
7. Tally questionnaire....118
8. Tally interviewers 118
9. Adjusting "counts" to "tally" data for *excluded* attendees 119
10. Estimating total attendance, *tourists* and *locals*....119
11. A weighting and projection plan for parade counts....119
12. A step-by-step description of the weighting and projection process....120
13. Estimating attendance by place of residence 130
14. What do you do with the ratios by place of residence? 131

D. TAG AND RECAPTURE 132
1. Using tag and recapture approach to estimate attendance: an overview 132
2. Grid map and sampling plans for tag, recapture and tally procedures....133
3. Number of interviewers for "tagging"....136
4. Number of interviewers for recapturing "tagged" attendees....136
5. Using tally data to adjust for tagged respondents....138
6. Tally questionnaire....138
7. Tally interviewers for tag & recapture....139
8. Estimating total attendance, *tourists* and *locals*....139
9. A weighting and projection plan for tag and recapture estimates....139
10. A step-by-step description of the weighting and projection process....141
11. Estimating attendance by place of residence 148
12. What do you do with the ratios by place of residence? 149

VI. THE TALLY INTERVIEW PROCESS....150

A. The interviewers....150
1. A critical component of the research process 150
2. Selecting interviewers....150
3. Training interviewers....151
4. Supervision 151

B. Interviewing....152
1. Conducting the interview....152
2. Stopping an attendee to ask questions using a selection interval (every *nth*)....154
3. The tally unit is a *household party*....154
4. The tally questionnaire....154
5. Required tally Information....156

C. Recruitment for attendee survey 159
1. Additional tally questions to recruit respondents for the attendee survey 159
2. Incentives 160
3. Recruitment for self-completion attendee survey at tally stage 160

VII. ATTENDEE SURVEY ANALYSIS PLAN – NON-LOCALS 163

A. An overview 163

B. Creating a "raw" data file 163
1. What is a "raw data file"? 163
2. Unique respondent ID # 164
3. Usable questionnaires 164
4. Calculating response rate 164

C. Coding survey responses 165
1. Unique variable addresses in your data file 165
2. Numeric fields 165
3. Developing code lists for geographical units 166
4. Data entry & verification 166
5. Keep a copy of the raw data file 166

D. Creating a "clean" data file 166
1. Introduction 166
2. Internal consistency edits 167
3. Check for reasonable values 167
4. Replacing missing values and distributing "total" values to specific spending categories 167
5. Definitions: reported, allocated and attributed spending 168

E. Assigning spending to geographic areas 168

F. Constructing "event accounts" (incremental spending) 169
1. Two event account columns 169
2. Substitution effects 169
3. Trip replacement 170
4. Importance of event in destination choice 170
5. If *importance of event* question is *don't know* or blank 171

G. Weighting and projecting Attendee Survey data 171
1. Using tally weights 171

VIII. DOCUMENTING THE STUDY PROCESS 175

A. Introduction 175
1. What is a *Technical Appendix*? 175
2. What does a *Technical Appendix* contain? 175

B. Contents of a Technical Appendix 176
1. Overview of study objectives and study sponsor(s) 176
2. Who conducted the study 176
3. Study timing and survey dates 176
4. Description of the data capture method(s) used 176
5. Description of the universe under study 177
6. Definition of "Qualified Respondents" 177
7. Sampling 177
8. Field procedures 178
9. Response rate 179
10. Calculations for weighting/projection 180
11. Data editing, cleaning and adjustment procedures 180
12. Field materials 180

IX. GLOSSARY 181

APPENDIX I: SUPPORTERS & PANEL OF EXPERT MEMBERS 185

A. Supporters 185

B. Panel of Experts 185

APPENDIX II: MARGIN OF ERROR TABLE 186

APPENDIX III: ATTENDEE SURVEY: EDITING & SPENDING ALLOCATION 188

Special Edit Rules for Lodging 188

APPENDIX IV: ASSIGNING SPENDING TO CATEGORIES 189

A. Only "Total" provided 189
1. Checked some "Spent Any" boxes 189
2. Checked no "Spent Any" boxes 189

B. No Total Provided and Some Items Marked with "Don't Know" Amount 189

C. Total Provided and Some Items Marked with "Don't Know" Amount 190

D. No Spending Information Provided 190

E. Guidelines for Calculating Average Spending for Allocation/ Ascription 190

F. Attendee Survey: Geographic Distribution Tables 192

G. Identifying and Assigning Incremental Spending to Event Account 193

APPENDIX V: ANNOTATED LITERATURE REVIEW FOR EVENTS & FESTIVALS.....194

A. Gated Events.....194

B. Ungated Events.....200

APPENDIX VI: SAMPLE TALLY QUESTION LIST AND TALLY FORM 203
Sample Tally Sheet.....209

APPENDIX VII: SAMPLE ATTENDEE SURVEY QUESTIONNAIRES (NON-LOCAL & LOCAL VERSIONS).....210

I. WHAT IS THIS GUIDEBOOK ALL ABOUT?

A. Introduction

1. Background

Event and festival organizers are often called upon to make estimates of tourism-related economic impacts to justify their requests for support from private and public sector sponsors. Many of these events are comparatively small, operate on very low budgets and have neither the skilled staff to implement nor the funds to purchase high quality tourism economic impact studies. The result is a proliferation of tourism economic impact studies that generate estimates that are not credible. All too often, the estimates are inaccurate, at least in part because the manner in which information is collected and projected does not meet acceptable research standards.

2. Goals

These guidelines are designed to enable organizers of small and medium sized fairs, festivals and events across North America to produce more credible and consistent inputs for estimating their **tourism economic impact**[1]. A new level of consistency and professionalism will be brought to this important measurement task as event organizers adopt the guidelines as *minimum standards*.

Events that elect to measure other characteristics such as **on-site spending** and **attendee satisfaction and profile information** will also benefit from the application of the procedures and minimum standards described in these guidelines. A further goal of the project was to explore alternative ways to estimate the value of an event or festival. To this end, a discussion paper on approaches to estimating non-market values was prepared (available under separate cover). This document covers topics such as *willingness to pay* (WTP), and other forms of *revealed* or *stated preference* in the context of events and festivals.

3. Different information needs, event types, and measurement requirements

Event organizers and planners have different information needs and are responsible for different types of events. In turn, information needs and event types require different measurement plans and tools. To determine which of the following four sets of guidelines is most appropriate to meet your needs, use the definitions provided below and refer to the grid in Section 4, below.

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[1] These guidelines are designed to allow organizers of small and medium sized events and festivals to produce credible estimates of tourism economic impact with limited assistance from professional consultants. Consequently the guidelines include some "rules of thumb" and simplifications that would not be appropriate for studies of larger events and festivals. These guidelines are most appropriate for events and festivals with 50,000 or fewer "net" attendees. "Net" attendees are unique visitors to an event. Thus, if the same individual attends the event on three separate days, he or she is counted only once in the "net attendance" count. Similarly, the person who attends the event on only one day is counted once in the "net attendance" estimate.

1. *Guidelines: Survey Procedures for Tourism Economic Impact Assessments of Gated Events and Festivals*
2. *Guidelines: Survey Procedures for Tourism Economic Impact Assessments of Ungated and Open Access Events and Festivals*
3. *Guidelines: Survey Procedures for Assessment of On-Site Spending at Gated Events and Festivals*
4. *Guidelines: Survey Procedures for Assessment of On-Site Spending at Ungated or Open Access Events and Festivals*

The Guidelines are **not appropriate** for *all* types of events. Specifically, they are not suitable for *sports tournaments* (e.g., recreational hockey or softball tournaments*)* or competitions (e.g., dance competitions) in which most attendees are also participants in the event[2] or for commercial trade shows nor do they provide tools to estimate the economic impact of on-site or future commercial sales that may be stimulated by an event.

In effect, the spending estimates and economic benefits discussed in these Guidelines are limited to those that are deemed "touristic".

Note that the Guidelines focus on how to generate *inputs* for estimating tourism economic impact or on-site spending. They do not include economic impact models *per se*.

[2] For more information on methodologies for this type of event, see John L. Crompton's *Measuring the Economic Impact of Visitors to Sports Tournaments and Special Events,* National Recreation and Park Association, 1999.

a) Gated versus ungated or open access events

A **"gated" event** is one that takes place in a confined area with "gates" or other "controlled" points of entry/exit. Estimating total attendance is comparatively straightforward at a gated event because event organizers can count tickets or entrants as they pass through controlled entry points. Many of the measurement processes are similar for generating a gated event's tourism economic impact or on-site spending (see below).

An **"ungated" or open access event** is one that takes place in whole or in part in an open area where access is not controlled. From a measurement perspective, this type of event poses challenges because research tools are required to estimate total attendance without the benefit of "head counts" as attendees enter or exit the site. The challenges are similar for generating estimates of an ungated event's tourism economic impact or on-site spending (see below).

b) Tourism economic impact versus on-site spending

Tourism economic impact is the *change* in sales, income and jobs in businesses or agencies that receive tourists' spending directly, indirectly or as a result of household expenditures, from the income earned directly or indirectly because tourists came to the community and spent money there.

It does *not* include spending associated with the event by people who live in the community (*locals*). A tourism economic impact assessment is most appropriate for small and medium sized events that attract at least ten percent of their total attendance from *tourists* – people who do not live in area in which the event takes place and is appropriate for gated and ungated events (see above)[3].

On-site spending at an event by all attendees including community residents and tourists may be an appropriate information objective for events that do not attract a sizeable proportion of *tourists* and/or do not have the resources to undertake a tourism economic impact assessment or for other purposes. O*n-site spending* is money spent at the event site itself and for tickets to attend the event. It also includes money spent on parking, refreshments, souvenirs and other retail purchases and additional admission fees (e.g., amusement fees for rides, movies, concerts, etc.) on the site.

An on-site spending estimate can be generated for gated or ungated events (see above).

[3] Recall that a small or medium sized event is defined as one with 50,000 or fewer "net" attendees ("net" attendees are unique visitors to an event). As noted earlier, these guidelines include some "rules of thumb" and simplifications that would not be appropriate for studies of larger events and festivals.

4. Which set of guidelines is most appropriate to meet your information needs?

Based on the type of event and type of spending of interest to your event, select the guidelines listed below. The highlighted quadrant is the focus of "this" document. Others are provided under separate cover.

	Gated Event	**Ungated Event**
Tourism Economic Impact Estimate	*Guidelines: Survey Procedures for Tourism Economic Impact Assessments of Gated Events and Festivals (under separate cover)*	***Guidelines: Survey Procedures for Tourism Economic Impact Assessments of Ungated or Open Access Events and Festivals (this document)***
On-Site Spending Estimate	*Guidelines: Survey Procedures for Assessment of On-Site Spending at Gated Events and Festivals (under separate cover)*	*Guidelines: Survey Procedures for Assessment of On-Site Spending at Ungated or Open Access Events and Festivals (under separate cover)*

5. Partners

Financial support for this project from the following organizations is gratefully acknowledged.

Canada	Alberta Tourism, Parks, Recreation and Culture
	Canadian Tourism Commission
	Federal-Provincial-Territorial Culture/Heritage and Tourism Initiative
	Government of the Northwest Territories – Department of Resources, Wildlife, & Economic Development
	Government of Yukon – Department of Tourism and Culture
	Nova Scotia Department of Tourism, Culture and Heritage
	Ontario Ministry of Tourism
	Tourism British Columbia
	Tourism Prince Edward Island
USA	Texas A&M University

A panel of experts in Canada and the United States developed these guidelines. The panel includes academics, research practitioners and industry representatives. A complete list of supporters and panel of expert members is appended. [See Appendix I: Supporters & Panel of Expert Members.] Special thanks are due to Dr. James Petrick for his many contributions to this project and to James Storms and Hyong-Gon Kim, graduate students at Texas A&M University, who also contributed to the literature review and website development.

6. Benefits to funding organizations

By adopting these guidelines, event sponsors can achieve a common standard for decision-making. If every event produces estimates of tourism economic impact that meet the minimum standards set forth herein, a common and credible basis for comparisons should emerge. As well, over time, profiles of attendees of different types of events will be developed which may be useful as inputs for forecasting the potential tourism economic impact of events or festivals still in the planning stage.

7. Benefits to event planners & organizers

Event planners and organizers will have tools that enable them to (1) determine whether they are in a position to undertake a tourism economic impact assessment or to select other options to estimate their value and (2) to conduct the tasks required to feed economic impact models with the inputs required to produce consistent and credible estimates of the touristic value of their event.

B. Basic Questions You Should Ask

1. What is "tourism economic impact"?

The **tourism economic impact of an event** is an estimate of the change in economic activity that results from spending by ***tourists*** who come from outside the community to attend an event. If your local newspaper were reporting *tourism economic impact*, it would print something like the following:

> *ABC Festival brought _____ thousands of tourists to the city. These tourists generated $_____ thousands in economic impact, _____ hundreds of jobs for the community, and added $_____ thousands to the local tax coffers.*

The numbers used to fill in the blanks in this statement represent the results of a tourism economic impact estimation process based on *tourists* who attended ABC Festival. The tourism economic impact of an event takes into account **incremental spending** by tourists who travel from outside the community and go to the event. Incremental spending is money that is spent at or because of the event *that would not otherwise* have been spent in the community.

Tourism economic impact is the ***change*** in sales, income and jobs in businesses or agencies that receive tourists' spending directly, indirectly or induced as a result of household expenditures, financed from the income earned directly or indirectly because tourists came to the community and spent money there.

2. Why is *incremental* spending such an important concept?

The purpose of a tourism economic impact estimate is to gauge the impact on an economy of a particular event or activity. If the same money that is spent at or as a result of an event would have been spent in the community on other activities, goods or services, the event is not deemed to be responsible for the spending. In other words, some of the spending that takes place at an event is *not* incremental – it would have happened anyway.

For example, while visiting your community, Dave and Diane decide to go to your event instead of going to a movie at the local theatre. Suppose that the ticket price for your event and the movie are the same. In this case, the purchase of tickets for your event would produce *no* incremental spending. Why? Because Dave and Diane would have spent the *same amount* of money in your community on a recreational activity (either your event or the movie) – whether your event took place or not[4].

3. Tourism economic impact is *different* from how much money was spent by tourists

The economic impact of tourists' activities in a community is not the same as how much tourists spent in the area. In fact, since most communities import goods and services in order to meet tourists' local demands, not all of the benefits from tourists' spending in a community will be retained within that community. For this reason, in many communities, *tourist spending* can be higher than *tourism economic impacts.*

The economic impact of tourists' activities in a community is also different from how much all attendees spent *at the event*. If you want to measure how much money residents of your community and tourists spent at your event, you should consider using an On-Site Spending Study (see *Guidelines: Survey Procedures for Assessment of Ungated or Open Access Events and Festivals* (under separate cover).

4. Are there other ways to measure the success of an event?

Yes. There are many ways to evaluate the "success" of an event. A tourism economic impact estimate is only one. For example, an event organizer might wish to estimate total on-site spending by all attendees including community residents and tourists. One may also wish to estimate *non-monetary* impacts on the community such as the value of maintaining community pride, cultural traditions, and the like. While all of these approaches can be useful, the materials provided here are primarily related to methods to collect data needed to estimate the *incremental* economic impacts tourists at an event bring to a community, province/state or country.

[4] This assumes that the indirect and induced impacts are the same in each case. These guidelines are based on the assumption that any difference in the indirect or induced impacts is inconsequential.

5. Should every event measure its tourism economic impact?

No. Gathering appropriate information to produce credible estimates of an event's tourism economic impact takes time and effort. Every event organizer should weigh the benefits and costs of undertaking the steps required before making a decision. If, for example, your event matches one of the following descriptions, it is probably not worthwhile to invest the necessary time and effort:

(1) if the event draws few, if any, people from outside the community (i.e., less than 10% of total attendees are tourists); or

(2) if most of the tourists who go to the event are in the community for a reason ***other than*** *attending the event* (the economic impact associated with the event is linked to how important it was in the decision to visit the community -- see Section II-A-7 for more details).

6. Why estimate an event's *tourism* economic impact?

If you want to know how much *new* economic activity (Gross Domestic Product or GDP), how many *new* jobs and how many *new* tax dollars came into your community because tourists came to your event, you might want to estimate the event's *tourism* economic impact. In other words, a tourism economic impact estimate quantifies the *incremental impacts* brought to a community because the event attracted these tourists.

Estimates of the contribution your event made to the overall economy of the community (GDP), how many jobs it created and how much it contributed to the tax coffers of the community (or other jurisdictions) because it took place **and** attracted tourists can be used for planning, to generate community support and for other purposes.

7. Check with sponsors and partners before deciding what to measure!

Some event sponsors are especially interested in the *tourism* impacts of events whereas others are interested in other measures, such as on-site spending. Make sure that the estimates you produce will meet the needs of potential event sponsors before you design and implement a measurement plan.

8. What steps does an event organizer have to take to estimate tourism economic impact?

See Section II-B and Figures 1 (page 28) and 2 (page 30) for the various steps required to generate inputs for a tourism economic impact estimate.

9. Where can you learn more about tourism economic impact measurement?

There are many guidelines available to help organizations learn more about tourism economic impact measurement. Some provide less stringent measurement tools than the ones recommended here but are, nonetheless, useful sources of background information. Possible sites that may be of use include the National Recreation and Park Association (NRPA.org), Michigan State University (MSU.edu - see Daniel Stynes), and economic development offices at the provincial, state or local level.

C. Special measurement considerations for ungated events

1. Counting attendees at ungated events is complex and labour intensive.

Because people can come and go at different times and places and because it can be difficult to distinguish event *attendees* from *passers-by,* particularly at urban outdoor events and parades, identifying the number of *tourists* and *locals* who came to an ungated event requires special and often complex procedures. Even *randomly* selecting people to interview at various sites does not provide you with a *representative* sample of attendees unless you have built a system to estimate the total size of your attendance. Despite the difficulties involved, estimating the total numbers of tourists and locals at your event as accurately as you can is central to producing a credible, reliable estimate of spending associated with the event.

Generating *unduplicated* counts of attendees and their characteristics involves complex counting, tallying and adjustment procedures. In turn, most accepted procedures require large numbers of interviewers on the site.

2. Steps required to obtain an estimate of total attendance

Regardless of the particulars of your ungated event, you will need the following knowledge and procedures to produce an acceptable estimate of total attendees using the methods suggested in this document.

- Detailed knowledge of the physical layout of the site:
- Detailed knowledge of the flow and concentration of attendees;
- A “grid map” of the site (a map with evenly sized and/or landmark-based areas clearly marked in a grid pattern);
- Interviewers on the site to count and/or tally attendees in a systematic manner, using grid maps to identify locations for these procedures;

- A tally questionnaire that captures information required to adjust for potential multiple counting of the same attendee and other variables, depending on the approach to estimating total attendance you select; and

- A processing plan to generate basic counts, adjusted to produce an *unduplicated* count of attendees and the proportions that are tourists and locals.

a) The tally interview is very important in estimating total attendance at an ungated event

Regardless of how you achieve the basic counts of attendees, you will rely on information from a tally interview with a sample of attendees to adjust for potential duplication (counting the same attendee on different days or at different venues) and other variables. Because the tally information for an ungated event is instrumental in estimating total audience size as well as the proportion of attendees who are tourists and local residents, considerable precision in the sampling and weighting processes is required.

No matter how much effort you devote to measuring attendees and their economic impact at an ungated event, you will produce only an estimate. While this is true of all measurement based on samples and survey techniques, it is particularly the case when there is no easy way to ***know with certainty*** how many different people actually came to your event.

b) Different types of ungated events require different measurement tools

Single venue events are those in which all the activities associated with the event take place at a single site. The "site" could be a fairground or a park that includes tents, buildings and open areas, so long as these facilities are **contiguous**. That is, attendees do not have to leave the site to go from one activity to another.

Multi-venue events are those in which different activities take place at **non-contiguous** locations. A music festival with street performances, indoor concerts at concert facilities or clubs around town and a fireworks display at a central site would be a multi-venue or non-contiguous event.

Attendance measurement issues are considerably more complex for non-contiguous ungated events than for contiguous ones. In fact, to produce a reasonable estimate of attendance at a non-contiguous event, you may have to use more than one of the techniques described in these guidelines. For example, aerial photography might be the most appropriate tool for one portion of your event whereas parking lot counts may be most appropriate for another portion.

Of course, if you elect to utilize more than one method for counting attendees, the measurement tasks become even more complex. In this case, you will require a strategy to (1) ensure you are not counting the same attendee more than once and (2) a methodology to integrate the estimates you obtain from *each* method you use to count attendees.

3. Setting reasonable boundaries for *what* you will measure

Because of the complexities involved in estimating total attendance for ungated events and particularly those that have more than one venue, it may be useful to consider measuring the tourism economic impact for a *portion* of an event.

As long as you set the boundaries for what you plan to include in your attendance and tourism economic impact estimates at the outset of the project, you will:

- know and be able to report what portion of the event your findings represent; and
- be in a position to state that your estimates are *conservative* because they did not attempt to include *all* attendees.

For many events, setting boundaries to exclude as many difficult measurement tasks as possible is worthy of careful consideration. Since *locals* do not contribute to the tourism economic impact of your event, you might reduce or eliminate measurement effort for components that are most likely to draw *locals* but few tourists, and concentrate your limited measurement resources on the components of your event that are most likely to draw *tourists.* For example, if you anticipate that *local* residents will predominate at some parts of your event (e.g., ungated street performances), you might consider whether the measurement effort involved in estimating the number of attendees at these performances is worthwhile.

You need to set measurement boundaries when you begin to design your research plan. The inclusion or exclusion of some portions of your event will determine which tools will be most appropriate to estimate attendance at the venues or activities you elect to measure.

4. Do you need to hire research experts?

You may find that the technical aspects of sampling, weighting, data management and projection are too complex to take on without the help of research and tabulation experts, particularly if yours is a multi-venue event. If this is the case, you might use these guidelines to develop a Terms of Reference to obtain proposals from economic research suppliers and/or provide these guidelines to your supplier for implementation of the project.

5. Where else can you obtain help?

You can explore options for help in implementing the methods described in these guidelines from faculty members in tourism, economics or social science departments at a local college or university, your sponsors and/or partners (if any), and members of research professional organizations such as the Travel and Tourism Research Association (TTRA, www.ttra.com), Marketing Research and Intelligence Association (Canada) (MRIA, www.mria-arim.ca) or Marketing Research Association (U.S.A.) (MRA,, www.mra-net.org). These organizations maintain lists of members who may be able to meet your needs.

6. What do you need to estimate your event's tourism economic impact?

a) Money

The guidelines recommend the collection of information directly from event attendees, using surveys and surveys cost money. Even if you plan to train and use volunteers to *collect* the information, you may incur costs for some or all of the following: printing (forms/questionnaires), hand-held computer rental or purchase, long distance telephone charges for telephone call-backs, data processing, tabulation and/or analysis.

You may also require the services of professional research and tabulation experts for some of the more complex components of the survey tasks (e.g., sampling, weighting, data management and projection).

b) Human resources

Someone has to be "in charge" to make sure that all the elements required to conduct a successful survey at an event are in place. The process requires project management and the commitment of sufficient human resources to ensure a positive outcome.

The counting, tallying and telephone callback procedures recommended in these guidelines also require trained interviewers. These may be volunteers from the community who are trained to conduct the surveys or professionally trained interviewers supplied by survey research companies.

c) A tourism economic impact model

A tourism economic impact model is an econometric tool that utilizes the structure of a region's economy, generally based on national statistical organizations' data (such as input/output tables), and provides estimates of the impact tourists' spending has on overall economic activity, jobs and taxes.

The guidelines provided here will help you produce appropriate *inputs* for tourism economic impact models but you need to ensure that a national, provincial/state or regional economic development office or other organization has a model available for you to use. For example, you could contact any of the partners of this project for information on the availability of a model for your geographic area (see list, following page).

Canada	Alberta Tourism, Parks, Recreation and Culture
	Canadian Tourism Commission
	Federal-Provincial-Territorial Culture/Heritage and Tourism Initiative
	Government of the Northwest Territories – Department of Resources, Wildlife, & Economic Development
	Government of Yukon – Department of Tourism and Culture
	Nova Scotia Department of Tourism, Culture and Heritage
	Ontario Ministry of Tourism
	Tourism British Columbia
	Tourism Prince Edward Island
USA	Texas A&M University

d) A medium-term research plan (for repeat events)

To determine *what* you want to learn about your attendees and *how often* you can afford to conduct a survey, you may want to develop a medium-term (five-year) research plan. Depending on your budget and human resource limitations, you may decide to conduct a full-blown survey occasionally and more limited surveys in the intervening years.

e) The impact area

At what level of geography do you plan to estimate the tourism economic impact of your event (i.e., national, regional, or local)? You will ask different questions and include/exclude different spending, depending on the level of geography you select as the basis of your tourism economic impact estimates. Your impact area might be a county or similar administrative geographical area, a group of counties, a tourism region, a city, a province or state, etc. We recommend that you use geographic boundaries that correspond to standard economic and/or census areas because economic impact models are generally designed to reflect the economic structure of particular census areas.

When selecting the level of geography, make sure a tourism economic impact model is available at the same level. For example, if you plan to look at your event's impact on the municipal economy, you will need a tourism economic impact model that reflects the structure of the municipal economy. If no such model exists, consult with your local economic development office or tourism authority to identify the implications of using a model reflecting a different level of geography than the one you have selected.

f) Local partners

Perhaps your event can't "go it alone", but if you worked with other events in your area and/or the local destination marketing organization, you could build a partnership to spread the financial and human resource costs.

g) Enough tourists

If your event is unlikely to attract at least ten percent (10%) of its attendees from outside the local area, you should probably ***not*** undertake a tourism economic impact assessment. Unless your event is very large, such a small proportion of tourists (less than 10%) will likely have a minimal economic impact on your community. Furthermore, *finding* enough of these tourists to produce credible estimates from a survey would likely require more effort than many events can manage.

h) A reality check

Not every event will have budget, human resources, and/or access to a suitable tourism economic impact model. Be prepared to conclude that your event cannot support the effort required to generate inputs for assessing tourism economic impacts that meet *minimum standards*. If your event falls into this category, you may select other measures to describe the benefits your event brings to a community and to generate support for the event. For example, you might conduct an **On-Site Spending Survey** [see other Guidelines, under separate cover].

II. DESIGNING A TOURISM ECONOMIC IMPACT STUDY

A. IMPORTANT CONCEPTS

1. Event type

If the event takes place in a confined area with "gates" or other "controlled" points of entry/exit, follow the guidelines for a **Gated Event**.

If the event takes place in whole or in part in an open area where access is not controlled, follow the guidelines for an **Ungated or Open Access Event**.

While many of the steps in the Guidelines are the same for *Gated* and *Ungated* events, there are some fundamental differences in sampling and projection procedures that must be taken into account, depending on the event type.

Sampling procedures refer to the methods you will use to identify the subset of attendees and/or tourists that will be interviewed at your event. *Projection procedures* refer to how you will use the information collected from the subset (sample) of attendees included in the research process to estimate the characteristics of *all* attendees and/or *all* tourists who came to your event.

2. How many *attendees* came to the event?

There is no perfect tool for estimating attendance at ungated events. Six approaches are discussed in these guidelines (see below). You may need to select one or more of these in combination, depending on the nature of your event.

1. *Aerial photography;
2. *Parking lot counts;
3. *Parade counts;
4. *Tag and recapture;
5. Entrance/exit counts; and
6. Accommodation data.

A brief description of each of these approaches is provided in this section. More details about four of them (those with an asterisk*) can be found in subsequent sections of these guidelines.

a) Aerial photography

High quality **aerial photographs** of the event site, ideally at "peak" periods and "peak" venues (those with largest concentrations of visitors) combined with other research activities can be a cost effective technique for estimating attendance at certain types of events. The photographs must be augmented with the following procedures:

- "count zones" using landmarks to mark off grids for counting attendees;
- on-the-ground counts of **covered areas** coinciding with the timing of the aerial photos (e.g., restaurants, covered pavilions, etc.);
- analysis of the photo(s) to estimate attendance, using a grid system;
- on-site surveys to determine the proportion of visitors on site at each "photo session" (to adjust for multiple counting the same people).

Despite rental fees for a helicopter, blimp or small plane and for camera equipment, aerial photography may offer cost advantages over more labour intensive methods to estimate attendance such as parking lot or parade counts.

At the same time, aerial photography requires a good understanding of how crowds are likely to concentrate at an event, high quality site maps and on-the-ground recognizance prior to and after the event, can be negatively impacted by weather conditions (quality of photos, crowds with umbrellas, etc.) and is unsuitable for indoor or nighttime events. The methodology also poses challenges for "one-time" events in which the crowd concentrations and movements are difficult to anticipate in advance.

b) Parking lot counts

If people must use an automobile, bus, motorcycle or bicycle to reach your site **and** must park in identifiable and limited areas while attending the event, you can estimate total attendees by counting the number of vehicles in the parking area(s). This approach requires a systematic sampling plan to generate vehicle counts by class (type of vehicle) at different lots and during different time periods. It also must be augmented by tally information to adjust for the number of people per vehicle and for multiple visits to the event by the same people (for multi-day and/or multi-venue events).

c) Parade counts

At some events with a *parade,* organizers may know that the parade represents "peak" attendance. If this were the case, spectators along the parade route could be used to estimate total attendance. To undertake parade counts, you would divide the parade route into segments and assign counters for each segment in a systematic manner. Knowledge of the parade route and locations where spectators are likely to cluster is required.

This approach is only appropriate for events in which you anticipate that the parade will attract "cross section peak" attendance. If, for example, your event has a children's parade but also offers many adult-oriented activities, a parade count would likely over-estimate the number of attendees with children and under-estimate the number of adult-only attendee parties at your event. When considering this option, you should think about whether the parade is likely to attract a particular type of attendee or if it would include a *cross section* of attendees (all types of attendees in their correct proportions for the event as a whole). If the parade is unlikely to represent a cross section of attendees, a parade count is not a good tool for estimating total attendance.

d) Tag and recapture

The **tag and recapture** method involves marking (*tagging)* a random sample of individuals (with a brightly coloured button, lanyard, etc.) so they can be "recaptured" at a later point in time. Once the initial "tagged" sample has completely dispersed, a second sample is taken. In this second sample, tagged and untagged attendees are counted at the same time/location. The ratio of tagged ("recaptured") and untagged respondents is used to estimate the total size of the crowd. A relatively simple calculation allows you to estimate total attendance by comparing "tagged" versus "untagged" attendees in the second sample.

Tag and recapture is not recommended for multi-day events because it is both very labour intensive and because adjusting for duplication at multi-day events is very complex.

e) Entrance/exit "counter" approach

This approach is also known as a *cordon-style exit (or entry) survey.* It entails identification of all points of entry (or exit) to a site and the diversion of traffic (vehicular and/or pedestrian) in a systematic manner. Interviewers administer a series of questions to diverted respondents to determine their attendance at an event and other salient characteristics. Using stint sampling plans, the information from the diverted traffic is weighted and projected to estimate the full attendance at the event.

Although a viable approach to estimating attendance for ungated events, the *entrance/exit counters approach* is not covered in the following sections because of the complexity and costs associated with it. Event organizers interested in exploring an *entrance/exit counters approach* are encouraged to seek guidance from professional research organizations. For more information on entrance/exit or cordon-style surveys, see Ontario Ministry of Tourism's *Tourism Exit Surveys: Design and other considerations in their use* (July, 2005).

f) Accommodation data approach

In some cases, an event attracts a sufficiently high proportion of attendees who rely on commercial accommodation in a community that hotels, motels, bed & breakfast establishments can be asked to record the number of guests they attract specifically because of the event. In turn, these records can contribute to generating the event's total attendance. This approach requires the cooperation of all or most of the community's commercial accommodation establishments. It is most appropriate in situations where event attendees must use commercial

accommodation rather than staying with friends or relatives or taking day trips to the event. Because the conditions required for the accommodation approach are not widespread, the approach is not considered in detail in these Guidelines.

3. How many *locals* and how many *tourists* came to the event?

You will need to know how many *locals* and how many *tourists* came to your event. Local residents may represent the majority of event attendees, but their spending must be *excluded* from tourism economic impact assessments.

An **on-site tally** is the recommended method of identifying how many attendees are *tourists* and how many are *local residents*. By intercepting a random sample of event attendees at the event and asking them a few questions, you will be able to determine the proportion of tourists (in total and by various origin markets) and the proportion of local residents. The design for the on-site tally will be linked to the method you select to estimate total attendance at your event (e.g., aerial photographs, parking lot counts, tag and recapture, etc.).

The on-site tally process can also include additional questions that will aid in developing appropriate inputs for a tourism economic impact assessment.

4. Who is a *tourist*?

The manner in which the World Tourism Organization's guidelines for the *tourism* component of *travel* is operationalized for measurement purposes varies from country to country. Event organizers should check with the appropriate authorities to determine the operational definition in use in their particular jurisdiction. The operational approach adopted by Canada for identifying tourists is provided here.

An **overnight domestic tourist** is one who claims to have taken an *out-of-town* trip of at least one night away from home for any purpose apart from commuting to work or school, moving to a new residence, routine trips (shopping, medical, religious observance, pick-ups/deliveries, service/sales calls or other routine work-related trips). The trip must be completed within 365 days.*

A **same-day domestic tourist** is defined in a manner similar to the overnight tourist but the out-of-town trip must take the traveller at least 40 kilometres (25 miles) one-way from home and be completed within less than 24 hours.*

A **same-day or overnight international tourist** is one who crosses an international boundary (e.g., from Canada to the USA) on a trip for any purpose, excluding commuting to work or school, on military or diplomatic or as a member of a crew.** The trip must be completed within 365 days.

*Different distance criteria are used in different countries. **Some other minor exclusions apply.

5. Who is <u>your</u> tourist?

Identifying the **Impact Area** or setting geographical boundaries for who is or is not a *tourist* from a measurement perspective requires that you have a clear understanding of the geographical area in which you want to assess the incremental economic impacts generated by *tourists.*

For example, if you want to estimate the tourism impact on a particular community within the province or state, you would consider residents of the province/state who live outside the particular community in which the event is held to be *tourists.* Only residents of the particular community who attended the event would be "local".

Within tourism economic models, special adjustments may be made to estimate indirect and induced spending by *locals.* As noted elsewhere in these guidelines, the focus here is on *direct* spending impacts.

6. Substitution effects

Would attendees have spent the "same" money elsewhere in the community if your event had not taken place? Remember, a tourism economic impact assessment measures the impact of *incremental spending* associated with an event. This is spending that would not have taken place if your event had not been held. For example, if Dave and Diane decided to go to the event instead of going to a movie at the theatre while visiting your community and the ticket prices for your event and the movie were the same, your event would have produced *no* incremental spending. Why? Because Dave and Diane would have spent the *same amount* of money in your community on a recreational activity – whether your event took place or not (*substitution effects*) [5].

Whether the expenditure at the event by Dave and Diane just "substituted for" an equivalent expenditure they would have made elsewhere in the community is central to what tourism economic impact estimates are designed to provide: incremental impacts of an event on the economy. A survey is required to find out what Dave and Diane would have done if your event had *not* occurred.

7. The importance of your event in the tourist's *destination choice* ("Casuals")

Once you know how many *tourists* came to your event, you have to identify how important your event was in their decision to visit the destination (area of geography you selected – community, region, province/state, country) or whether your event caused them to extend their stay. If they would have come to your community whether or not your event took place, their spending is treated differently than if they came *because* your event was being held.

[5] Recall we are assuming that any difference in the indirect or induced impacts are likely small and can be safely ignored.

8. "Time switchers"

Did your tourist replace a future trip with one that coincides with your event? If a tourist was planning to come to your community at a later time but changed his or her travel plans *because* of your event, only a portion of the tourist's spending in the community would be *incremental* because some portion of this tourist's spending would have taken place in the community at a later date.

The time span used to estimate "replacement trips" varies from study to study. Some experts suggest using a three-month period whereas others rely on a twelve-month period. These guidelines adopt the three-month limit but event organizers will determine, in consultation with partners and funders, what time span for "time switchers" is most appropriate for their analysis purposes, event and community.

B. Four components to a tourism economic impact study

An Overview

Four components are required to produce inputs for an estimate of the tourism economic impact of your event (see Figure 1, page 29):

1. A systematic approach to obtain **Attendee Counts** to estimate total attendance;
2. **Attendee Tallies** to identify the proportions of attendees from various places of residence;
3. An **Attendee Survey for Tourists** to capture spending and other characteristics of attendees; and
4. An **analysis plan** to identify which spending accrues to the event and which does not and to weight and project sampled attendees to all attendees.

1. Attendee counts

Obtaining an accurate estimate of total attendance at an ungated event is a critical and complex undertaking. Detailed descriptions of four approaches to this estimation task are provided in Section V. All the proposed approaches require a systematic process for *counting* a sample of attendees and the use of *tally* information to adjust these counts.

2. Tallying attendees

Details regarding how to tally attendees at various types of events are provided in Section IV. Sample tally materials are provided in Appendix VI (under separate cover).

3. Attendee survey

There are two basic approaches to identifying the spending inputs for a model to estimate the tourism economic impact of an event.

Recommended: An **attendee survey** to capture characteristics and spending information from your event's attendees (primary estimates of on-site and tourist spending in the community).

Not Recommended: Average tourist spending estimates for *generic tourists* to the destination from a reliable and accepted source (secondary estimates of tourist spending) could be used in lieu of utilizing an Attendee Survey, but this approach is not recommended.

We recommend that **primary estimates** (using an attendee survey) of tourism spending be used where feasible for the following reasons.

- You learn about your *own* tourists. Their characteristics, including what they spend money on and how much they spend may be quite different from the "average" tourist to a destination. Spending estimates can be adjusted according an individual's assessment of the importance of the event in the destination choice, trip replacement, etc.

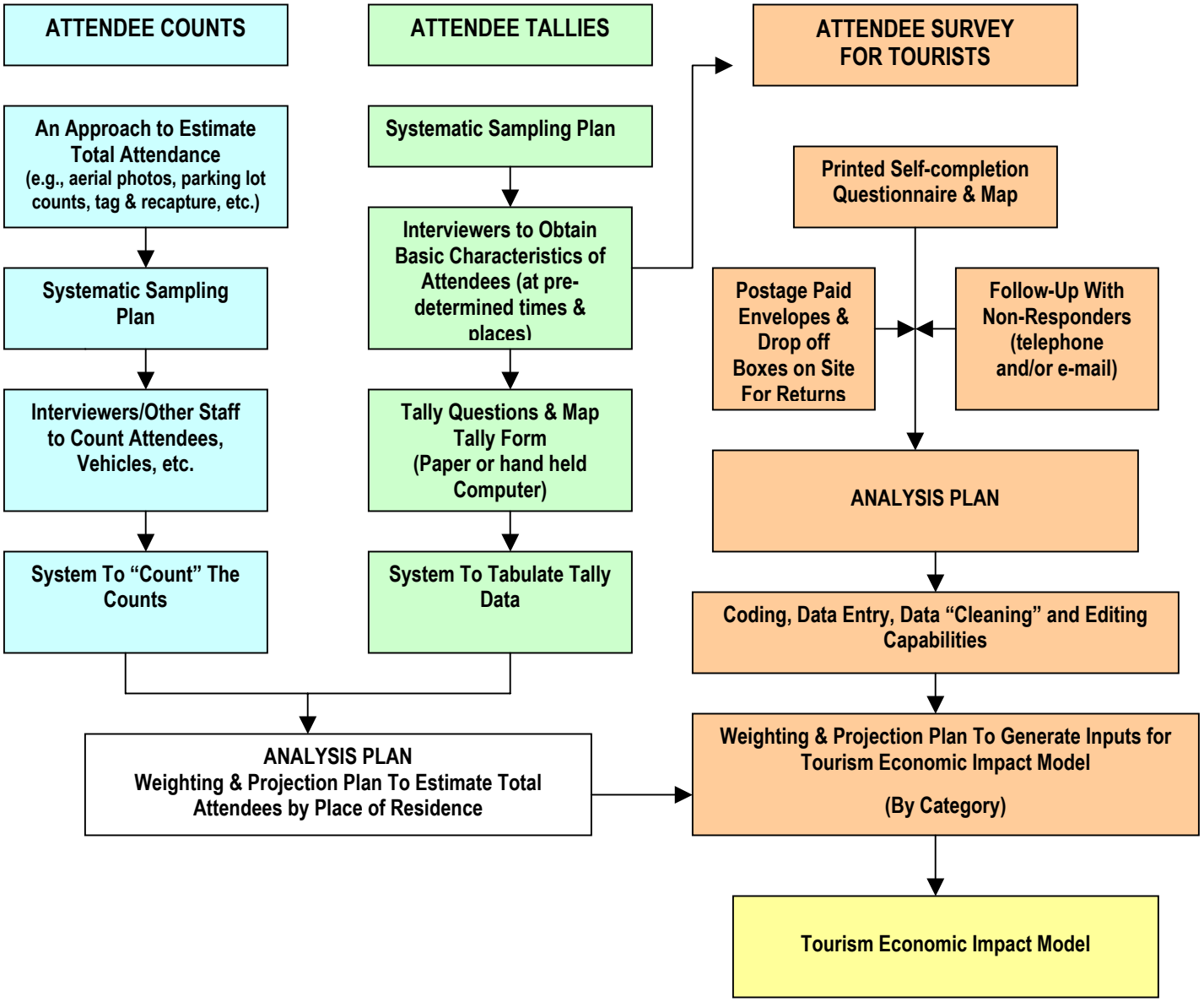
- Additional information useful for event planning such as satisfaction and repeat attendance can be extracted from the same primary survey.

All information provided in the attendee survey (including spending) will be weighted and projected to all people who attended the event *by place of residence.* Only incremental spending associated with the event as reported in this survey will be used to estimate the economic impact of your event.

Telephone or e-mail **follow-up** with respondents who accepted an Attendee Survey will likely be required to increase response rates for the important spending information. Telephone numbers and/or e-mail addresses of those to whom questionnaires are distributed at the tally stage will be collected. The follow-up contact could take the form of a simple reminder. If, however, the respondent no longer has a copy of the questionnaire, the follow-up process could involve administering the interview over the telephone or via a Web-based survey or mailing out another copy of the questionnaire.

Details about how to conduct an Attendee Survey are provided in Section VII. Sample Attendee questionnaires are provided in Appendix VII (under separate cover).

Figure 1
PARALLEL SURVEY PROCESS COMPONENTS TO GENERATE INPUTS FOR TOURISM ECONOMIC IMPACT ESTIMATES



4. Analysis plan

The analysis and tabulation plan provides guidance for determining how to adjust spending estimates to reflect the *incremental* spending generated by your event, and how to weight and project this estimate to all tourists who visited your event. Details about how to construct an Analysis Plan are provided in Section VII. A schematic diagram is provided in Figure 2 (see page 32). The various steps in the analysis process shown in Figure 2 are described below (refer to letter labels, e.g., "A", "B" for groups of tasks required in the analysis plan).

Estimates and tasks listed under "Count & Tally Attendees" form a critical part of your analysis plan ("**A**"). They permit you to identify the total number of attendees ("Total Attendees") at your event and the number who are *tourists* versus *local residents* (using proportions from the Counts & Tallies).

Once you have used data from counts and tallies to estimate "total tourists", you will focus on information you captured from the "Attendee Survey" ("**B**"). Two key elements from the attendee survey among tourists will enable you to identify the amounts of reported tourist spending that will accrue to your event:

1. Role of event in destination choice, substitution effects, etc. – this information is used to determine how much spending on-site and in other parts of the community is a result of your event (*incremental*) and how much would have been spent whether your event took place or not ("**C**").

2. Where tourists report having spent money – this information permits you to assign spending to the appropriate level of geography (in the event community; elsewhere in the province or state, etc.) ("**C**").

Using information that tourists provided in their completed Attendee Surveys (#1 and #2 above), you will isolate the incremental spending for each category of expense. These spending estimates are based on the sample of tourists who completed the Attendee Survey. They now must be projected to "Total Tourists", using the estimate you obtained from the count and tally processes ("**D**").

After you have weighted and projected tourist spending that took place *because of your event* (incremental) from surveys to *all* tourists, you are ready to input spending estimates, category-by-category, into the tourism economic impact model you are using ("**E**").

5. Documenting the study process

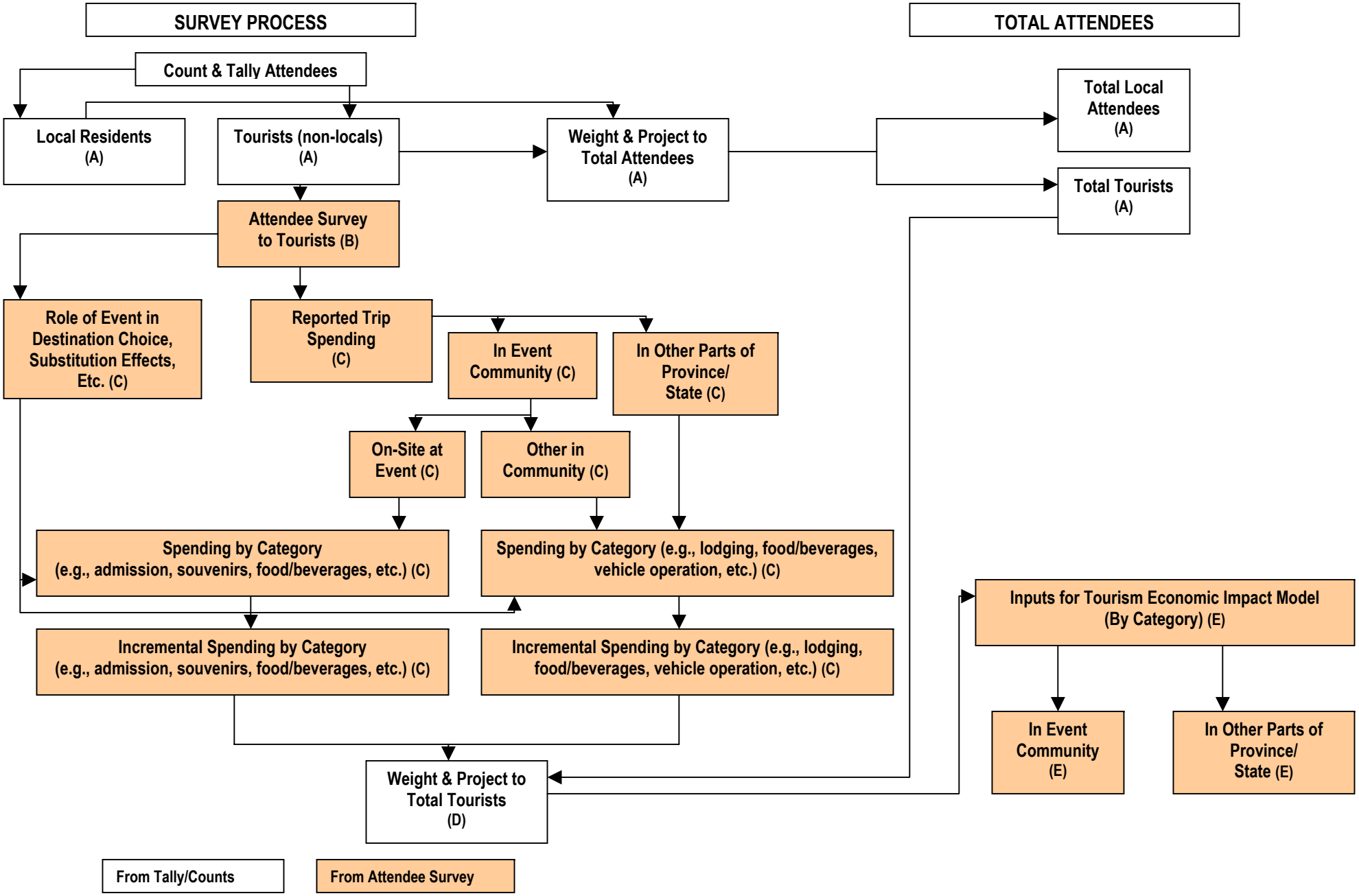
The manner in which the study is conducted will influence the quality of its results. In order to help you and others who may be presented with your findings understand how robust and reliable the information is, documentation of *what you did* to generate the findings is required.

This information is commonly compiled in a Technical Appendix, either as a chapter in your report or as a stand-alone document.

This technical documentation not only provides guidance for interpreting the study findings but also provides a handy reference tool for organizations that may wish to undertake the same type of study "next year" or in subsequent years. The Technical Appendix should provide sufficient information on how the study was conducted that the organization can follow it in the future, thereby, obtaining comparable year-to-year results.

Chapter VIII of these Guidelines provides information on this important documentation tool.

Figure 2
SURVEY PROCESS TO OBTAIN INPUTS FOR A TOURISM ECONOMIC IMPACT MODEL



C. Other types of studies

1. On-site spending study

Instead of undertaking a study that will produce estimates of the tourism economic impact of your event, you can conduct **an On-Site Spending Study**. Such a study would provide information about the characteristics of your attendees and how much money they spent **at your event**.

This type of study is NOT suitable for generating estimates of the tourism economic impact of your event in a community, province or state because it includes spending by local residents and non-residents that may or may not be *new* spending in your community.

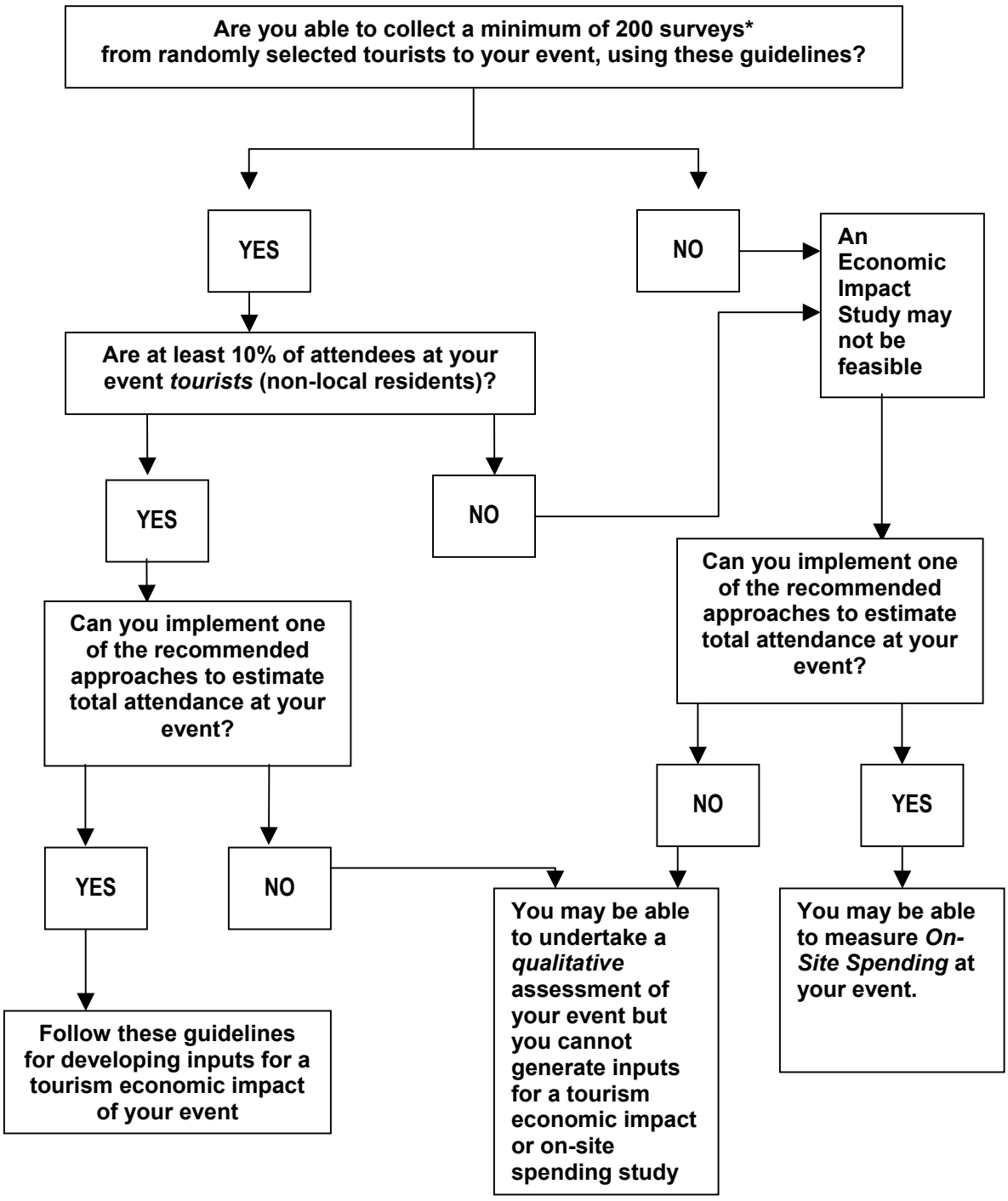
See *Guidelines: Survey Procedures for Assessment of On-Site Spending At Gated Events and Festivals* or *Guidelines: Survey Procedures for Assessment of On-Site Spending At Ungated or Open Access Events and Festivals* for a description of the steps involved in an on-site spending study.

2. Non-market value studies

An overview of methods to measure the non-market value of an event or festival is provided in a separate document: *Review of Non-market Value Estimation for Festivals and Events*. This document introduces approaches to estimating the social and community benefits that may be generated by an event or festival. As noted in the Review, event organizers are advised to seek professional guidance if they wish to implement this type of benefit analysis because of the relative complexity of the measurement tools.

3. A decision tree

A decision tree is provided to help you determine which type of study is most suitable to your information needs and resources.



*See Section III-B.4, page 41 for a discussion of survey sample size minimums.

III. ESTIMATING & TALLYING ATTENDEES

Even if you know how many attendees came to your event, a process to estimate with accuracy how many of these attendees are *local residents* and how many are *tourists* is required. You also need a way to determine how the "sample" of attendees from whom you collect detailed information can be used to represent *all* attendees at your event.

Consequently, you need to conduct an ***Attendee Count*** and a ***Tally*** that rely on accepted research practices. Without these components, you will not be able to estimate the economic impact of your event accurately. Establishing the *attendee count* is a complex and labour-intensive task for ungated events. In this chapter, we provide an overview of the research concepts and procedures required. In the following chapters, more detailed information on how to implement attendee counts for an ungated event is provided.

A. Key concepts & issues

1. Elements required for attendee counts and on-site tally

- Approach to Estimating Total Attendance
- Sampling Plan & Tally Targets
- Weighting and Projection Plan
- Tally Questionnaire
- Instructions for Tally Interviewers

2. Important definitions for tallies and counts

Stint: Unique observation and/or measurement time period at a specific location at your event. The stint will form the basis for *sampling* attendees who come to your event (e.g., 9:00 am to 11:00 am).

Stint Sample: A randomly selected set of stints during which you will count and/or tally attendees at your event.

Interviewer Stint: A unique observation and/or measurement time period at a specific location at your event to which one interviewer is assigned to collect information (tally and/or count attendees at your event).

Tally Interview: Short interview to obtain basic information about which attendees are locals, tourists, etc.

Counts: All attendees at a location during tally stint. You will project the people you tallied during the stint to the total *count* during the same stint.

Stint Weight: Adjustment to sampled stints so that they represent all people at the location during the specific time period.

3. Sampling: How the "part" can represent the "whole"

The basic concept behind sampling is that a portion of your attendees can "represent" all attendees. Survey researchers rely on samples because they require less time and money than including everyone in the survey process. If everyone were included, you would be conducting a "census".

The characteristics of the attendees you interview in a sample are projected to other people *like themselves* in the total population by calculating a factor (*weight*) that brings your sample up to the total attendee population. This projection process *works* as long as your sample is truly representative of the total attendee population for key characteristics.

Samples are efficient tools in the research process as long as you are careful about how you develop and implement the sampling plan. In order for the people you interview to represent other people that you do *not* interview, you must ensure that those you *do* interview are selected *randomly* and with a *known probability of selection.* [For more information, on sampling principles and concepts, see Trochim = http://www.socialresearchmethods.net/kb/sampling.htm]

4. A "stint" is the sampling unit

To tally attendees, you need a sampling plan based on the particular characteristics of your site and event. The sampling unit for this part of the study is called a "stint". Its purpose is to designate time periods for systematic observation and/or measurement. A stint corresponds to a pre-set time period (e.g., 9:00 am to 11:00 am) on a particular day of the event (e.g., Day 1) at a particular location on the site for data collection.

A "stint" is also used as the basis of sampling plans to estimate total attendance for most of the methods described in these guidelines.

5. Attendee counts

Because different types of attendees may come to the event at different times of day, on different days of a multi-day event, and/or to specific areas of the event, you need a way of sorting out how many different types of attendees came when.

You will need to review carefully the structure of your event and the resources you have available when determining which approach you will adopt to estimate total attendance. Some events may require more than one measurement approach. Figure 3 on the following page provides some guidelines for selecting an appropriate technique to estimate attendance at an ungated event.

FIGURE 3
SUITABILITY OF FOUR APPROACHES FOR COUNTING ATTENDEES AT UNGATED EVENTS*

	Suitable	Not Suitable		
Aerial Photography	Outdoor daytime events on fair weather days at which organizers can identify a "peak volume" time period	Outdoor daytime events on foggy/rainy days	Outdoor night time events	Indoor events
Parking Lot Counts	All attendees arrive by private vehicle or bus AND all parking areas are identifiable	Events in which attendees can walk to the site and/or where parking is disbursed over a large area (e.g., street parking within the town or city, etc.)		
Parade Counts	Events with a parade that is expected to attract "peak" attendance of a cross-section of attendees	Events with no parade	Events in which the parade is not expected to attract "peak" attendance or a cross-section of attendees	
Tag & Recapture	Single day events at which organizers can identify a "peak volume" time period	Multi-day events (because of cost and complexity)		

*For brief descriptions of each approach, see Section II-A-2.

6. Attendee tallies (the tally interview)

You probably can't talk to <u>all</u> the people who come to your event about their place of residence, their household party size, and how much they spent at your event and in your community. At the same time, you need a way to estimate this type of information for *all* your attendees.

As with the *attendee counts*, you need to "sample" the various times/locations and days a visitor could arrive and conduct a brief ***Tally Interview*** with a sample of household parties at your event during these sampled times/locations and days. [A "household party" is the group of people who enter the event at the same time and live in the same permanent residence.]

The tally will provide critical information on where your attendees live and can be used as a tool for excluding from your estimates groups you do *not* want in your analysis. These groups generally include merchants, media, staff, volunteers, etc.

7. Recruitment for the attendee survey

We recommend that you "recruit" respondents for the Attendee Survey as part of the Tally Interview process. Because *tourists* are likely to be relatively scarce, particularly when compared to local residents, you might recruit every *nth* local resident to complete the survey (e.g., every 10th) but ask *every* out-of-town attendee you tally to complete the survey.

You can conduct the Attendee Survey personally on-site, use a self-completion questionnaire for drop-off on site or to be mailed back, or call/e-mail the attendee at home once the trip is over (for *tourists*).

B. Implementation guidelines for tally interviews

1. Different events require different approaches to stint samples

a) Event characteristics

The complexity and duration of your event, your resources, and what you are attempting to measure will influence the following:

- how many interviewers you need;
- where they will be assigned to work; and
- the number of hours they must devote to counting, tallying and Attendee Survey recruitment.

For example, different sampling plans will be required for different types of events:

- A single day event in which everyone enters at the same time (e.g., a performance with a set start time);
- A multi-day event in which all attendees come for the full duration of the event, starting on Day 1;
- A multi-day event in which different attendees may arrive at any time over the course of the event (Day 1, Day 2, etc.).

Different plans will also be required depending on which approach you adopt for estimating total attendance and whether you have reason to expect that different *types* of attendees will congregate at different locations on your site(s).

For example, if one event venue is near a bus stop, but far from the parking lot and another venue is near the parking lot but far from a bus stop, different types of attendees may concentrate at each of these venues. Those who rely on public transport may differ in a variety of ways from those who drive a private vehicle and you need to make sure you have included both groups in your counts and visitor tallies in their correct proportions.

b) What you are trying to measure

The numbers of tally/recruitment interviewers you require will also depend on what information you are attempting to measure. If you are interested in capturing information to allow you to generate inputs for a *tourism economic impact model,* you will likely need more interviewers than if you are interested only in the amount of money that was spent on-site by all attendees (locals and tourists).

Why? Because tourists are likely to represent a much smaller proportion of your total attendance and will, therefore, be harder to find, than locals. Tourists are the proverbial *needles in the haystack.* And you have to find a sizeable number of *needles* (tourists) for your economic impact estimates to be reliable.

2. Approaches for "counting" attendees

See descriptions of four approaches for measuring attendance at ungated events (Section V).

3. A special note about age cut-offs for "attendees"

When selecting the approach you are going to use to count attendees at an ungated event, you need to determine the cut-off age of people who will be included in your "counts". Will your cut-off be attendees who are at least 12 years of age? Will it include only "adults" (18+ years)?

These decisions must be made in advance so that staff know who to include and who to exclude in the counting process. In an approach such as tag and recapture, the age cut-off becomes very important because you would only "tag" and "recapture" attendees who meet the minimum age requirement you have set. If you set an age limit for counts, your interviewers may need some training to identify people who meet the age requirement (e.g., to identify 10 versus 12 year olds; 16 versus 18 year olds).

Conversely, if you are using aerial photographs to estimate attendees, you may be unable to determine an attendee's age from the photos. In this case you might only exclude babies and young children from the tally estimates you use to weight and project attendance.

Whatever age "cut off" you select, you will use the same age in the final weighting and projection process to adjust tally and count information.

4. How to estimate staff requirements for tallying

a) Recommended attendee survey sample sizes

You need to ***work backwards*** from the total number of completed Attendee Surveys you want to achieve to determine how many staff you will require for counting and tallying attendees.

Recommended sample sizes differ, depending on the level of analysis you want to conduct and the quality of the final estimates you are willing to accept. Of course, ***bigger is better*** when it comes to sample sizes, as long as you follow a sampling plan to ensure that your respondents are selected randomly and systematically to represent all the people in the group you have elected to study (your *universe*).

To generate inputs for a tourism economic impact assessment, we recommend that you obtain spending information from a **minimum of 200** attendee parties in each of the attendee groups you plan to study. The more completions you achieve, the more reliable your final estimates will be. At 200 completions, responses to a "yes/no" question could be considered accurate ± 7%, 19 times out of 20.

What does 19 times out of 20 mean? Here is an example: Suppose you are trying to estimate the percentage of attendees that visited your community because of your event. You can't ask all attendees so you will estimate the percentage by asking a random sample of attendees and use the percentage of your sample that said yes as your "best guess" of the true percentage. If you take a sample of 200 attendees there is a 95% probability (19 out of 20) that the percentage of your sample that said yes is within 7% of the true percentage of all attendees who visited your community because of your event. See Appendix II for a table that displays the margin of error for various response levels and sample sizes.

b) 200 completions are the recommended minimum for tourists

To produce inputs for an economic impact estimate, you should obtain at least 200 completed interviews with *non-local* attendees, or *tourists.* You can treat *all* non-local attendees as a "group", conducting 200 interviews with them or you can divide your tourists into "segments" and attempt to reach the 200 minimum for each segment. A "segment" is a group of people who share one or more common characteristics. Examples of tourist "segments" include those who are out-of-town visitors but live in the same province or state as your event versus those who live outside your province or state.

c) Tourist segments

Tourist segments become important if you wish to report incremental spending and economic impact for *groups* of tourists such as those who live outside your province/state or country versus tourists (non-locals) who live outside the community but in your own province/state.

d) Target number of tally interviews to complete

Determining how many completed tally interviews you require will depend on how many completed Attendee Surveys you hope to obtain, assuming you will be recruiting household parties to complete the Attendee Survey as part of the tally process. Here are some key questions you need to ask to determine how many tally interviews you should attempt to complete.

What proportion of your total attendees is likely to live outside the local area? Unless you have conducted visitor studies at the same event in the past and have information on the proportion of attendees from different origins who come, you will have to "guestimate" the proportion you expect to be from outside the local area.

What if you expect few non-local attendees to attend your event? Event organizers will have to determine how much effort they want to devote to obtaining results from tourists, recognizing that to estimate the economic impact of tourists, you require a minimum of 200 completed Attendee Surveys with tourists.

Generally, the more Attendee Surveys you complete with different "types" of tourists, the more reliable your results will be. Guidelines for segmenting tourists will depend on the proportion you expect each sub-group to represent and the level of effort your event is able to devote to the study.

If your event does not attract at least 10% of attendees who are tourists you may want to consider estimating on-site spending instead and reviewing the methodology for an on-site spending study [under separate cover].

e) Estimating how many attendee survey completions you need

How many different tourist segments do you expect to analyze separately? If you wish to report that of the total tourism economic impact of the event, X% was generated by in-province or in-state non-locals, Y% was generated by people from other provinces or states, and Z% was generated by attendees from outside the country, you will require enough Attendee Surveys from each of these groups to produce reliable estimates for *each*.

We recommend a minimum of 200 completed Attendee Surveys for each group you plan to analyze as a separate entity. In the above scenario, you would require approximately 600 completed Attendee Surveys with *tourists* and, if you elect to do so, an additional 200 Attendee Surveys with local residents. Locals are included to provide on-site spending and other information about their experiences at the event. Their on-site spending is *not* included as an input to a tourism economic impact model.

Locals*	In-province or in-state non-locals	Other provinces or states	Outside the country	Total Completed Attendee Surveys
200	200	200	200	800
*optional				

If, on the other hand, you plan to report tourism economic impact as a single number, covering all non-local attendees, you will require fewer Attendee Surveys. In this scenario, you would require approximately 200 completed Attendee Surveys with *tourists* and, if you elect to do so, an additional 200 Attendee Surveys with local residents. You can "combine" non-local origin groups, depending on your analytical needs and the proportions each origin group is expected to represent (see below).

Locals*	Non-Locals (Domestic/ International Tourists)	Total Completed Attendee Surveys
200	200	400
*optional		

f) What if you are <u>only</u> interested in on-site spending at your event?

If you are only interested in providing information on on-site spending by *all* attendees at your event (and are not interested in providing information on the economic impact of tourists at the event), go to *Guidelines: Survey Procedures for Assessment of On-Site Spending At Ungated Events and Festivals* (under separate cover).

g) What if you do not know how many people will likely attend your event?

If you cannot *guestimate* total attendance at your event and/or what proportion of your attendees are likely to be *tourists*, how can you reach the recommended minimum number of completed Attendee Surveys?

Since the *stint* is the sampling unit, you would assign sufficient stints to tally and recruit attendees, assuming a constant flow of entrants at your event. Depending on the draw of the event and its attractiveness to tourists, you may or may not meet the minimum completions recommended for analysis.

In effect, you will only know how many attendee segments you can analyze *once the tally process has been completed.* At that time, you will review the number of completions you obtained with various segments (locals, in-province/state non-locals, other domestic tourists and foreign tourists) and determine which segments meet the 200 minimum completions to support analysis.

h) There are no guarantees

There are no guarantees that you will achieve the minimum sample size of 200 completions with each group you wish to analyze separately. Instead, once you review the final number of completions you achieve, you may elect to *combine* some market segments in order to meet the 200 minimum for analysis purposes. You may find that your study did not produce sufficient information from *tourists* to conduct a tourism economic impact analysis at the recommended minimum.

Why might you experience a shortfall in the number of tourists in your study? Factors that might produce a shortfall include the following:

- you might have over-estimated how many tourists would come to your event;
- you may have assigned too few stints to capture enough tourists;
- even if you had previous experience to suggest that your event would attract sufficient tourists to meet your minimum objectives, a shift in gasoline prices, a terrorist alert, poor weather conditions or other factors could suddenly alter the number of people travelling at the time of your event.

You can *use* information from samples smaller than 200 but the level of precision of your estimate will *decrease* as your sample size *decreases.* And of course, the converse is also true: the more completions you obtain, the higher the level of precision your estimates will have. See Appendix II for a table that displays the margin of error for various response levels and sample sizes.

5. More information about tallying attendees

a) How many "stints" do you need?

The number of "count" and "tally" stints you require will depend on the complexity of your event, the flow of traffic into your event and the number of target tallies you hope to achieve. When developing your sample, consider the following factors:

- duration of the event;
- the number of tally zones you require;
- whether people tend to "flood in" all at once at certain times of day or in certain zones (e.g., an event that offers a performance or other "timed events" that will entice many attendees to enter at about the same time, such as a rodeo or a concert) or "trickle in" at a slow but steady rate over many hours (e.g., an art show where people arrive, browse and leave throughout the duration of the event);

- the number of people you can assign to each "stint" for the tally process, recognizing that, as a rule of thumb, one "tallier" can obtain the necessary information from about ten "parties" per hour.

See Section III-C for examples of how to estimate stint requirements.

b) The more attendees you tally, the more reliable your final estimates will be.

Why is the actual number of tallied attendees so important? Because you will use the proportions of local versus non-local attendees from the tally to estimate the "mix" of your total attendance. The results of the tally interview are also used to adjust various methods of estimating total attendance for ungated events. For example, tally information is used to adjust for *unique* attendees to ensure that your attendee counts do not "double count" people who may have been at your event more than once.

If you have too few tallies, your adjustments to total attendee counts may be incorrect. Similarly, the number of tally completions you achieve could affect your estimates of tourists and locals. As an example of what can happen if you have too few tally interviews, assume the following:

- You expect about 80% of your attendees will be local residents and 20% will live outside the area (non-locals).

- 1,000 people are in one of your tally stint areas for a thirty-minute period (for a special display or exhibit). You have assigned one person to "tally" attendees during this stint.

- This interviewer will likely speak to no more than 5 household parties during the 30-minute period (assuming that one interviewer can complete tally interviews at a rate of about ten per hour).

The chances are good that all 5 parties the one interviewer tallied over a 30 minute "rush" through the gate would be local, because out of 5 parties, 4 of them *should* be "local" (80% of 5 = 4). If the 5 parties tallied happened to be local residents, you might make the *false* assumption that only local people came to your event (100% local).

What if you had interviewed 20 parties? Out of these 20 parties, assuming that 80% really are local, you should find 4 parties that are not local. And if you had a crew of ten talliers over the 30-minute rush, you would have tallied 50 parties, hopefully finding more of the 10 *non-local* parties.

Because the more attendees you tally, the better chance you have of finding "low incidence" groups such as non-local attendees, you need to assign interviewers to stints *strategically* to maximize the number of attendees you tally.

c) What is* strategic *staffing for tallies?

Strategic staffing takes into account expected flow, assigning more staff to *high volume* stints and less staff to *low volume* stints. Thus, you might assign three or four interviewers to a stint

with expected high volumes but only one or two interviewers to a stint with expected low volumes. Strategic staffing for tallies can be used to increase the "yield" or number of completed tallies but it is not as systematic as using a stratified stint sampling plan.

Even though sampling, weighting and projection procedures are somewhat more complex for **stratified random sampling**, it is recommended over strategic staffing combined with a simple random sample approach (see Sections III and IV for more details about sampling methods).

d) You must be* systematic *in the tally process

As long as you have covered all the time periods and selected zones in a systematic and pre-set way, your "tallies" can be adjusted to represent *all* attendees. If the plan does not meet these criteria, the results of all your tallying effort will be for nought because you will be unable to *project* your sample to the total *universe* of attendees at your event.

e) Selected tally stints must be completed

There is no hard and fast rule about how many tallies are *enough.* Remember, the sampling unit is based on time and location (stints) rather than completed tallies. Guidelines for completed tally interviews are "targets" and not quotas.

Your tally staff must continue their random pattern of selection of household parties throughout the entire stint period and each selected stint must be completed. Cancellations due to weather or illness may be unavoidable, and some options for handling these situations are provided below. If you "stop" the tallying process when you reach a "target", the sample will no longer be valid. You must ***finish*** the tallying process for all selected stints.

6. What happens if you "miss" a stint?

If inclement weather or some other reason causes you to miss one of your sampled stints, you have several adjustment options.

- You can "replace" the missed stint with one that is most similar to it (same zone, same time period but a different day assuming there is still time left in your event's schedule).
- If you cannot replace the missed stint because there is not enough time left in your event's schedule, the stints you DID conduct will all have a higher stint weight than they would have had if you had conducted the "missed" stint.

7. "Interviewer stints"

An *interviewer stint* represents a fixed time period of work by one interviewer at a specific location. You can set stint duration to meet the expected attendance patterns of your event, recognizing that generally an interviewer can work productively for no more than a five to six hour period. Thus, your maximum interviewer stint duration should not exceed six hours.

The time span during which attendees are expected to be at the event will determine how many possible stints you will have in your sample frame. For example, if everyone will be at the site during a four-hour period, you might have a single time block of four hours. If people might be expected to be on-site over a ten-hour period (e.g., 10:00 am through 8:00 pm), you might have two time blocks of 5 hours each.

You can also set shorter stint durations than the maximum number of hours an interviewer can work productively. If, for example, you want to spread interviewers out over multiple locations, you might set a stint duration for three hours. A single interviewer could cover two stints (at two different locations) over a six-hour period. As a general rule, the shorter the stint duration, the more *coverage* you will obtain at different locations and the more *flexibility* you will have for taking into account high volume and low volume zones and time periods.

8. Number of tally interviewer stints required to meet Attendee Survey completion targets

Remember, you have to work *backwards* to identify how many tally interviewer stints you will require to meet your *Attendee Survey* targets. In turn, the Attendee Survey targets will depend on how many *non-local* attendees you expect to attend your event and how many different sub-groups among non-locals you plan to analyze.

Once you have determined the *smallest* group you plan to examine in your analysis, use the expected incidence of this group (incidence = the proportion [%] a smaller sub-group represents of all attendees at your event) to calculate how many interviewer hours and interviewer stints you will need for the tally process. Why pick the smallest group? Because as you attempt to find people in the lowest incidence group, you will also find people who represent larger proportions of your attendees.

Here's an example. It assumes the following proportion of attendees by origin and that you want to obtain at least 200 completed Attendee Surveys with each group.

Place of Residence	Expected Percentage	Target Attendee Completions
Total	100%	800
Foreign Countries	5%	200
Other Domestic	10%	200
Same Province/State (non-local)	15%	200
Local	70%	200

In order to obtain 200 Attendee Survey completions with residents of **foreign countries** (the *lowest incidence* group), you would have to tally approximately 9,400 household parties, assuming that 85% of those you tally agree to complete the Attendee Survey and that 50% of those who agree to do so actually complete the Attendee Survey.

Of the 9,400 tallied household parties, about 470 would be from foreign countries (9,400 * 5% = 470) and you would attempt to recruit *all* of them to complete the Attendee Survey. ***At the same time*** that you are tallying the 9,400 household parties to find the 5% of foreign tourists, you will

automatically tally enough household parties from the other origin groups of interest to you to obtain 200 completed attendee surveys with each group. In fact, you would likely find more than you need.

	Expected Percentage	Tally	Recruited for Attendee Survey @ 85% Acceptance Rate	Completed Attendee Survey @ 50% Response Rate
Foreign Countries	5%	471	400	200
Other Domestic	10%	941	800	400
Same Province/ State (non-local)	15%	1,412	1,200	600
Local	70%	6,588	5,600	2,800
Total		9,412		

Acceptance and response rates may vary from event to event. Those shown here are examples only.

9. *Sampling* tallied household parties for attendee survey

As shown in the accompanying table, to find enough **foreign** attendees to achieve 200 completed Attendee Surveys, you would tally as many as 6,588 *local* residents, assuming they represent 70% of all your attendees, 1,412 non-local attendees who live in the same province/state as the event (assuming a 15% incidence), and 941 attendees who live in other provinces/states (assuming a 10% incidence).

You can either recruit all the household parties you tally in all groups to complete your Attendee Survey or you can *sample* them at a pre-set rate. If you recruit *everyone* for the Attendee Survey, you will have more reliable estimates, but you will also have a lot of information to process. In this example, you could have as many as 2,800 completed Attendee Surveys with *locals* -- more completed Attendee Surveys than you need for reliable spending estimates.

We recommend that you sample tallied attendees at the recruitment stage so that you have enough completed Attendee Surveys but do not get overwhelmed by the volume of surveys to process and analyze.

	Expected Percentage	Tally	Recruited for Attendee Survey @ 85% Acceptance Rate	Completed Attendee Survey @ 50% Response Rate	Sampling Rate for Recruitment for Attendee Survey to Achieve 200 Completions Per Segment	Total Completed Attendee Surveys
Foreign Countries	5%	471	400	200	All (100%)	200
Other Domestic	10%	941	800	400	Every 2nd	200
Same Province/State (non-local)	15%	1,412	1,200	600	Every 3rd	200
Local	70%	6,588	5,600	2,800	Every 14th	200
Total		9,412				

Acceptance and response rates may vary from event to event. Those shown here are examples only.

10. What if your event does not attract enough *tourists* to achieve 200 attendee survey completions?

If your event attracts relatively few "tourists", you can still estimate tourism economic impact so long as the *rate* at which you sample tourists is relatively high. If, for example, your event attracted 150 tourists and you obtained completed Attendee Surveys from at least half of them (75), your estimate of tourism spending associated with your event would be relatively stable based on the *Law of Large Numbers* in statistics. Averages and proportions vary less in large samples than in small samples of the same population (*tourists*). If, of course, there are many more than 150 tourists at your event, a sample of only 75 would not necessarily produce stable estimates. To achieve 75 completed attendee surveys from *tourists* at this hypothetical event, you would likely have to tally and recruit *all* of the 150 tourists who came (assuming that half of them would complete and return the questionnaire).[6]

If you have a small event and/or expect that low proportions of your attendees will be *tourists* (live outside the *local* area), you should consider whether undertaking an economic impact estimation process is appropriate (see *Guidelines: Survey Procedures for Assessment of On-Site Spending At Ungated Events and Festivals*).

[6] *Statistics, A New Approach*, Wallis, A.W., Roberts, H.V., The Free Press, Glencoe, Illinois, 1956, p. 123.

a) Number of tally interviewer stints required if you cannot estimate number of attendees or tourists

If you do not have a "ballpark estimate" of expected total attendance or how many tourists you expect in advance, you will have to assign enough interviewer tally stints to optimize the chances of obtaining sufficient completed Attendee Surveys with groups of interest to you.

As a general rule, assume that each interviewer can tally and recruit approximately ten household parties per hour, completing 50 tallies in a five-hour stint (assuming an even flow of attendees over the five hours).

To obtain 400 completed Attendee Surveys with a cross section of attendees (all places of origin, as they fall in your event's total attendance), you would require approximately 19 interviewer stints of five hours each, as follows:

Hours per Interviewer Stint	Tallies/ Recruits Per Hour	Tallies/ Recruits Per Interviewer Stint	Accepted Attendee Surveys per Interviewer Stint *	Completed Attendee Surveys per Interviewer Stint **	Number of Interviewer Stints Required to Reach 400 Completed Attendee Surveys
5	10	50	42.5	21.25	(400 ÷ 21.25) = 18.8

*Assuming 85% acceptance rate.
**Assuming 50% completion rate among acceptors.

Note: Acceptance and response rates may vary from event to event. Those shown here are examples only.

At a sample size of 400 attendees representing tourists and locals "as they fall in the population" (cross section), you may or may not be in a position to estimate the economic impact of your event among tourists. There may be too few tourists in your sample of 400 on which to base spending estimates with a minimum level of precision.

11. Number of interviewers required

You will have to determine how many people you have available to conduct tallies, counts and, if it forms part of your plan, on-site interviews with attendees over the course of the event.

a) Tallies

The number of tally interviewers you require will depend on the number of different people you assign to each stint. For example, during a very high volume period, you may want to assign ten people to conduct tallies. During low volume entry periods, you may reduce the "tally team" to one or two interviewers. The number of interviewers required will also depend on which sampling approach you select.

b) Counting attendees

Depending on which approach you select to estimate total attendance at your event, you may also require crews of interviewers at various locations on your sites to **count** attendees or vehicles. These counters would be required for ***parking lot counts, parade (peak period)***

counts and ***tag and recapture.*** The number of "counters" you will require to estimate total attendance at your event will be determined by the number of sites, duration of event and approach you adopt for estimating attendance.

c) Counters should work in "pairs" for parking lots, parade & tag and recapture stints

We recommend that individuals assigned the task of "counting" attendees within a zone work in "pairs" to increase the accuracy of your estimates. Depending on the size and population density of each counting zone, you may require multiple "pairs" of interviewers to cover the area.

Each person in the pair would count attendees (or vehicles/vehicle occupants) in the same stint, independently. The counts for each member of the pair would be "averaged" to arrive at an estimate of attendance during this stint. By obtaining independent estimates of the same phenomenon (number of attendees in a zone), you are likely to obtain a more accurate estimate.

As a rule, counters should be dedicated to the counting task. They should *not* be asked to conduct tally interviews at the same time that they are attempting to count people or vehicles, particularly if there are large numbers of attendees on the site during the stint.

IV. DESIGNING A SAMPLING PLAN FOR COUNTS AND TALLIES

A. Designing a generic sampling plan for counts and tallies

Because many events will not have the volunteers or funds to hire enough interviewers to cover all locations throughout the course of the event, these guidelines are based on using sampled stints for counting and tallying attendees. In this plan, you would randomly select stints for tallying attendees and counting attendees (if "counts" are part of your estimation approach) from a list of all possible stints.

Different approaches to estimating attendance require different stint sampling plans (e.g., aerial photos, tag and recapture, parking lot counts, etc.). While details of stint sampling plans vary from approach to approach, the basic principles for preparing such a plan are the same.

This section is designed to provide you with the basic steps required to generate a sample for counting and tallying at your event. You would customize it to correspond to the particulars of your event. For more information about the details appropriate to each approach to estimating attendance, see the relevant section.

1. Estimating the number of interviewer stints you require

Before you can draw your sample of stints, you need to estimate how many interviewer hours you will require to achieve your target number of attendee survey completions.

For example, we have made the following assumptions about the characteristics of the event.

- 2 gates or tally zones
- 2 time blocks (10:00 am to 2:30 pm; 2:30 pm to 7:00 pm)
- 4 days duration

In this example, you would have 16 possible stints, calculated as follows:

[2 Zones * 2 Time Blocks/Day * 4 Days = 16]

The number of *interviewer stints* you would require will depend on how may completed *attendee surveys* you wish to achieve. To calculate the number of interviewer stints you require, you would:

1. Identify the attendee *segments* you plan to examine in your analysis (e.g., *all attendees; out-of-province attendees, etc.*) keeping in mind the recommendation for 200 completed attendee surveys for each segment you plan to analyze separately (see Chapter III, Section B-13/16);

2. Estimate, to the extent you can, the *rate* or *incidence* at which these segments are likely to occur in your attendee population (incidence is the proportion a segment represents of all attendees at your event);

3. Identify a realistic *acceptance rate* and *response rate* for the attendee survey (how many of the tallied households will *accept* the attendee survey and of these, how many will actually *complete* and return the survey form)[7];

4. Take into account that an interviewer can work effectively for no more than about five hours at a stretch.

The following table provides an example of how you would go about these calculations.

	Target = 400 Completions with *All Attendees* (Cross Section)	Target = 200 Completions with *Out-of-Province/State* Attendees (5% incidence)	Target = 200 Completions with *All Tourists* (20% incidence)
Hours per Interviewer Stint	4.5	4.5	4.5
Tallies/ Recruits Per Hour	10	10	10
Tallies/ Recruits Per Interviewer Stint you would expect to find in each market segment	45.00	2.25	9.00
Number of Household Parties who Accept Attendee Survey per Interviewer Stint (assuming 85% acceptance rate)	38.25	1.91	7.65
Number of Completions you can expect per Interviewer Stint (assuming 50% completion rate among acceptors)	19.13	0.96	3.83
Number of Interviewer Stints Required to Reach Target	20.92	209.15	52.29
Minimum Number of Additional Interviewers to Count Attendees	2 per stint	2 per stint	2 per stint
Acceptance and response rates may vary from event to event. Those shown here are examples only.			

If you wanted to complete 400 Attendee Surveys with *all* attendees (cross-section – see Glossary), you would require about 21 interviewer stints. If, however, you wanted to complete 200 Attendee Surveys with *Out of Province/State Tourists*, you would require over 200

[7] Acceptance and response rates used throughout these Guidelines are examples only. They will vary based on the particulars of an event and the type(s) of attendees it attracts. For example, teenagers may be less cooperative with a survey process than are older attendees. Event organizers will have to use their experience and judgement to estimate likely acceptance and response rates but should recognize that acceptance rates could be as low as 50% and completion rates could fall below the 50% estimate used in these Guidelines.

interviewer stints. If you wanted to complete 200 Attendee Surveys with *All Tourists*, you would require about 52 interviewer stints.

Many events will not have the resources to obtain enough completed Attendee Surveys with low incidence groups to support independent analysis of these groups. In these cases, the number of non-local groups can be reduced, thereby increasing the overall incidence (as in the example, moving from out-of-province tourists at an expected rate of 5% to *all tourists* at an expected rate of 20%). Alternatively, an On-Site Spending Study could be considered.

In addition to the number of tally interviewers assigned to a stint, staff will be required to implement the appropriate counting process to estimate total attendance (these procedures and staff requirements differ from approach to approach).

2. All times and locations must have an opportunity to be in your stint sample

You can assign interviewers to various times and locations based on your expectations of traffic flow through your event but you must ensure that all possible time slots and locations over the duration of your event have an opportunity to be included in your stint sample.

To achieve this goal, you need to develop a stint sampling plan. The steps to create a stint sampling plan are described in the following section. In our example, we will assume that you will have teams of four interviewers for the tally process and wish to achieve a target of 400 completed **attendee surveys** with *all attendees* (see table/example in Section III-C-a).

In this scenario, you would require about **five stints** to achieve your target (21 interviewer stints divided by four interviewers on each team).

B. The stint sampling plan

1. Three basic steps

Once you have estimated how many stints you require to count and/or tally attendees, you will create a stint sampling plan and select the time periods and locations at which you will assign interviewers.

There are three basic steps to build a sampling frame and to select your count/tally stint sample:

1. List all possible time/location periods over the full duration of the event (*all* days);

2. Pick a random start point and select an interval (every n^{th} where n = total possible stints ÷ number of stints you require to achieve the target number of counting locations or completed attendee surveys you hope to achieve, to the nearest whole number);

3. Starting at your random start point, count every n^{th} (your interval). Keep counting until you have been through the entire list of possible stint times. The rows that correspond to every n^{th} represent your stint sample for counting and/or tallying.

2. Two types of random sampling plans

You can elect to use a "Simple Random Sampling Plan" in which each location/time period is given an equal chance of being selected for your stint sample or you can use a "Stratified Random Sampling Plan" in which you adjust the rate at which you randomly select locations/time periods.

The Stratified Random Sampling Plan approach is recommended if you anticipate considerable variation in the flow of attendees. It is a more complex approach and requires additional effort when you transform your "sample" into estimates for the full attendance at your event than simple random sampling, but it has the advantage of increasing the *yield* of completed tallies and attendee surveys for each hour your interviewers are working on the site.

Possible options for stratification include gate or zone, weekday versus weekend days, high volume versus low volume times or days, or other significant anticipated differences in attendee volumes. Knowledge of the event will help you determine the optimal variables for stratification of your stint sample.

Examples of how to list and select possible stints and make the necessary adjustments to project your "sample" to "total attendees" are provided in the following pages, first for a simple random sample and second for a stratified random sample.

3. A generic simple random sampling plan

In this and the following section, some generic principles for constructing stint sampling plans are provided. Here we provide the basic steps you would follow for a *simple random sample*. In the following section, we describe the basic steps you would follow for a *stratified random sample*. Remember, these are examples *only*. You will build the stint sampling plan based on the particular characteristics of your event.

a) Assumptions about the event

You have estimated that approximately 5 stints are required to meet the "target number of completed attendee surveys", as follows:

- Interviewer teams of 4
- Target = 400 completed attendee surveys with *all attendees.*
- Require: 21 interviewer stints
- 5 stints to be selected from stint listing (21 interviewer stints ÷ 4 interviewers per team = 5 stints*]

*rounded to nearest whole number

In our example we have made the following assumptions about the characteristics of the event.

- 2 count or tally zones
- 2 time blocks
  - 10:00 am to 2:30 pm
  - 2:30 pm to 7:00 pm
- 4 days duration

To identify the 5 stints you require, you would follow the steps described below.

b) Step 1: list all possible stints

In this example, the you would have 16 possible stints, calculated as follows:

[2 Zones * 2 Time Blocks per Day * 4 Days = 16].

You would list these stints, in sequence, as shown below.

Stint #	Day of week	Date	Time	Count/Tally Gate or Zone
1	Monday	May 1	10:00 – 2:30	A
2	Monday	May 1	2:30 – 7:00	A
3	Monday	May 1	10:00 – 2:30	B
4	Monday	May 1	2:30 – 7:00	B
5	Tuesday	May 2	10:00 – 2:30	A
6	Tuesday	May 2	2:30 – 7:00	A
7	Tuesday	May 2	10:00 – 2:30	B
8	Tuesday	May 2	2:30 – 7:00	B
9	Wednesday	May 3	10:00 – 2:30	A
10	Wednesday	May 3	2:30 – 7:00	A
11	Wednesday	May 3	10:00 – 2:30	B
12	Wednesday	May 3	2:30 – 7:00	B
13	Thursday	May 4	10:00 – 2:30	A
14	Thursday	May 4	2:30 – 7:00	A
15	Thursday	May 4	10:00 – 2:30	B
16	Thursday	May 4	2:30 – 7:00	B

c) Step 2: select random start point & interval

We have selected the 5th stint down as the **random start point**, but you can select any row in the list to begin the "counting process".

Our **interval** (*n*) in this example is 3, as described below:

n = total possible stints (16) ÷ number of stints you require to achieve your target number of completed attendee surveys (5) = 3.

16 ÷ 5 = 3.2, rounded to the nearest whole number [3].

d) Step 3: select stints

You must go through the entire list, selecting stints until you arrive back at or near your Random Start Point.

Stint #	Day of week	Date	Time	Count/Tally Gate or Zone	Selected Stints
					Count continued from endpoint
1	Monday	May 1	10:00 – 2:30	A	1
2	Monday	May 1	2:30 – 7:00	A	2
3	Monday	May 1	10:00 – 2:30	B	3 Selected
4	Monday	May 1	2:30 – 7:00	B	1
5	Tuesday*	May 2	10:00 – 2:30	A	1 **Random Start Point**
6	Tuesday	May 2	2:30 – 7:00	A	2
7	Tuesday	May 2	10:00 – 2:30	B	3 Selected
8	Tuesday	May 2	2:30 – 7:00	B	1
9	Wednesday	May 3	10:00 – 2:30	A	2
10	Wednesday	May 3	2:30 – 7:00	A	3 Selected
11	Wednesday	May 3	10:00 – 2:30	B	1
12	Wednesday	May 3	2:30 – 7:00	B	2
13	Thursday	May 4	10:00 – 2:30	A	3 Selected
14	Thursday	May 4	2:30 – 7:00	A	1
15	Thursday	May 4	10:00 – 2:30	B	2
16	Thursday	May 4	2:30 – 7:00	B	3 Selected
***Random Start Point**					

e) Check your stint selections

Review the final stint distribution to ensure that you have included at least one stint that represents different days of the week, different gates or on-site locations and different times per day. Why? Because the people who are on-site at high and low volume periods and at different locations may be different from one another. To represent all types of attendees, you have to give everyone an *opportunity* to be included in your sample.

Be sure to retain at least some stints that represent "typical" and "not typical" times. For example, if your event includes major holiday periods such as the winter or spring school break, you should make sure to include at least some stints that correspond to these "atypical" periods. See Stratified Stint Selection Procedures (following section) for ways to increase yields for high volume periods.

Selected Stints					
Stint #	Day of week	Date	Time	Count/Tally Gate or Zone	Selected Stints
3	Monday	May 1	10:00 – 2:30	B	Selected
7	Tuesday	May 2	10:00 – 2:30	B	Selected
10	Wednesday	May 3	2:30 – 7:00	A	Selected
13	Thursday	May 4	10:00 – 2:30	A	Selected
16	Thursday	May 4	2:30 – 7:00	B	Selected

f) Assigning interviewer stints for tallying

Now you know when (date, time) and where (gates or zones) you will be counting and/or tallying your attendees. The next task is to determine how many interviewer stints (number of interviewers per time block) to assign to each date/time/zone.

If you anticipate a relatively "even" flow of attendees throughout your event, you would assign equal numbers of interviewers to each time/location selection you have made. Many events, however, do not have an even flow. For example, some events have much higher attendance on weekends than on weekdays. Some have relatively low flows in the mornings but much heavier flows in the afternoon. And some events have special timed activities such as a special performance that will change the visitor flow. You need to consider the particular features of your event to decide how to maximize the number of tallies you complete while retaining the systematic nature of your sample.

In this example, we have assumed that you will assign four (4) interviewers to each "team" and therefore, to each "stint". You can adjust this number to take into account uneven flows of attendees to increase yield or, preferably, you can use a stratified stint sampling approach to achieve this goal (see next section).

In addition to the number of tally interviewers assigned to a stint, additional staff will be required to implement the appropriate counting process to estimate total attendance (these procedures and staff requirements differ from approach to approach).

4. A generic stratified random sampling plan

a) About stratified random samples

A stratified random sampling plan will enable you to maximize the *yield* of counted and tallied attendees because you will sample *high* volume times and/or zones at a higher rate than you sample *medium* or *low* volume ones. You can set up as many different stratum as you want. The example provided in this section is based on two strata.

To construct a stratified sampling plan using two strata – a *high* and a *low* volume stratum – you would identify the times/locations that will be included in each. You would then follow the steps in the previous section for a "simple random sample" for all possible time periods/ locations *within* each of the stratum. In other words, you would repeat the steps described for a Simple Random Sample, first for all of your *high volume* time periods/locations and then for all the *low*

volume time periods/ locations.

b) Different sampling rates for different stratum

The *sampling rate* or the number of stints you select within each stratum may be different for a stratified sample. You might assign stints at a higher rate for high volume periods than for low ones. You MUST, however, include a random sample of stints from *each* stratum you create in your sampling plan. At the weighting and projection phase, each of the stints completed *within* a stratum will be adjusted to the total attendance for its stratum. Subsequently, projections for each *stratum* will be combined to reflect the relative weight of each stratum.

c) Assumptions about the event

In this example, we have made the following assumptions about the characteristics of the event. The event has:

- 2 count or tally zones
- 2 time blocks
  - 10:00 am to 2:30 pm
  - 2:30 pm to 7:00 pm
- 7 days duration

You expect higher volumes of attendees on Friday and Saturday (*high volume*), and lower volumes of attendees on Sunday through Thursday (*low volume*).

You have estimated that approximately 5 *high volume* stints and 5 *low volume* stints are required to meet the "target number of completed attendee surveys".

d) Step 1: list all possible stints

Total number of listed possible stints for counting and/or tallying would be 28 (as follows):

[2 Zones * 2 Time Blocks/Day * 7 Days = 28]

Of these 28 stints, 8 would be High Volume stints (e.g., Friday/Saturday) and 20 would be Low Volume stints (e.g., Sunday – Thursday).

You would list the 8 High Volume and the 20 Low Volume stints *separately* (see following charts).

e) Step 2: select random start point & interval

In this example, we have selected the 5th stint down as the **random start point**, but you can select any row in the list to begin the "counting process".

The **interval** (*n*) for *high volume stints* in this example is 2, as described below:

n = total possible *high volume* stints (8) ÷ number of *high volume* stints you require to achieve your target number of completed attendee surveys (5) = 2.

8 ÷ 5 = 1.6, rounded to the nearest whole number [2].

The interval (*n*) for *low volume stints* in this example is 4, as described below:

n = total possible *low volume* stints (20) ÷ number of *low volume* stints you require to achieve your target number of completed attendee surveys (5) = 4.

20 ÷ 5 = 4

f) Listing stints for a stratified sampling plan

- For each list, you would identify a random start point and a selection interval based on the target number of completed attendee survey questionnaires you set (See Section III-C for a discussion of how to set target completions).
- For the High Volume list, your interval is every 2nd.
- For the Low Volume list, your interval is every 4th.

See the examples below for how you would set up stint listings and selection procedures for a stratified sampling plan.

High Volume Stints = Friday/Saturday Random Start Point = 5 Interval for Selection = 2nd				
Day of week	Date	Time	Count/Tally Gate or Zone	Count (continued from endpoint)
Friday	May 6	10:00 – 2:30	A	2
Friday	May 6	2:30 – 7:00	A	1
Friday	May 6	10:00 – 2:30	B	2 Selected
Friday*	May 6	2:30 – 7:00	B	1*Random Start
Saturday	May 7	10:00 – 2:30	A	2 Selected
Saturday	May 7	2:30 – 7:00	A	1
Saturday	May 7	10:00 – 2:30	B	2 Selected
Saturday	May 7	2:30 – 7:00	B	1

The selection process for *high volume* stints produced only **four** selected stints. One additional stint must be selected in this example to reach the target of five stints. To identify this additional stint, you would use the same list but pick a different start point and apply the **same interval** you used in the *first round* selection (in this example, the interval is 2). By doing this, you would eventually identify a stint that was *not* identified in your original selection.

To select the additional stint: select a different start point (see *Friday, May 6, 10:00 - 2:30*) and begin the counting process again, using the original interval (2). The first stint identified in this process is your "selected" **fifth** stint.

High Volume Stints = Friday/Saturday Random Start Point = 3 Interval for Selection = 2nd				
Day of week	Date	Time	Count/Tally Gate or Zone	Count (continued from endpoint)
Friday	May 6	10:00 – 2:30	A	1
Friday	May 6	2:30 – 7:00	A	2
Friday	May 6	10:00 – 2:30	B	1*New Random Start
Friday	May 6	2:30 – 7:00	B	2 Selected (new)
Saturday	May 7	10:00 – 2:30	A	2 Selected
Saturday	May 7	2:30 – 7:00	A	2
Saturday	May 7	10:00 – 2:30	B	1 Selected
Saturday	May 7	2:30 – 7:00	B	2

Friday, May 6 from 2:30 – 7:00 at Gate or Zone B is the additional stint to be added to your *high volume* stints. Thus, your final *high volume* stint sample would include the following:

High Volume Stints = Friday/Saturday Random Start Point = 4 Interval for Selection = 2nd				
Day of week	Date	Time	Count/Tally Gate or Zone	Selected Stints
Friday	May 6	10:00 – 2:30	A	Selected
Friday	May 6	10:00 – 2:30	B	Selected
Friday	May 6	2:30 – 7:00	B	Selected
Saturday	May 7	10:00 – 2:30	A	Selected
Saturday	May 7	10:00 – 2:30	B	Selected

Repeat the process used for *high volume stints* when selecting *low volume* stints (see below). As noted above, the random start point in this example is the fifth listed stint and the interval is every 4th. Five *low volume* stints will be selected in this process.

Low Volume Stints = Sunday through Thursday Random Start Point = 5 Interval for Selection = 4th				
Day of week	Date	Time	Count/Tally Gate or Zone	Count (continued from endpoint)
Sunday	May 1	10:00 – 2:30	A	1
Sunday	May 1	2:30 – 7:00	A	2
Sunday	May 1	10:00 – 2:30	B	3
Sunday	May 1	2:30 – 7:00	B	4 Selected
Monday*	May 2	10:00 – 2:30	A	1*Random Start
Monday	May 2	2:30 – 7:00	A	2
Monday	May 2	10:00 – 2:30	B	3
Monday	May 2	2:30 – 7:00	B	4 Selected
Tuesday	May 3	10:00 – 2:30	A	1
Tuesday	May 3	2:30 – 7:00	A	2
Tuesday	May 3	10:00 – 2:30	B	3
Tuesday	May 3	2:30 – 7:00	B	4 Selected
Wednesday	May 4	10:00 – 2:30	A	1
Wednesday	May 4	2:30 – 7:00	A	2
Wednesday	May 4	10:00 – 2:30	B	3
Wednesday	May 4	2:30 – 7:00	B	4 Selected
Thursday	May 5	10:00 – 2:30	A	1
Thursday	May 5	2:30 – 7:00	A	2
Thursday	May 5	10:00 – 2:30	B	3
Thursday	May 5	2:30 – 7:00	B	4 Selected

C. Stint sampling plans for ungated events

1. Introduction

The descriptions and examples in the following sections are appropriate for aerial photography, parking lot counts, parade counts (peak period) and tag and recapture methods of estimating attendance at an ungated event. If you plan to use parking lot counts to estimate attendance, two zone maps are required – one of the event site for tallying purposes and a second of parking lots for counting vehicles. See the "Parking Lot Count" section for more details.

Depending on the method you select, a map of your site(s) and/or your parking lots, divided into "zones" that represent reasonable sizes for the number of interviewers you plan to assign to each will be required. When designing the sampling plan, you will also take into account the length of interviewer stints (how much time each "shift" of interviewers will be working in a particular zone) and the duration of your event (number of days).

2. Using a grid map for identifying counting and tallying stint locations

Ungated events rely on pre-selected locations or "zones" on the site as the location for stints. You would use your detailed site map and your understanding of how people are likely to move through time and space to determine (1) how many different zones you will use and (2) the appropriate time blocks for the counting and tallying processes.

If you elect to use **aerial photos** to estimate total attendees, you do *not* require counters on-site during the tally stints. Your "counts" will be derived from the aerial photos and the information you collect in the tally interview about the times and places your *sample* of tallied attendees were on the site. You will, however, require pre-event (or during-event) counts (capacity and occupancy) to estimate attendees in *covered* areas of your site during the time the aerial photos were taken (See Section V-A-7).

It is important that you ensure that *all* areas in which attendees might be found are included in your grid map unless you have elected to *exclude* some portions of your event from your study. (See Section I-A-3 for a discussion about limiting the boundaries of your study.)

3. Two examples of grid maps: contiguous and non-contiguous zones

In the following sections, examples of grid maps and possible tally stint listings are provided. The first, *contiguous zones,* represents a comparatively simple event. The second, *non-contiguous zones,* represents an event of longer duration and multiple venues that are not immediately adjacent to one another. These are ***examples*** only. You will have to review the structure of your event to determine the optimal approach to dividing the event into count zones.

Contiguous zones: When preparing your list of stint locations, you will divide your event area into a "grid" that includes key gathering points (e.g., band shells, children's play areas, indoor display areas; outdoor display areas; etc.). (See Figure 4, page 64)

Non-contiguous zones: If the event has multiple venues that are not physically adjacent to one another (non-contiguous), each venue will require a separate "grid". You can sample each venue separately or you can combine them to build your stint sample for tallying. If your event runs for more than one day, each day of the event must be included in the sample (see Figures 5, 6, pages 68, 69).

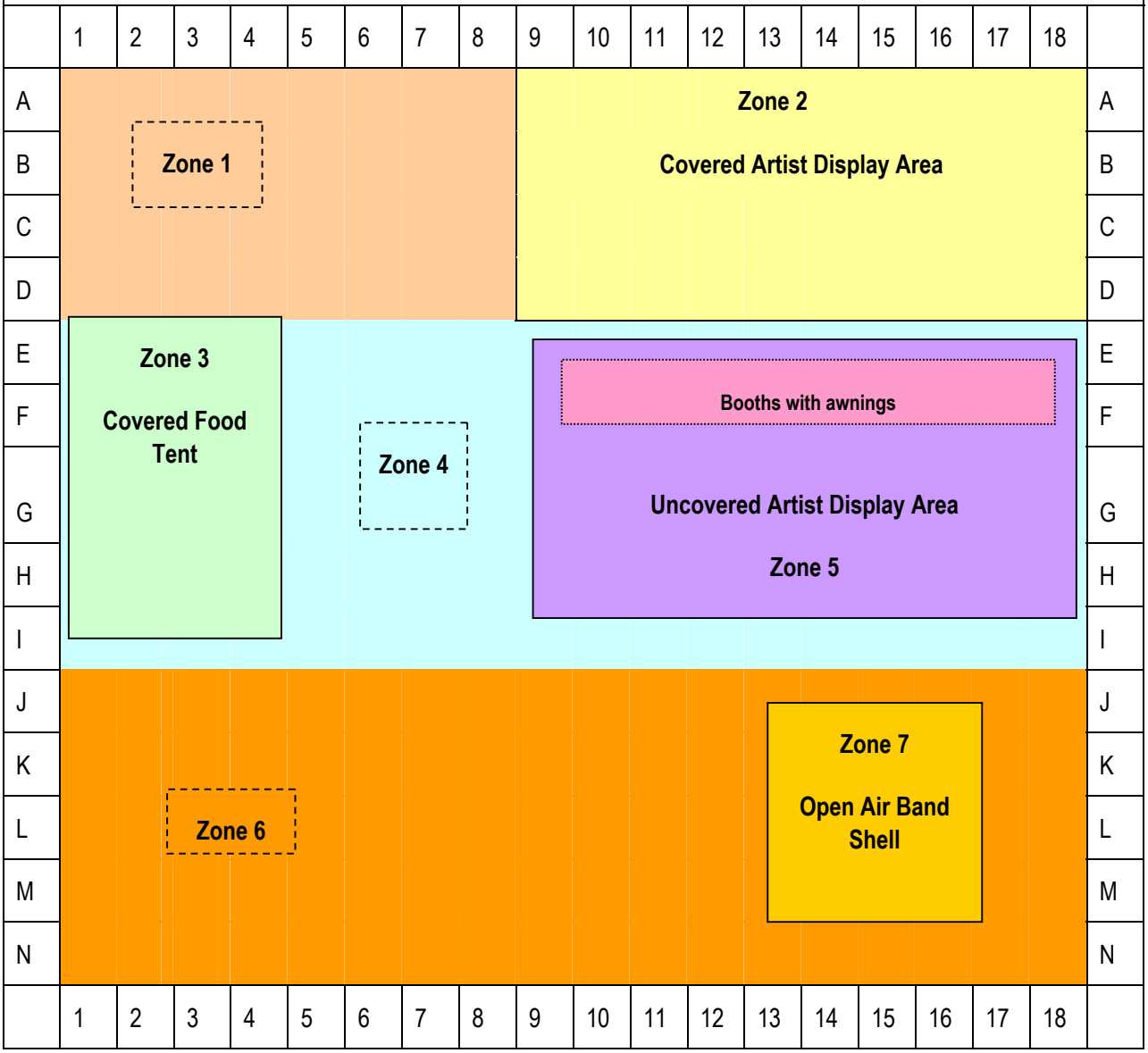
4. Example 1: Contiguous site

a) Listing zones

Refer to Figure 4 (page 64) for the various elements of the "contiguous" example. Based on Figure 4, you would have seven (7) on-site locations or zones for your tally stints.

Zone 1: Open area A-1 through 8-D
Zone 2: Covered artist display area
Zone 3: Covered food tent
Zone 4: Open area E-1 through I-18, **excluding** Zone 3 (covered food tent) and Zone 5 (uncovered artist display area)
Zone 5: Uncovered artist display area
Zone 6: Open area J-1 through N-18, **excluding** Zone 7 (open air band shell)
Zone 7: Open air band shell

FIGURE 4
CONTIGUOUS ZONE SITE MAP OF EVENT AREA



b) Identifying tally stint times

You would select appropriate time periods for interviewers to work (*interviewer stints*), taking into account whether all venues on your site are "active" at all times or only operate at specific times. In our example, the "band shell" may be dormant for most of the day, but quite alive at some fixed times during each day of the event. If this were the case, the number of possible stints that would be listed for the band shell would be restricted to the "active" time periods.

Assumptions for this example:

- All areas apart from the band shell are open from 10:00 am to 10:00 pm.
- The band shell is active from 2:00 pm to 5:00 pm and again from 8:00 pm to 10:00 pm.
- Tally interviewers will work in three-hour stints:
    - 10:00 – 1:00
    - 1:00 – 4:00
    - 4:00 – 7:00
    - 7:00 – 10:00

Thus, there are six zones with four possible time periods and there is one zone with two possible time periods (band shell from 2:00 to 5:00 and from 8:00 to 10:00) on *each day* of your event.

26 Possible Tally Stints Per Day				
Zone 1	10:00 – 1:00	1:00 – 4:00	4:00 – 7:00	7:00 – 10:00
Zone 2	10:00 – 1:00	1:00 – 4:00	4:00 – 7:00	7:00 – 10:00
Zone 3	10:00 – 1:00	1:00 – 4:00	4:00 – 7:00	7:00 – 10:00
Zone 4	10:00 – 1:00	1:00 – 4:00	4:00 – 7:00	7:00 – 10:00
Zone 5	10:00 – 1:00	1:00 – 4:00	4:00 – 7:00	7:00 – 10:00
Zone 6	10:00 – 1:00	1:00 – 4:00	4:00 – 7:00	7:00 – 10:00
Zone 7		2:00 – 5:00		8:00 – 10:00

You would list all these possible stints (times/zones) and make a random selection of tally interview stints, as per the directions provided in Section IV-B or C.

If your event lasted for three days, your stint sample listing would look something like this:

Day of week	Date	Time	Zone
Friday	May 1	10:00 – 1:00	1
			2
			3
			4
			5
			6
Friday	May 1	1:00 – 4:00	1
			2
			3
			4
			5
			6
		2:00 – 5:00	7
Friday	May 1	4:00 – 7:00	1
			2
			3
			4
			5
			6
Friday	May 1	7:00 – 10:00	1
			2
			3
			4
			5
			6
Friday	May 1	8:00 – 10:00	7
Saturday	May 2	10:00 – 1:00	1
			2
			3
			4
			5
			6
Saturday	May 2	1:00 – 4:00	1
Repeat, as per "Friday" listing for Saturday and Sunday			

Once you have your stint sample listing, you would follow the procedures for making a random selection of stints for tallying and/or counting purposes (see Section IV for details).

5. Example 2: Non-contiguous site

Building the tally or count stint frame becomes more complicated if different venues are operating on some days but not on others. For example, a ten-day street festival may have concert venues at one group of intersections on the first weekend and at different intersections on the second weekend (see Figures 5, 6, pages 68, 69).

The sampling plan would have to provide an opportunity to tally attendees at *each* of the intersections because the nature of the crowds may be quite different from one to another. For example, one intersection could have a child-oriented performer while another could have a rock band or a jazz quartet. Each of these concerts would attract different types of attendees and your sample should provide the opportunity for all to be included.

Let's assume the ten-day street festival has activities from 1:00 pm to 10:00 pm each weekday, and has afternoon and evening concerts on Fridays and Saturdays (different performers; different intersections). How would you list all possible stints for this type of event?

a) Listing zones

Divide each intersection (zone) into quadrants or other smaller units that would be manageable for interviewers to "cover" during a tally stint (see Figures 5 and 6 for an example [pages 68, 69]). In this example, you would have twelve (12) on-site locations for your tally stint listing.

Zone 1: Intersection of Elm Street & Rose Avenue (Northeast quadrant)
Zone 2: Intersection of Elm Street & Rose Avenue (Northwest quadrant)
Zone 3: Intersection of Elm Street & Rose Avenue (Southeast quadrant)
Zone 4: Intersection of Elm Street & Rose Avenue (Southwest quadrant)

Zone 5: Intersection of Pine Street & Rose Avenue (Northeast quadrant)
Zone 6: Intersection of Pine Street & Rose Avenue (Northwest quadrant)
Zone 7: Intersection of Pine Street & Rose Avenue (Southeast quadrant)
Zone 8: Intersection of Pine Street & Rose Avenue (Southwest quadrant)

Zone 9: Intersection of Birch Street & Lilac Avenue (Northeast quadrant)
Zone 10: Intersection of Birch Street & Lilac Avenue (Northwest quadrant)
Zone 11: Intersection of Birch Street & Lilac Avenue (Southeast quadrant)
Zone 12: Intersection of Birch Street & Lilac Avenue (Southwest quadrant)

b) Identifying tally stint times

You would select appropriate time periods for interviewers to work (*interviewer stints*), taking into account whether all venues on your site are "active" at all times or only operate at specific times. In our example, let's assume the following:

- Elm Street & Rose Avenue: event activities from 1:00 pm to 10:00 pm for all ten days
- Pine Street & Rose Avenue: afternoon (4:00 pm – 6:00 pm) and evening concerts (8:00 pm – 10:00 pm) on first Friday and first Saturday of the event

- Birch Street & Lilac Avenue: event activities from 1:00 pm to 10:00 pm for all ten days and afternoon (4:00 pm – 6:00 pm) and evening concerts (8:00 pm – 10:00 pm) on first and last Fridays and first Saturdays of the event

- Let's also assume that tally interviewers will work in three-hour stints:
    - 1:00 – 4:00
    - 4:00 – 7:00
    - 7:00 – 10:00

For this ten-day event, there are 256 *possible* tally stints, covering the three locations, three time periods and ten-day duration (see below for a description of how this number is calculated). You would list all these possible stints (times/zones) and make a random selection of tally interview stints, as per the directions provided in Section IV-B.

If your event generates a large number of sampling points such as the one described in this example, we recommend that you use a stratified sampling plan. In the example, your strata might include zones during concerts and during periods in which there are no concerts. You would likely select different sampling rates for each of these stratum (see Section IV-B-4 for more information on stratified sampling).

How the 10 Day Festival at 3 Intersections Generates 256 *Possible* Stints

	Time Period			**Total Possible Stints**
Active zones for 10 days	1:00 – 4:00	4:00 – 7:00	7:00 – 10:00	
Zone 1: Intersection of Elm Street & Rose Avenue (NE)	10	10	10	30
Zone 2: Intersection of Elm Street & Rose Avenue (NW)	10	10	10	30
Zone 3: Intersection of Elm Street & Rose Avenue (SE)	10	10	10	30
Zone 4: Intersection of Elm Street & Rose Avenue (SW)	10	10	10	30
Active zones for first Saturday and Sunday only (concerts)		4:00 – 6:00	8:00 – 10:00	
Zone 5: Intersection of Pine Street & Rose Avenue (NE)		2	2	4
Zone 6: Intersection of Pine Street & Rose Avenue (NW)		2	2	4
Zone 7: Intersection of Pine Street & Rose Avenue (SE)		2	2	4
Zone 8: Intersection of Pine Street & Rose Avenue (SW)		2	2	4
Active zones for 10 days	1:00 – 4:00	4:00 – 7:00	7:00 – 10:00	
Zone 9: Intersection of Birch Street & Lilac Avenue (NE)	10	10	10	30
Zone 10: Intersection of Birch Street & Lilac Avenue (NW)	10	10	10	30
Zone 11: Intersection of Birch Street & Lilac Avenue (SE)	10	10	10	30
Zone 12: Intersection of Birch Street & Lilac Avenue (SW)	10	10	10	30
Grand Total				**256**

Possible Stint Listings (256 possible 3 hour stints)			
Day of week	**Date**	**Time**	**Zone**
Friday	**April 29**	**1:00 – 4:00**	1
			2
			3
			4
			9
			10
			11
			12
Friday	**April 29**	**4:00 – 7:00**	1
			2
			3
			4
			5
			6
			7
			8
			9
			10
			11
			12
Friday	**April 29**	**7:00 – 10:00**	As above, all 12 zones
Saturday	**April 30**	**1:00 – 4:00**	1
			2
			3
			4
			9
			10
			11
			12
Saturday	**April 30**	**4:00 – 7:00**	As per "first" Friday, all 12 zones
Saturday	**April 30**	**7:00 – 10:00**	As per "first" Friday, all 12 zones
Sunday	**May 1**	**1:00 – 4:00**	1
			2
			3
			4
			9
			10
			11
			12
Sunday	**May 1**	**4:00 – 7:00**	As above, Zones 1 - 4 & 9 - 12
Sunday	**May 1**	**7:00 – 10:00**	As above, Zones 1 - 4 & 9 - 12
Repeat, as per "Sunday" listing for each of the remaining days. You might also add special "concert stints" to coincide with the concert times/locations using a stratified sample approach.			

FIGURE 5
NON-CONTIGUOUS TEN-DAY STREET FESTIVAL AT 3 INTERSECTIONS

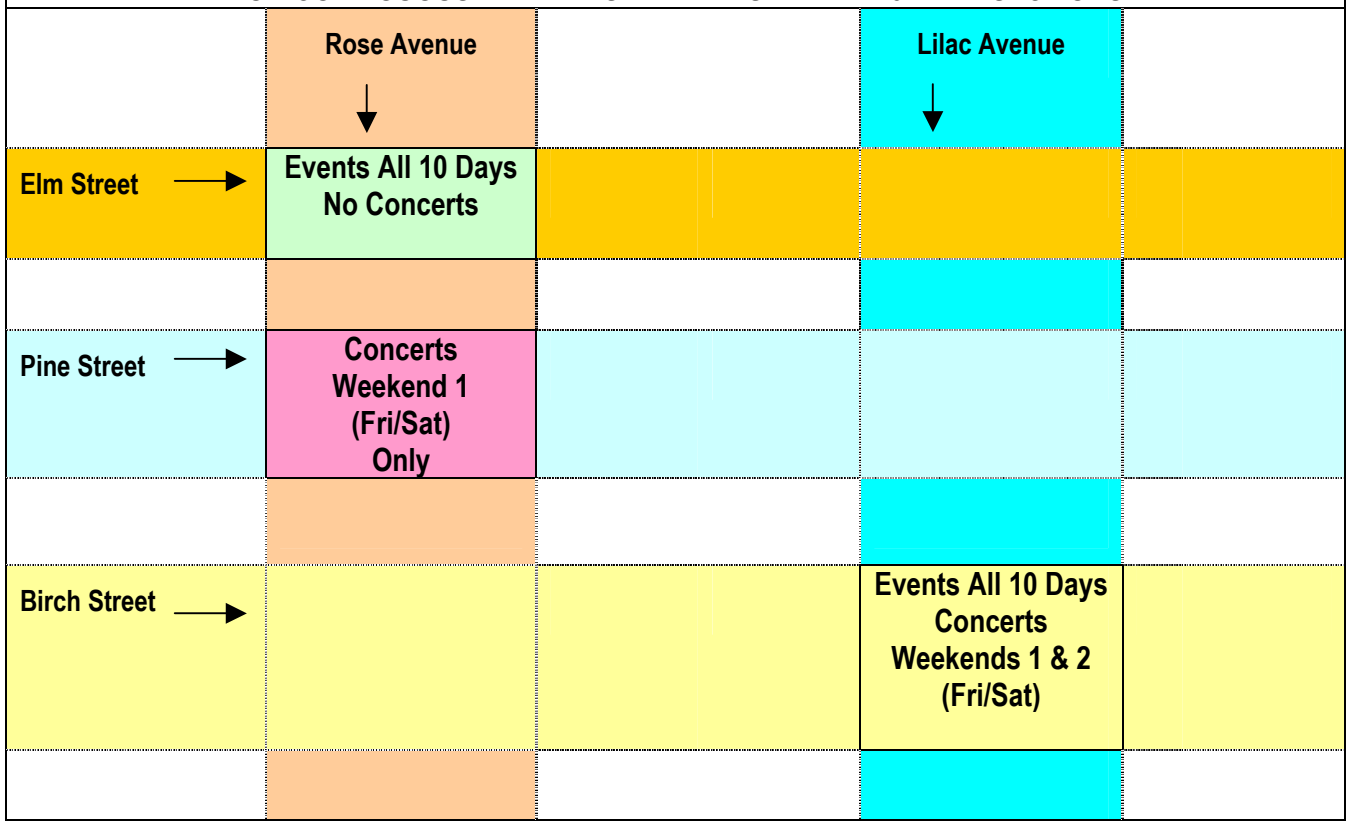
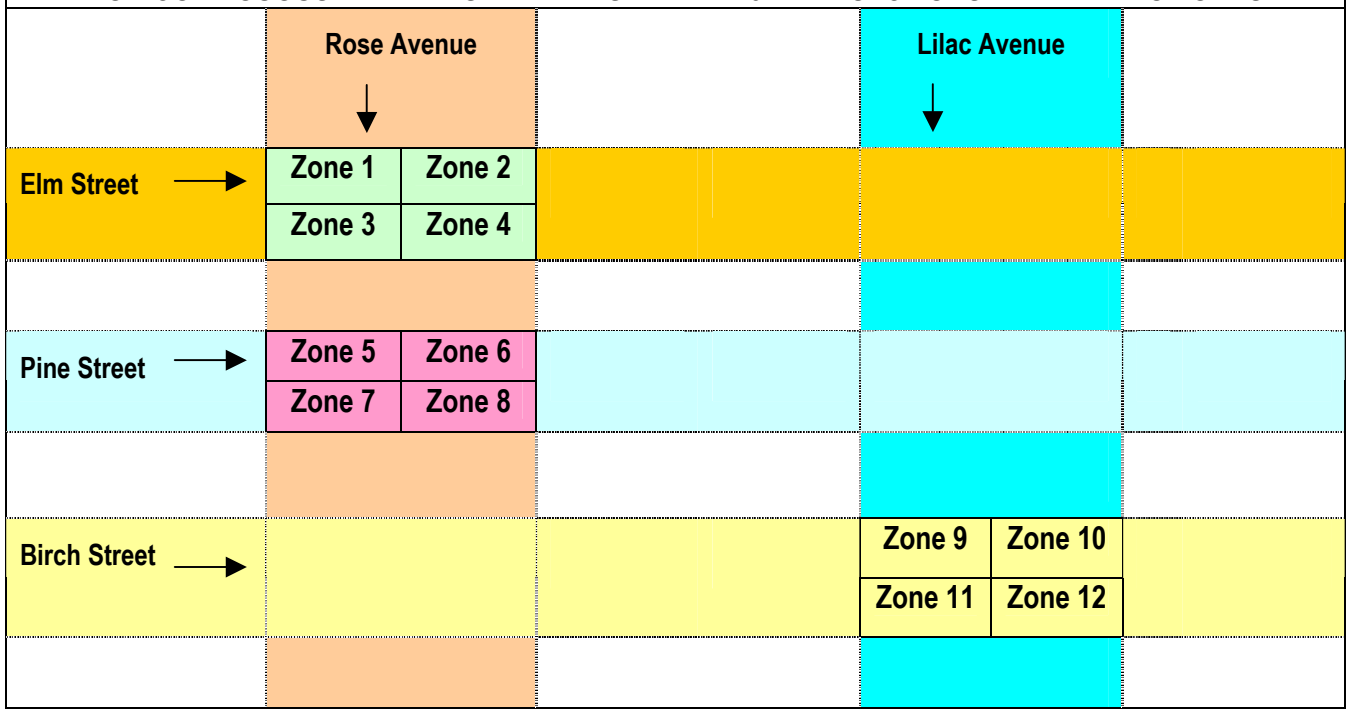


FIGURE 6
NON-CONTIGUOUS TEN-DAY STREET FESTIVAL AT 3 INTERSECTIONS DIVIDED INTO ZONES



6. Tallying a random sample of attendees during a stint

When approaching people at the event, interviewers need to do so in a "random" manner. Randomness at the respondent selection stage is very important to ensure that the final sample you include in your study is representative of *all* types of attendees (those who look friendly and those who don't look so friendly, those with and without young children, male and female, old and young, etc.). The easiest way to achieve randomness at the selection stage is to have the tally interviewer approach **every *nth*** (e.g., every 5th) person as he/she enters the tally zone and attempt to obtain this person's cooperation.

The "interval" you select will depend on the nature of the task, the flow of traffic at the location, the number of interviewers assigned to the stint, etc.

V. MEASURING EVENT ATTENDANCE

In this chapter, you will find guidelines for measuring attendance at an ungated event using each of the following approaches:

- Aerial photography;
- Parking lot counts;
- Parade counts; and
- Tag and recapture.

Some of the steps are common to all approaches, but each has its own special requirements. As noted earlier in these guidelines, estimating attendance at an ungated event can be quite complex. Consequently, you might consider obtaining guidance from professionals when attempting to construct a sampling plan and a weighting and projection plan for your study.

Although a viable approach to estimating attendance for ungated events, the *entrance/exit counters approach* is not covered in the following sections because of the complexity and costs associated with it. Event organizers interested in exploring an *entrance/exit counters approach* are encouraged to seek guidance from professional research organizations.

A. AERIAL PHOTOGRAPHY

1. Using aerial photography to estimate attendance: an overview

In this section you will find steps required to estimate total attendance at your event if you elect to use aerial photographs for part or all of the estimation process.

If you rely on aerial photographs for estimating total attendance at your event, you do NOT need traditional "counting stints". You do, however, require a sampling plan for the tally interview portion of your study (see Sections IV and V).

You require the following components to estimate attendance using an aerial photography approach:

- A detailed site map of the event area
- Identified "count zones"
- Identified peak attendance time periods
- Aerial photographs
- Counts from aerial photographs
- Estimates of capacity and "occupancy" of covered areas
- Calculations for counting attendees
- Special questions on tally questionnaire
- Tally stint sampling plan

- Tally interviewers
- Attendee surveys

2. Detailed site map

Prepare a detailed site map of the event area with major gathering places, "landmarks" such as sides of buildings, walkways or sidewalks clearly identified (see Figures 4 [page 62], 5 [page 68], and 6 [page 69]). This type of map will form the basis for estimating the number of people in each "frame" of film from the aerial photographs.

The same map will form the basis of your **stint sampling plan for tally interviews** and recruitment of attendees for the attendee survey.

3. Count zones for photographs

Identify "zones" on the detailed site map that will coincide with "frames" of the aerial photographs (see areas numbered 1 – 7 in Figure 4, page 64). You will superimpose the "count zones" on the aerial photographs and count the number of people in the photo in each zone. These counts represent an estimate of total attendance in "open areas" of the site at the time the photograph was taken. If there are any covered areas on the site, you would add the number of people in these covered areas to the photo counts to arrive at an estimate of total attendance (see special notes on "counting attendees" – Section 8, below for more details).

4. Identifying peak attendance time periods

Aerial photographs should be taken at the time(s) you anticipate attendance to have "peaked" for the day. If yours is a multi-day event with different levels of attendance anticipated on different days, you should arrange to have aerial photographs taken at the peak period on *each* day. You will, in turn, use Tally Survey results to determine how many of the attendees counted in the photographs were in attendance on specific days of the event and adjust aerial photograph counts to avoid multiple counting of the same attendee.

If the event covers many days, you might use a *sample* of peak times for aerial photographs instead of obtaining photos for each day. If you elect to use a sample, you will project the sampled attendance to the full span of your event using the principles for extrapolating from the sample to the full time span described in this document for "stint samples".

5. Aerial photographs

Aerial photographs of the event site for the "peak attendance" time period on each day or a sample of days of your event are required. To obtain aerial photographs, you require a low flying craft (helicopter, blimp, etc.) that is equipped with camera and appropriate film and lenses to produce high-resolution professional transparencies or digital images with sufficient resolution to count individuals in the photographs. The time period covered by each frame should be clearly indicated on each aerial photo frame.

To find a supplier and obtain cost estimates, check your local telephone directory or contact a professional aerial photography association (e.g., PAPA International, The Professional Aerial Photographers' Association. This is a professional trade organization, comprised of aerial photographers throughout the world. Its membership includes Canadian and American photographers). Explain the purpose of the photographs you require to potential suppliers and ask them to recommend the most appropriate camera, film, aperture settings, altitude and angle.

6. Counts from aerial photographs

Align your aerial photos with your detailed site map and count the number of people in each of your "count zones". If these zones are very large and the population is equally dense throughout the zone, you can divide the zone into segments (e.g., quarters) and count the number of people in one of the quarters. Then, multiply this number by four (4) to estimate the total number of people in the zone. If population density varies throughout the zone, you would have to count all the people in each zone.

You will need to add counts from all zones together to obtain an estimate of total "visible" attendees at the peak time on the specific day (see special notes on "counting attendees" – Section 8 below, for more details).

7. Estimates of capacity and occupancy in covered areas

Aerial photographs will not capture people in areas such as food tents, restaurants, and areas with overhangs or other covered structures. In order to estimate how many attendees are situated in these places *at the time the aerial photographs are taken,* you might send a team of observers to take the following steps:

1) Estimate the seating or carrying capacity of each covered area (e.g., count the number of seats in restaurant areas or standing room in pavilion areas); and

2) Estimate the "occupancy rate" at the time the aerial photos are taken (by talking to staff, by sending "counters" to actually count the number of people in the area at the time of the photos, or by establishing what you consider to be a reasonable occupancy rate).

In the example provided in Figure 4 (page 64), there are two covered zones: Zone 2: Food Tent and Zone 3: Covered Artist Display Area. The aerial photographs will not include attendees in these covered areas. To estimate the number of people in these zones, you would take steps similar to the following:

- Assume that observers examined the capacity of the food tent prior to the event. It has 300 seats.

- If the aerial photo is taken at lunchtime, you and/or the vendors estimate that occupancy would be approximately 95%.

- Thus, you would add 285 people to your aerial photo count for Zone 2 (300 * .95 = 285).

- If, however, the aerial photo were taken in mid-afternoon, occupancy might only be 50%. In this case, you would add 150 people to your aerial photo count for Zone 2 (300 * .50 = 150).

- Zone 3 can accommodate 500 people (excluding vendors). You could send counters to estimate the number of people in Zone 3 at the time of the aerial photo or you could use an estimate of the occupancy rate based on your knowledge of the event. For example, if the aerial photo were taken at the same time as a concert in the band shell, occupancy of the Artist Display Area could be relatively low because many attendees will be listening to the concert.

- If, on the other hand, the photo is taken during a demonstration by a well-known artist, the occupancy of this covered area might be quite high. If you use your knowledge of the site to estimate occupancy, you would follow the same procedure described above for Zone 2 (number of people who can fit in the area * occupancy rate (%) = total attendees in Zone).

8. Special calculations for counting attendees

Since people can only be in one place at a time, the estimates of attendees in each covered area can be added together (as long as the counts took place at the same time). In turn, these estimates can be added to the estimates produced from the aerial photograph for a particular time on a particular day. You cannot, however, add attendees from counts and aerial photographs taken at *different times* or on *different days* of your event because the *same* people could be counted more than once.

From the aerial photos and counts of covered zones, you will know how many people were in attendance at one particular time (when the photo was taken). What about people who may have come before or after this particular time period?

9. Using tally data to adjust for people who were not in the photo

You will estimate how many people *other than those in the photo* attended your event using a combination of the aerial photo/covered zone counts and results of a modified Tally Questionnaire (see Question 7, modified for aerial photos). In the modified version of the tally survey, you will ask people if they were on-site at the peak event on the date/time(s) you took a photo.

If yours were a multi-day event, you would obtain this information for each peak event on each day a photo was taken. You will use this information to adjust your counts so that they:

- Include people who came to the event but were not on-site during the photo shoot; and

- Adjust for people who came to the event on more than one day, to obtain **unduplicated** counts.

The modifications required to the tally questions for aerial photography are described in Section 10, below. For more details about the tally question list, see Appendix VI.

10. Tally questionnaire

The sample tally questionnaire provided in Appendix VI requires some adjustment if attendance counts are to be estimated from aerial photographs. Specifically, you will need to ensure that your tally questionnaire provides information to correct attendance estimates for excluded groups of attendees and people who may have been on your site at times *other than* the peak event(s) at which you have taken aerial photos.

You also need information to correct for people who may have been on your site during more than one "measurement period" (a period during which you took aerial photos, either on the same day or on different days and at the same or different venues).

A modified version of Question 7 of the Tally Survey is displayed below. You would start with this modified version of Q.7 (below) and customize it for the specific circumstances of your event.

Question 7 Tally Questionnaire, Modified for Aerial Photograph Method

-a) IF MULTI-DAY EVENT: NAME EVENT lasts for X days. Over the full course of the event, on how many different days have you/do you plan to attend, counting today's visit?

WRITE IN NUMBER OF DAYS	_____
DON'T KNOW/CAN'T ESTIMATE	[ ]

-b) Did you/do you plan to attend the [NAME PEAK EVENT(S) DURING WHICH AERIAL PHOTO(S) WAS/WERE /WILL BE TAKEN]? [IF MULTI-DAY EVENT, SAY: on NAME EACH DAY? REPEAT FOR EACH DAY, AS REQUIRED.] **SEE ALTERNATIVE BELOW IF MULTI-DAY/MULTI-VENUE AERIAL PHOTOS TAKEN**

	DAY 1	DAY 2	DAY 3	Etc.
Yes	[ ]	[ ]	[ ]	[ ]
No	[ ]	[ ]	[ ]	[ ]
DON'T KNOW	[ ]	[ ]	[ ]	[ ]

-b) **ALTERNATIVE FOR MULTI-DAY/MULTI-VENUE AERIAL PHOTOS** Which of the following, if any, activities have you/do you plan to attend? [READ LIST AND MARK APPROPRIATE RESPONSE FOR EACH ITEM]. THE LIST WILL INCLUDE THE NAME, LOCATION AND DAY OF THE PEAK EVENT(S) DURING WHICH AERIAL PHOTO(S) WAS/WERE /WILL BE TAKEN.

	YES	NO	DON'T KNOW
Peak Event A, at LOCATION, on NAME DATE	[ ]	[ ]	[ ]
Peak Event B, at LOCATION, on NAME DATE	[ ]	[ ]	[ ]
Peak Event C, at LOCATION, on NAME DATE	[ ]	[ ]	[ ]
Etc.	[ ]	[ ]	[ ]

11. Tally interviewers

On-site tally interviewers have several key roles to play in the survey process. These interviewers are required to:

- obtain basic information for identifying the proportion of attendees who are *locals* and *tourists;*
- obtain information to enable you to adjust attendance estimates from aerial photographs in several ways:
    - identify the proportion of attendees who have visited the site more than once and might have been captured in more than one "peak period" aerial photograph (for multi-day and/or multi-venue events);
    - identify the number of attendees who might have been on-site at the time the "peak period" aerial photograph was taken but were *not* included in the photo (because they did not attend the peak event); and
    - identify the proportion of attendees that should be *excluded* from the aerial photo-based estimates of attendance (see below).
- distribute the Attendee Survey in order to capture critical characteristic and spending information for a tourism economic impact estimate.

12. Adjusting "counts" to "tally" data for *excluded* attendees

Some of the people who are within one of your zones during a stint may be staff members, merchants, participants or volunteers. Generally, these types of attendees are excluded from tourism economic impact assessments.

If any types of attendees are to be excluded from your final estimates, you will have to identify how many *excluded attendees* came to your event and remove them when you weight and project your survey data. To enable you to generate an *exclusion weight*, the Tally Questionnaire includes a question about which type of entrant each person is. You would use this information to make the appropriate adjustments when you weight and project your tally information.

13. Estimating total attendance, *tourists* and *locals*

The basic "count" of attendees at your event is derived from the combination of aerial photograph counts and the information you capture in the tally questionnaire for a sample of attendees. Once you have these basic counts, you would follow the guidelines provided in the following section to utilize tally information to adjust the counts and to estimate the number of *tourists* and *locals* at your event. The estimates of tourists and locals will be used in conjunction with Attendee Surveys to develop the inputs for a tourism economic impact model.

14. A weighting and projection plan for aerial photographs

a) What is a weighting and projection plan?

A **weighting and projection plan** permits you to generalize from your *sample* to *all* attendees at your event. It is based on a sequence of arithmetical steps, using information you collected and compiled from the **aerial photo counts** and **attendee tallies** conducted over the duration of the event.

b) Why you have to weight & project counts and tallies

Now that you have completed your tally and attendee counts, what do you know about your attendees?

- You know numbers of people who were at the peak events when the aerial photographs were taken and the number in covered areas on the site during these same time periods; and

- You know the type of entrant (e.g., local, tourist, staff, merchant, etc.), party composition and place of residence of a portion of the people who attended your event at particular times/locations (the portion you "tallied").

You need the same information you collected during counting and tallying for *all* the attendees who came to your event. How do you get this information for *all* attendees? You adjust your attendee estimates and tally data so that you represent all of your attendees. To do this, you must develop and implement a weighting and projection plan.

c) Some definitions

Following are several important definitions you will require for weighting and projection.

Record-by-record: a "record" is all the information collected from a single respondent. Thus, it would be a completed Attendee Survey (questionnaire) or a single "row" on the Tally Sheet.

Household Travel Party: a household travel party, household party, or "party" is all the people travelling together and/or who came to the event together and who live in the same permanent

residence. Because spending information is collected at the "household party" level but sampling and counting is done at the "person" level, for some parts of the weighting and projection process, it is necessary to convert from "parties" to "people".

The reason spending information is collected at the "household party" level is that an individual respondent may not have personally spent money on a spending category (e.g. gasoline, vehicle repairs, vehicle rental, accommodation) but someone else in the household group travelling together ("party") would have spent money *on behalf* of this individual. By asking about *all* the money spent on various items by *everyone* in the household travel party, spending estimates are more accurate.

15. A step-by-step description of the weighting and projection process

The exact nature of calculations to weight and project tally information to aerial photo counts will vary based on the exact circumstances of your event (number of aerial photos, number and type of tally stints, etc.). Here, we provide an example of the steps required. You would customize the process to meet your particular needs.

Assumptions in this example:

- You conducted tally interviews during six stints, representing the 36 possible stints (different zones and times) during your event;
- You took an aerial photo at a peak event on Day 1 and a second photo on Day 2 of your two-day event;
- You had observers counting capacity and obtaining occupancy data from "covered areas";
- You counted the people in the aerial photos from Day 1 and Day 2, adding the covered area counts to the aerial photo counts for each day, independently. In this example, the total "count" for Day 1 was 10,000 and for Day 2 was 8,000.

The process described here assumes that a simple random sampling approach was used. If you use a stratified sample, you would repeat the steps for a simple random sample, as described here, for *each* stratum in your sample. Before arriving at your final estimates, you would assign the appropriate weight to the estimates for each stratum, such that the total of all your strata equals the total number of attendees.

a) Steps in the weighting and projection process

The following steps for weighting and projecting tally information to *all* attendees at an ungated event will require customization, depending on the particular characteristics of your event.

Step 1: Convert tallied "party" to "people", on a record-by-record basis

Step 2: Adjust tally and aerial photo counts for exclusions

Step 3: Adjust aerial photo counts for duplication

Step 4: Adjust tally respondents for duplication

Step 5: Expand "stints" to total event

Step 6: Expand weighted tallied persons to adjusted attendee counts

b) Step 1: Convert tallied "party" to "people", on a record-by-record basis

A "household party" is the measurement unit for the tally whereas an individual is the measurement unit for attendee counts (e.g., from aerial photos/covered areas). Thus, you need to convert household parties to individuals represented by each party in order to match the tally information to your estimate of event attendance.

The first step is to obtain a count of all the people tallied during a specific stint. You do this by summing all the *people* represented by the household parties tallied in each stint. This should be done on a stint-by-stint basis, adding up all the people represented by each household party that was interviewed during the tally process.

For example, if you tallied 9 parties during a stint, you would add up the number of people represented by each of these 9 parties. In this example, the nine parties would represent 31 people.

Remember that you need to ensure that your projections from tallied *households* to tallied *people* **match** the age groups you have counted in whatever approach you have selected for counting attendees. It will be difficult to set a minimum age for aerial photo counts because you are likely to be unable to determine an attendee's age from the photos. In this case you might only exclude babies and young children from the tally estimates you use to weight and project attendance.

Stint 1 (S_1)	# of People in Party from Tally Form
Tally Record #	
0001	3
0002	4
0003	1
0004	2
0005	6
0006	3
0007	2
0008	2
0009	8
Repeat for each Tally Record	
Total	250
Repeat for Each Stint	

c) Step 2: Adjust tally and aerial photo counts for exclusions

The following table displays the number of tally completions you achieved in each of your six stints, converted to *people* as per Step 1, above.

Stint	# of tallied people
Day 1	
S_1	250
S_2	215
S_3	84
Total	549
Day 2	
S_4	100
S_5	134
S_6	125
Total	359
Total Days 1 + 2	908

Some people included in your estimate of total attendance may be *excluded attendees.* Excluded groups might include merchants, paid or unpaid event staff including volunteers, representatives of the media, etc. If you are conducting a tourism economic impact assessment, these individuals must be removed from the tallies.

Generally the people who will be excluded from the final counts are *local* but may be people from outside your community (participants and/or merchants who come to sell food, amusement rides, and retail products at the event). Because the proportions of excluded attendees are likely to vary by place of residence, it is recommended that you adjust for exclusions separately

for each major "place of residence" category (see example below).

In some cases, you may not need to identify these excluded groups (volunteers, staff, vendors, etc.) in your tally and go through these special calculations to "take them out" of your estimates because you have other ways to estimate how many people the excluded groups represent. For example, event organizers may know the number of people who would fall into "excluded groups" and would not, therefore, need to generate an estimate of these individuals from tally responses.

Example for Excluding Vendors, Staff, Performers, Etc.						
	Tally Stint Total	% Merchants	% Participants/ Performers	% Staff/ Volunteers	Total Excluded	Total Attendees for Projection Purposes
	(A)	(B)	(C)	(D)	(E)	
					(B+C+D) * A = E	A – E
Stint	#	%	%	%	#	#
S_1	**250**					**237**
Local	175	1%	2%	4%	12	163
Non-local – Same Province/State	28	1%	-	-	0.28	28
Other Domestic	25	-	-	-	0	25
Foreign Countries	22	-	-	-	0	22
S_2	**215**					**211**
Local	145	3%	1%	6%	14	131
Non-local – Same Province/State	50	2%	2%	0	2	48
Other Domestic	12	0	0	0	0	12
Foreign Countries	8	0	0	0	0	8

Excluded attendees must be removed from both the *tally records* and the *aerial photo counts.* This process is conducted in two stages:

Stage 1: Remove exclusions from tally records, as above, on a stint-by-stint basis;

Stage 2: Apply the proportion of *all* tally respondents (people) who are excluded to your estimate of total attendees from each aerial photo count (including covered area estimates), using stints conducted on the same day as the aerial photo was taken.

Stage 1: Remove exclusions on a stint-by-stint basis			
Stint	# of tallied people	# of tallied people, adjusted for exclusions	Factors for adjusting Day 1 & Day 2 Aerial Photo Counts
Day 1			
S_1	250	237	
S_2	215	211	
S_3	84	80	
Total	(A_1) 549	(B_1) 528	$B_1 \div A_1 = 96\%$
Day 2			
S_4	100	97	
S_5	134	131	
S_6	125	123	
Total	(A_2) 359	(B_2) 351	$B_2 \div A_2 = 98\%$
Total Days 1 + 2	908	879	

Aerial count * adjustment for exclusions = Total Adjusted Counts (exclusions)

Stage 2: Apply Exclusion Proportion for Daily Stints to Aerial Photo Count		
	Aerial Photo Count + Covered Area Estimate	
	Day 1	Day 2
Aerial Photo Count + Covered Area Estimate	10,000	8,000
Adjustment for exclusions	0.96	0.98
Total Attendance	9,600	7,818
Final adjusted counts (exclusions)	(a_1)	(a_2)

d) Step 3: Adjust aerial photo counts for duplication

Now, you need to determine how many of the attendees in your multiple aerial photos you could have counted in each photo. This step applies to events in which two or more aerial photographs were taken at *different* times. If only one aerial photo was taken, this step would be ignored. Similarly, the step would be ignored if all aerial photos were taken at exactly the same time in different locations since an attendee could *not* appear in more than one photo.

If required, this step is performed on a stint-by-stint basis, using responses from Question 7 of the Tally Questionnaire where you asked people to indicate their actual or planned attendance pattern at the event (see relevant sections of Q.7, below).

Relevant sections of Question 7, Tally Questionnaire

7-b) Did you/do you plan to attend the [NAME PEAK EVENT(S) DURING WHICH AERIAL PHOTO(S) WAS/WERE /WILL BE TAKEN]? [IF MULTI-DAY EVENT, SAY: on NAME EACH DAY?] REPEAT FOR EACH DAY, AS REQUIRED.

	DAY 1	DAY 2
Yes	[ ]	[ ]
No	[ ]	[ ]
DON'T KNOW	[ ]	[ ]

In this example, Day 1 tallied attendees would have been asked if they planned to attend the event on Day 2. Day 2 tallied attendees would have been asked if they attended the event on Day 1.

To estimate the duplication rate for each day, you would calculate the level of duplication for each day of the event, adding together all tallies completed on Day 1 and those from Day 2 who say they attended on Day 1 at Q.7. This sum is divided by all tallied people over the two days to obtain the level of duplication for Day 1 (w_1). Analogous steps are required for Day 2 to obtain the level of duplication for Day 2 (w_2).

	(w_1)	(w_2)
Went/planned to attend (from Q. 7 of Tally Questionnaire)	Day 1	Day 2
Stint		
S_1	237	65
S_2	211	102
S_3	80	55
S_4	45	97
S_5	80	131
S_6	51	123
Total	704	573
Proportion of all Tallies (879)	80%	65%

These proportions are applied to the *final adjusted counts (exclusions)*, produced in Step 2:

Day 1 Estimate, excluding staff, vendors, etc. = 9,600 (a_1)

Day 2 Estimate, excluding staff, vendors, etc. = 7,818 (a_2)

You would calculate two different estimates of the total crowd, as described below and use the average of these two as your estimate of total attendees. (If your event ran for more than two days, you would go through the following steps for each day/each aerial photo.)

Estimate #1: Total Attendance (*N*) is the total visitor population on Day 1 (adjusted for exclusions) plus the proportion of Day 2 attendees (adjusted for exclusions) who did NOT attend on Day 1.
$N_1 = a_1 + [a_2 * (1- w_2)]$
$N_1 = 9,600 + [7,818 * (1-0.65)] = 14,682$

Estimate #2: Total Attendance (*N*) is the total visitor population on Day 2 (adjusted for exclusions) plus the proportion of Day 1 attendees (adjusted for exclusions) who did NOT attend on Day 2.
$N_2 = [a_1 * (1- w_1)] + a_2$
$N_2 = [9,600 * (1-0.80)] + 7,818 = 9,738$

Average of Estimate #1 and #2
(14,682 + 9,738) ÷ 2 = 12,210

The estimate of total *unique* attendees at your event is estimated to be 12,210.

If *only* aerial photographs were used to estimate attendance, 12,210 would be your final attendance estimate. If, however, you used other measures to estimate attendance at some portions of your event, you would have to make the necessary adjustments to these additional estimates (using weighting/projection techniques appropriate to them) and then undertake a process similar to the one described above to ensure against duplication from the aerial photograph estimate and estimates from other portions of your event.

e) Step 4: Adjust tally respondents for duplication

You have now obtained an estimate of your *unique* attendees, taking into account the possibility that some people may have come to your event on more than one day. You not only have to adjust your "counts" for potential duplication, but you also have to take into account the fact that individuals interviewed in your tally survey who come to your event on more than one day have the possibility of being included in your sample *more than one time.* The characteristics of the frequent visitor might be quite different from the once-only visitor and each should have an equal chance of selection in your sample. To adjust your tally data, you also use responses to Question 7, on a record-by-record basis.

Record-by-record, you would divide the number of tallied people by the number of opportunities (days) they might have been interviewed (based on the number of days they attended the event and the days on which you were conducting tallies).

As shown in the accompanying table, a party with two people who came to the event on only one day would count as two people (2 people ÷ 1 day = 2 people). A party with three people that came on two different days would, however, have twice the chance of being included in your sample as a similar party that came only on one day. Thus, this party would represent 1.5 people in your final estimates (3 people ÷ 2 day = 1.5 people).

S_1	Tallied Persons	Days Attended (Q.7)	Adjusted Tally Persons
0001	2	1	2
0002	3	1	3
0003	3	2	1.5
0004	4	1	4
0005	2	2	1
Repeat for each record			
Total S_1	237		118
S_2			
0001	1	2	0.5
0002	1	1	1
0003	2	1	2
0004	2	2	1
0005	5	1	5
Repeat for each record			
Total S_2	211		102

f) Step 5: Expand "stints" to total event

Each one of your stints must be adjusted to stand for time periods and locations in which tallying took place and those in which it did *not* take place. Now that you know how many people each sampled stint should represent ("Adjusted Tally Persons"), you must adjust the sample to the full event. You can adjust your stint counts to the total in different ways, depending on how you sampled and how much information you have available.

In the simplest case, you could use the ratio of the number of selected stints to total possible stints as the adjustment factor. In this example, there were 36 possible stints and six were conducted. Thus, in our example, the stint adjustment would be:

Total stints (36) ÷ Sampled stints (6) = Stint Weight (6.0)

The stint weight should be multiplied by the Adjusted Tally Persons to provide the total attendees represented by each tally stint. In the following example, all stints have equal weight.

S_1	Tallied Persons	Days Attended (Q.7)	Adjusted Tally Persons	Stint Weight	Adjusted Tallied Persons
0001	2	1	2	6	12
0002	3	1	3	6	18
0003	3	2	1.5	6	9
0004	4	1	4	6	24
0005	2	2	1	6	6
Repeat for each record					
Total S_1	237		118	6	708
S_2					
0001	1	2	0.5	6	3
0002	1	1	1	6	6
0003	2	1	2	6	12
0004	2	2	1	6	6
0005	5	1	5	6	30
Repeat for each record					
Total S_2	211		107	6	645

The steps described above should be conducted for each record to produce an adjusted tallied person count for each stint. In this example, there are six stints.

	Tallied Persons	Adjusted Tally Persons	Stint Weight	Weighted Tallied Persons
Total S_1	237	118	6	708
Total S_2	211	107	6	645
Total S_3	131	77	6	465
Total S_4	97	55	6	332
Total S_5	80	47	6	282
Total S_6	123	59	6	353

g) Step 6: Expand weighted tallied persons to adjusted attendee counts

To arrive at the final weighted, projected data, each adjusted tally person must represent a *share* of the total adjusted attendees **from the aerial photo counts** (see Step 3). In our example, total adjusted attendance was estimated to be 12,210. Each tally record will be assigned a portion of this attendance estimate such that, when all the weights and projections are applied, all tallied people sum to 12,210. While the table below displays this step for each stint as a whole, the procedure must be performed on a record-by-record basis.

	Weighted Tallied Persons	Proportion of Total Tallied Persons	Attendees to be distributed to individual records in stint	Individual Attendee Adjustment Weight (per record)
Total S_1	708	25%	3,104	4.38
Total S_2	645	23%	2,828	4.38
Total S_3	465	17%	2,039	4.38
Total S_4	332	12%	1,456	4.38
Total S_5	282	10%	1,236	4.38
Total S_6	353	13%	1,548	4.38
Total	2,785	100%	12,210	

Thus, on a record-by-record basis, the calculation for weighting and projecting tallied attendees such that they represent the total number of unique attendees at your event would be as follows (note: tally records in which all people in the household party are in *excluded groups* should be eliminated from the weighting/projection process):

[(Household Party Tally Record * Number of people in party) ÷ Number of days at event] * Stint Weight * Individual Attendee Adjustment Weight (from adjusted aerial photo counts)

16. Estimating attendance by place of residence

Now that you know how many attendees each party in your tally represents, you are ready to estimate the proportion of attendees from various origin groups. This is a critical element in generating reliable inputs for economic impact estimation. In other words, these are the numbers you went to all the trouble to obtain by sampling, taking aerial photos and counting the people in the photos, tallying, weighting and projecting.

Once you have calculated the total attendees for each stint, you would determine how many of the projected and weighted tallied individuals are local residents, non-locals from other parts of the community's province or state, from other provinces or states, and from foreign countries.

These ratios are required in order to estimate how much spending at your event derives from the local community and how much is coming in from other places. As shown below for 2 sample stints, the number of attendees from each origin in each stint is multiplied by all the weights to arrive at the final ratios.

Once you have converted your stint parties to people, you would calculate the share each stint represents of total attendance for each origin group included in your tally sheet.

The Calculation for *each* place of origin:

Adjusted Tallied Persons by Place of Origin * Stint Weight * Individual Attendee Adjustment Weight (from adjusted aerial photo counts)

Stint		Tallied Attendees	Adjusted Tally Persons	Stint Weight	Individual Attendee Adjustment	Weighted, Projected Attendees
S_1	**Total**	237	118	6	4.38	3,104
S_1	Local	178	89	6	4.38	2,341
S_1	Non-local – Same Province/State	34	18	6	4.38	473
S_1	Other Provinces/ States	15	7	6	4.38	184
S_1	Other Country	10	5	6	4.38	132
S_2	**Total**	211	107	6	4.38	2,815
S_2	Local	148	75	6	4.38	1,973
S_2	Non-local – Same Province/State	32	16	6	4.38	421
S_2	Other Provinces/ States	21	11	6	4.38	289
S_2	Other Country	11	5	6	4.38	132
	Repeat for each stint					

Using only two stints for this example, of the 5,919 weighted, projected attendees at the event, 73% were residents of the local community, 15% came from other parts of the province or state, 8% live in other provinces or states, and 4% live in foreign countries. When you go through these procedures, you would calculate the total visitation by origin for *all* stints.

Weighted, Projected Visitors, Stints 1, 2 by Place of Residence				
Place of Residence	Stint 1	Stint 2	Total	Percent
Total (All)	3,104 +	2,815	= 5,919	100%
Local	2,341 +	1,973	= 4,314	73%
Non-local – Same Province/State	473 +	421	= 894	15%
Other Provinces/ States	184 +	289	= 473	8%
Other Country	132 +	132	= 264	4%

17. What do you do with the ratios by place of residence?

You will apply the ratios by place of residence to the information you collect on spending and other characteristics of the trip that brought the person to the community and the event. In turn, these ratios will enable you to calculate total spending at the event and in the community and to determine how much of this spending is *incremental* because the event attracted *tourists* to the community.

B. PARKING LOT COUNTS

1. Using parking lot counts to estimate attendance: an overview

In this section you will find steps required to estimate total attendance at your event if you elect to use parking lot counts for part or all of the estimation process. This approach to estimating total attendance is appropriate for ungated events where people must use an automobile, bus, motorcycle or bicycle to reach your site **and** must park in identifiable and limited areas while attending the event. The approach is ***not*** suitable for events in which parking lots are "shared" with other uses. In other words, **if people other than those attending your event can use the parking lot, we do not recommend this approach.**

Vehicle counts become *surrogates* for attendees at your event. For this reason, the estimation process has two stages:

- Counts of vehicles; and
- Estimates of number of occupants per vehicle (from direct counts or tally data).

The approach requires a systematic method of counting vehicles by class (type of vehicle) at different lots and during different time periods. There are simpler and more complex methods to estimate attendees using parking lot counts. The method you select will depend on the particular characteristics of your event.

Method 1: Census of vehicles/occupants for a single day, single venue event with a limited number of parking lots

You can use on-lot counters to record the number of vehicles and the number of occupants per vehicle as they enter the lot. These counters (people) would, in effect, take a census of all entering vehicles from all points of entry to the lot. In this case, you would require tally information to adjust the "lot counts" only to eliminate groups of people who should be excluded from your final estimates (e.g., staff, volunteers, vendors, etc.).

Method 2: Census of vehicles/occupants for a multiple-day single venue event with a limited number of parking lots

Method 2 is almost identical to Method 1, as described above. In this case, you would require tally information to adjust the "lot counts" to eliminate groups of people who should be excluded from your final estimates (e.g., staff, volunteers, vendors, etc.) *and* to adjust for duplication for people who may have come to your event on more than one day.

Method 3: Peak period vehicle counts

If your event **has multiple venues, each with different parking lots and/or has a large number of parking lots**, you are advised to use a "peak period vehicle count" estimation

approach. This approach requires that you identify a time of day at which you anticipate that attendance at your event will have "peaked" for that day. At this *same* time, you would count the number of different types of vehicles in each parking lot. A separate "peak period vehicle count" would be done on each day of your event. Tally information would be used to adjust the peak vehicle counts for occupants per vehicle, potential duplication, and excluded groups. The process of estimating total attendance for peak period vehicle counts is similar to that described for aerial photographs (see previous chapter).

Method 4: Parking fees (no counts required)

You may not require *any* counting stints if you are charging for parking and can **arrange to obtain counts** or the amount collected for parking fees for all cars, busses, etc. that enter (or exit) your parking lots at various time periods. Ideally, the time periods would coincide with tally interview time periods at the event. If these two sets of time slots are coordinated, it is easier to estimate the number of attendees in each vehicle for each time period and link other characteristics of tallied attendees to your parking lot counts. Tally information would be used to adjust the vehicle counts for occupants per vehicle, potential duplication, and excluded groups.

2. What you need for parking lot counts

No matter which method of counting vehicles and/or vehicle occupants you select, you will require the following components to estimate attendance:

- A detailed site map of the event area
- A detailed site map of parking lots (Method 3 only)
- Identified "count zones" (Method 3 only)
- Staff to count vehicles/occupants
- Tally forms for recording counts of vehicles/occupants
- A stint sampling plan for tallies
- Special questions on tally questionnaire
- Tally interviewers and completed tally interviews
- Attendee survey

3. Detailed site maps

Regardless of the method you select, you will require a **site map of the event area for tallying attendees**. This is a detailed site map of the event area with major gathering places, and "landmarks" such as sides of buildings, walkways or sidewalks clearly identified. This map will form the basis of your stint sampling plan for tally interviews and recruitment of attendees for the attendee survey (See Figures 4 [page 62] and 5/6 [pages 68, 69] for examples of site maps).

If you select Methods 1 or 2, above, you will need to identify *all* the points of entry to your event's parking lots. "Counters" would be assigned to these locations to count vehicles by type and occupants *throughout the entry time span.*

If you select Method 3, you may require detailed **parking lot site maps** that provide identifiable and, if possible, evenly-sized areas (zones). These zones would form the basis for "peak period

vehicle counts" in each parking area. Counters would be assigned to count vehicles, by type, in specific zones. An example of a parking lot site map is provided in Figure 7 (page 94).

4. Counting vehicles & occupants

a) Census of vehicles/occupants (Methods 1 & 2)

To implement methods 1 or 2, you will need sufficient personnel to staff all entrances to your parking lots during the entire "entry period". For example, if your event were open from 10:00 am to 10:00 pm, and you expected vehicles to begin arriving an hour before the event opens and stop arriving an hour before the event closes for the day, you would assign counters to each point of entry to count vehicles from 9:00 am to 9:00 pm. A tally sheet similar to the one provided below would be required to enable counters to log vehicle occupants by type of vehicle.

Alternatively, if counters at parking lots can count vehicles by type but *not* the number of occupants per vehicle, the vehicle counts could be adjusted based on occupancy data collected in the tally interview.

If there are two entrances to your parking lot and you need coverage for twelve hours, you would require at least four (4) parking lot counters, with each working a six hour shift, as follows:

1. Entrance 1, 9:00 am to 3:00 pm
2. Entrance 1, 3:00 pm to 9:00 pm
3. Entrance 2, 9:00 am to 3:00 pm
4. Entrance 2, 3:00 pm to 9:00 pm

Sample Tally Sheet for Vehicle/Occupant Counts at Parking Lots (Methods 1, 2)

Name of entry location _____ Counter's name: _____
Lot name _____
Time count starts: _____ Time count ends: _____

*Record **number of occupants** per vehicle in appropriate column, using one "tally row" per vehicle, as per examples*	Passenger vehicles (cars, trucks, SUVs)	School buses (with estimated capacity)	Tour buses (with estimated capacity)	Motorcycles
1.	3			
2.		25		
3.	2			
4.	4			
5.	5			
6.	1			
7.	1			
8.	2			
9.			45	
10.	2			
11.				1
Total (sum of all rows, by vehicle type)				

Once the event is over, you would "count" all occupants recorded by your counters. This total would form the basis for your estimates of total attendees, adjusted for excluded groups and/or duplication (see special questions for Tally Questionnaire).

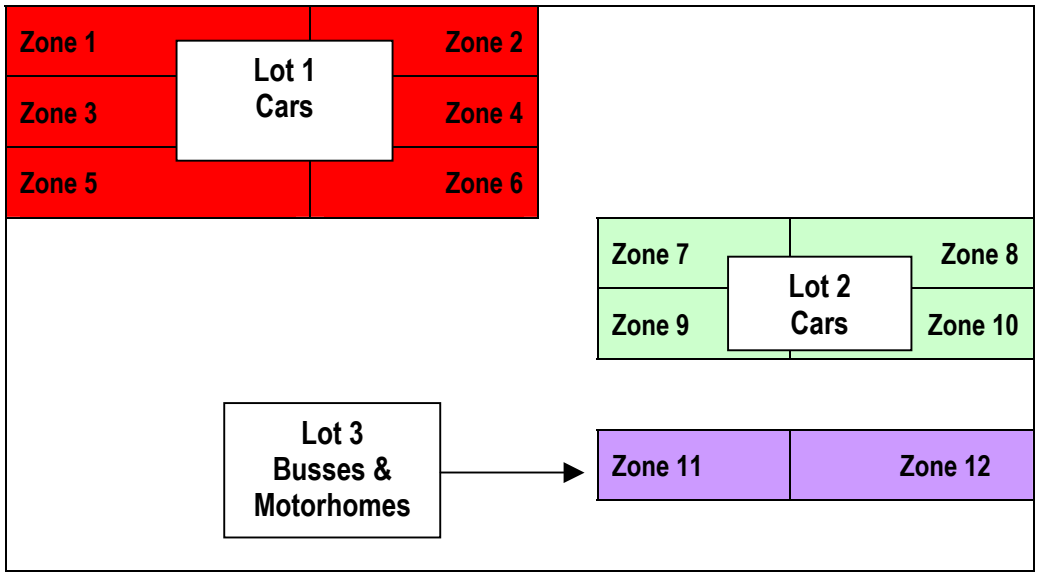
b) Peak period vehicle counts (Method 3)

Site maps for counting vehicles

Depending on how many parking lots are dedicated to your event and their size, you may need maps to enable crews to navigate all the sites and count vehicles, by type, at the peak period of your event each day. If maps are required, they might be divided into "count zones". A count zone is an area in which a counter would count the vehicles during the peak attendance period. The size of the zone would be determined by whether a counter or team of counters could cover the area within approximately one hour.

An example of a map with count zones is provided in Figure 7 (see following page). In this example, Lot 1 has been divided into six evenly sized zones and Lot 2 has been divided into four evenly sized zones. Both of these lots are designed for cars (including pick-up trucks, SUVs, etc.). Lot 3, on the other hand, is dedicated to oversized vehicles such as school or tour busses, RVs or motorhomes, etc. You would develop site maps and count zones that reflect the particular characteristics of your event.

Figure 7: Parking Lot Site Map



(1) Counting at the peak time

Since vehicles can only be in one place at a time, the estimates of vehicles in each parking lot zone can be added together as long as they are counted *at the same time*. This "time" should coincide with what you expect to be the "peak" attendance period at your event.

We recommend that the peak counting period be no longer than one-hour in duration. By determining how much area counters must cover in a one-hour period, you can estimate the number of counters you require to obtain counts for *all* parking areas during the *same* one-hour peak period.

In some circumstances, estimation procedures can be used so counters do not have to "walk" the entire parking area or their zone during the one-hour period. For example, if you know that a parking area is full (at capacity) and know the capacity of this area in advance, you can use this "capacity count" as your base estimate. You may, however, have to take a sample of the vehicles in the area to determine what proportion are cars, busses or other larger vehicles. You would use the proportions from your "sample" of the vehicles to estimate how many of the vehicles in the area are cars, trucks, RVs, busses, and the like.

A sample tally sheet for Method 3 vehicle counts is provided below.

Sample Tally Sheet for Parking Lot Counts

Stint Number: _____ Counter's name: _____
Lot/Count Zone Name _____
Time count starts: _____ Time count ends: _____

	Passenger vehicles (cars, trucks, SUVs)	School buses	Tour buses	Motorcycles
To help counter, use names or landmarks to identify areas/rows within each zone				
Row 1				
Row 2				
Row 3				
Row 4				
Etc.				
Total (sum of all rows, by vehicle type)				

(2) Special calculations for estimating attendees using peak period vehicle counts

Since people can only park in one place at a time, the estimates of vehicles at the same time in *different lots or zones* can be added together to produce a peak vehicle count for a single day. You cannot, however, add vehicles counted on *different days* of your event because the *same* vehicle (people) could be counted more than once.

From the peak period vehicle counts, you will know how many vehicles there were at your event at one particular time (the "peak" time on a particular day). What about the vehicles that brought people before or after this particular time period? Special calculations are required to estimate the number of vehicles/occupants who may have been at your event more than once. These calculations are described in the following sections.

5. Using tally data to adjust vehicle counts for total attendance estimates

a) All methods require tally information for adjustments

Regardless of whether you used Methods 1, 2, 3 or 4 to estimate vehicle counts, additional information is required from the tally survey to estimate total attendance. The steps and additional questions required for each method are described in the following sections.

The modifications required to the tally questions for peak period vehicle counts are described in Section 6, below. For more details about the tally question list, see Appendix VI.

b) Number of people represented by vehicle counts

If you have not obtained estimates of the number of people represented by each vehicle you counted in parking lot counts (occupants), you would estimate this number using information obtained from tally questionnaire data (see Q.7).

In the modified version of the tally survey, you would likely include questions to provide information on the following:

- type of vehicle used,
- parking lot used,
- number of occupants of the vehicle, and
- number of different households represented by the number of occupants.

If yours were a multi-day event, you would also determine the parking behaviour of tallied parties on *other* days of the event to obtain **unduplicated** counts (see below).

c) Number of people who were at your event more than once (duplication)

Since your objective is to identify how many *unique* or *unduplicated* attendees came to your event, you must take special steps to eliminate people who may be represented in your vehicle counts (and would, therefore, be counted) more than once.

The arithmetic procedures for adjusting attendee counts for potential duplication are described in Sections 10, 11 and 12 of this chapter.

d) Excluded groups of attendees

If you do not have a separate parking area for staff, vendors, volunteers, and other groups who should be excluded from an estimate of the tourism-related economic impact of your event, you will rely on tally interview responses to provide the proportion of all vehicles/occupants that should be excluded because they represent these people.

6. Additional questions for the tally questionnaire

Depending on which method you select to count vehicles and/or occupants of vehicles in parking lots, you require modifications to the "core" tally questionnaire. The new questions and their role in the estimation process are described in the following sections.

Question 7 Tally Questionnaire, Modified for Parking Lot Counts

Special questions for multi-day events:

-a) IF MULTI-DAY EVENT: NAME EVENT lasts for X days. Over the full course of the event, on how many different days have you/do you plan to attend, counting today's visit?

WRITE IN NUMBER OF DAYS

DON'T KNOW/CAN'T ESTIMATE [ ]

Additional questions for Method 3:

-b) Were you/do you plan to be at NAME EVENT on NAME DAY at NAME TIME(S) [DURING WHICH PARKING LOT COUNT(S) WAS/WERE /WILL BE TAKEN]? [IF MULTI-DAY EVENT, SAY: on NAME EACH DAY? REPEAT FOR EACH DAY, AS REQUIRED. **SEE ALTERNATIVE BELOW IF MULTI-DAY/MULTI-VENUE PARKING LOT COUNTS**

	DAY 1 at TIME __	DAY 2 at TIME __	DAY 3 at TIME __	Etc.
Yes	[ ]	[ ]	[ ]	[ ]
No	[ ]	[ ]	[ ]	[ ]
DON'T KNOW	[ ]	[ ]	[ ]	[ ]

-c) **ADDITIONAL QUESTION IF MULTI-VENUE PEAK PERIOD PARKING LOT COUNTS** When you came/when you plan to come to NAME EACH DAY/TIME RECORDED AS "YES" IN –b), in which parking lot did you/do you plan to park? [READ LIST AND MARK APPROPRIATE RESPONSE FOR EACH ITEM]. THE LIST WILL INCLUDE THE NAME, LOCATION OF PARKING LOTS AVAILABLE AT PEAK PERIODS.

	PARKING LOT	DON'T KNOW
DAY 1 at TIME __	A [ ] B [ ] C [ ]	[ ]
DAY 2 at TIME __	A [ ] B [ ] C [ ]	[ ]
DAY 3 at TIME __	A [ ] B [ ] C [ ]	[ ]
Etc.	A [ ] B [ ] C [ ]	[ ]

-d) And which type of vehicle did you/do you plan to use when you parked/plan to park in NAME EACH LOT and DAY/TIME RECORDED AS "YES" IN –c)? Was it a . . . READ LIST

	Vehicle type				
	Car, van or pick-up truck	Motorhome or RV	Bus	Motorcycle	OTHER (WRITE IN)
DAY 1					
LOT A	[ ]	[ ]	[ ]	[ ]	_____
LOT B	[ ]	[ ]	[ ]	[ ]	_____
LOT C	[ ]	[ ]	[ ]	[ ]	_____
DAY 2					
LOT A	[ ]	[ ]	[ ]	[ ]	_____
LOT B	[ ]	[ ]	[ ]	[ ]	_____
LOT C	[ ]	[ ]	[ ]	[ ]	_____
DAY 3					
LOT A	[ ]	[ ]	[ ]	[ ]	_____
LOT B	[ ]	[ ]	[ ]	[ ]	_____
LOT C	[ ]	[ ]	[ ]	[ ]	_____
Etc.					

-e) FOR EACH VEHICLE TYPE IN –d), ASK: And how many people in total came to the event/plan to come to the event on NAME DAY in your NAME VEHICLE? RECORD NUMBER OF OCCUPANTS IN VEHICLE FOR EACH VEHICLE ON EACH DAY.

	Number of Occupants per Vehicle				
	Car, van or pick-up truck	Motorhome or RV	Bus	Motorcycle	OTHER (WRITE IN)
DAY 1					
LOT A	_____	_____	_____	_____	_____
LOT B	_____	_____	_____	_____	_____
LOT C	_____	_____	_____	_____	_____
DAY 2					
LOT A	_____	_____	_____	_____	_____
LOT B	_____	_____	_____	_____	_____
LOT C	_____	_____	_____	_____	_____
DAY 3					
LOT A	_____	_____	_____	_____	_____
LOT B	_____	_____	_____	_____	_____
LOT C	_____	_____	_____	_____	_____
Etc.					

-f) ASK ONLY IF MORE THAN ONE OCCUPANT IN VEHICLE: How many *different* households were represented in the vehicle?

One (just your household/all from same household) [ ]

OTHER (WRITE IN NUMBER OF HHs, INCLUDING RESPONDENT'S HOUSEHOLD) _____

IF ONE-DAY SINGLE PARKING LOT EVENT:

-a) In which type of vehicle did you come to this event today? Was it a . . . READ LIST?

Car, van or pick-up truck	[ ]
Motorhome or RV	[ ]
School or tour bus	[ ]
Motorcycle	[ ]
Other (WRITE IN)	_____
DON'T KNOW	[ ]

-b) And how many people in total came to the event today in your NAME VEHICLE? RECORD NUMBER OF OCCUPANTS IN THE VEHICLE.

	TOTAL OCCUPANTS
Car, van or pick-up truck	
Motorhome or RV	
School or tour bus	
Motorcycle	
Other (Write in)	
DON'T KNOW	

-c) ASK ONLY IF MORE THAN ONE OCCUPANT IN VEHICLE: How many *different* households were represented in the vehicle?

One (just your household/all from same household) [ ]

OTHER (WRITE IN NUMBER OF HHs, INCLUDING RESPONDENT'S HOUSEHOLD) _____

7. Tally interviewers

On-site tally interviewers have several key roles to play in the survey process. These interviewers are required to:

- obtain basic information for identifying the proportion of attendees who are *locals* and *tourists;*
- obtain information to enable you to adjust attendance estimates from parking lot counts in several ways:
    - identify the proportion of attendees who have visited the site more than once and might have been captured in more than one "peak period" count and to estimate those who were *not* on the site during the "peak period" count (for multi-day and/or multi-venue events);
    - identify the number of attendees represented by each parked vehicle (if occupants per vehicle was not collected as part of the parking lot counting process); and
    - identify the proportion of attendees that should be *excluded* from the parking lot count estimates of attendance (see below).
- distribute the Attendee Survey in order to capture critical characteristic and spending information for a tourism economic impact estimate.

8. Adjusting "counts" to "tally" data for *excluded* attendees

Some of the vehicles or occupants you counted may be staff members, merchants, participants or volunteers. Generally, these types of attendees are excluded from tourism economic impact assessments.

If any types of attendees are to be excluded from your final estimates, you will have to identify how many *excluded attendees* came to your event and remove them from your "counts". For this reason, the Tally Questionnaire includes a question about which type of entrant each person is. You would use this information to make the appropriate adjustments when you weight and project your tally information.

9. Estimating total attendance, *tourists* and *locals*

The basic "count" of attendees at your event is derived from the combination of parking lot counts and the information you capture in the tally questionnaire for a sample of attendees. Once you have these basic counts, you will follow the guidelines provided in the following section to utilize tally information to adjust the counts and to estimate the number of *tourists* and *locals* at your event. The estimates of tourists and locals will be used in conjunction with Attendee Surveys to develop the inputs for a tourism economic impact model.

10. A weighting and projection plan for parking lot counts

a) What is a weighting and projection plan?

A **weighting and projection plan** permits you to generalize from your *sample* to *all* attendees at your event. It is based on a sequence of arithmetical steps, using information you collected and compiled from the **parking lot counts** and **attendee tallies** conducted over the duration of the event.

b) Why you have to weight & project counts and tallies

Now that you have completed your tally and vehicle/occupant counts, what do you know about your attendees?

- You know numbers of vehicles/occupants at your event, in total or during peak times (depending on which method you used); and
- You know the type of vehicle, parking lot, number of occupants, type of attendee (e.g., local, tourist, staff, merchant, etc.), party composition and place of residence of a portion of the people who attended your event at particular times/locations (the portion you "tallied").

You need the same information you collected during counting and tallying for *all* the attendees who came to your event. How do you get this information for *all* attendees? You adjust your attendee estimates and tally data so that you represent all of your attendees. To do this, you must develop and implement a weighting and projection plan.

c) Some definitions

Following are several important definitions you will need for weighting and projection.

Record-by-record: a "record" is all the information collected from a single respondent. Thus, it would be a single "row" on the Tally Sheet or a completed Attendee Survey (questionnaire).

Household Travel Party: a household travel party, household party, or "party" is all the people travelling together and/or who came to the event together and who live in the same permanent residence. Because spending information is collected at the "household party" level but

sampling and counting is done at the "person" level, for some parts of the weighting and projection process, it is necessary to convert from "parties" to "people".

The reason spending information is collected at the "household party" level is that an individual respondent may not have personally spent money on a spending category (e.g. gasoline, vehicle repairs, vehicle rental, accommodation) but someone else in the household group travelling together ("party") would have spent money *on behalf* of this individual. By asking about *all* the money spent on various items by *everyone* in the household travel party, spending estimates are more accurate.

Vehicle Occupants: total number of reported or counted *occupants* per vehicle (irrespective of whether they all live in the same household as the tally respondent).

Vehicle Household Party: total number of reported or counted *occupants* per vehicle who live in the same household as the tally respondent.

Private vehicles: private vehicles represent all vehicle types excluding large commercial vans and school and/or tour busses. Thus, private vehicles include cars, trucks, SUVs, motorhomes, RVs, bicycles and motorcycles.

11. A step-by-step description of the weighting and projection process

Since the exact nature of calculations to weight and project tally information to parking lot counts will vary based on the exact circumstances of your event (method selected, number and type of tally stints, etc.), we provide an example of the steps required. You will need to customize the process to meet your particular needs. Note: if you selected Method 3 (peak period vehicle counts), many of the steps you must follow are the same as those described for aerial photos.

Assumptions in this example:

- You conducted **tally interviews** during six stints, representing the 36 possible stints (different zones and times) during your event;
- You counted vehicles entering your parking lot on a census basis (methods 1 or 2) or you undertook two peak period vehicle counts (method 3), one on Day 1 and a second on Day 2 of your two-day event.

The process described here assumes that a simple random sampling approach was used. If you use a stratified sample for your tally interviews, you would repeat the steps for a simple random sample, as described here, for *each* stratum in your sample. Before arriving at your final estimates, you would assign the appropriate weight to the estimates for each stratum, such that the total of all your strata equals the total number of attendees.

a) Steps in the weighting and projection process

The following steps for weighting and projecting tally information to *all* attendees at an ungated event will require customization, depending on the particular characteristics of your event.

Step 1: Convert tallied "party" to "people", on a record-by-record basis

Step 2: Estimating gross attendance using tally and parking lot counts

Step 3: Adjust tally and vehicle occupants for exclusions

Step 4: Adjust attendance counts for duplication

Step 5: Adjust tally respondents for duplication

Step 6: Expand "stints" to total event

Step 7: Expand weighted tallied persons to adjusted attendee counts

b) Step 1: Convert tallied "party" to "people", on a record-by-record basis

A "household party" is the measurement unit for the tally whereas a vehicle is the measurement unit for parking lot counts. Thus, you need to convert vehicle counts to vehicle household parties and individuals in order to match tally information to your estimate of event attendance.

The first step is to obtain a count of all the people tallied during a specific stint. You do this by summing all the *people* represented by the household parties tallied in each stint. This should be done on a stint-by-stint basis, adding up all the people represented by each household party that was interviewed during the tally process.

For example, if you tallied 9 parties during a stint, you would add up the number of people represented by each of these 9 parties. In this example, the nine parties would represent 31 people.

Remember that you need to ensure that your projections from tallied *households* to tallied *people* **match** the age groups you have counted in whatever approach you have selected for counting attendees. For example, if you included only people 18 years of age or over in your counts, you would calculate total household party members for each tally record only for individuals 18 years of age or over.

Stint 1 (S_1)	# of People in Party from Tally Form
Tally Record #	
0001	3
0002	4
0003	1
0004	2
0005	6
0006	3
0007	2
0008	2
0009	8
Repeat for each Tally Record	
Total	250
Repeat for Each Stint	

c) Step 2: Estimating gross attendance using tally and parking lot counts

If you counted occupants using a census of your parking lots, you would not need to go through Step 2. Instead, your occupant estimate is the figure you would use for "gross attendance".

If you are using vehicle counts, you will rely on responses to the tally questionnaire to help you estimate gross attendance.

In the tally questionnaire, you determine how many occupants were in the vehicle used to get the household party to the event and how many different household parties came to your event in the *same vehicle.* Because each *household party* has a chance of being interviewed as part of the tally process, you must take this potential into account. Otherwise, two different tallied households could be reporting the same number of total occupants in a vehicle and you would over-estimate your gross attendance. The steps for adjusting the tally information are described in the following sections.

A Special Note About Bus Occupants: Because consumers are not necessarily very good at estimating the total number of people on a bus, we recommend that you obtain an estimate of gross attendance from **bus drivers or tour/bus companies** instead of using this information from tally questionnaires.

If you counted vehicles rather than "occupants of vehicles" in your parking lot counts, you need to covert vehicles to members of household travel parties (occupants). The simple way to convert vehicle counts to people is to calculate the average number of household party members (people) reported to have come to the event together in a single vehicle, by major vehicle type (cars, motorcycles).

You would multiply your vehicle counts (by type) by the average number of people per vehicle.

- Sum total occupants in vehicle for all "car, pick-up, SUV" from Q.7 in tally records (adjusted for multiple households per vehicle, if required).
- Divide by total number of "car, pick-up, SUV" tally records (type of vehicle used on the day for which you are estimating, from Q.7, tally questionnaire).
- Multiply by count of all "car, pick-up, SUV" vehicles from parking lot count.

Result: total number of occupants represented by all "car, pick-up, SUV" vehicles from parking lot counts.

12. Estimating gross attendance

a) Estimating gross attendance for private vehicles, methods 1, 2, 4

Methods 1, 2, 4: If you counted vehicles instead of occupants or have total vehicle estimates from parking fees (and no occupant data):

For cars, pick-ups, SUVs: use tally responses to estimate total occupants per vehicle. To adjust this estimate for multiple households travelling in the same vehicle, you would divide the total number of occupants by the number of households represented by these people from Q.7 in the tally questionnaire. For example, if there were 6 occupants representing two household parties, the "adjusted" number of occupants represented by this tally record would be 3, as follows:

6 occupants ÷ 2 household parties = 3 adjusted vehicle occupants.

For motorcycles: use tally responses to estimate adjusted occupants per vehicle, as above.

For busses: obtain passenger counts from tour operators or bus companies (estimates of a bus occupancy is generally not reliable from consumers).

Tally Stint	# of tallied people in private vehicles from tally	# of private vehicles from tally	Household occupants per private vehicle
Day 1			
S_1	250	100	2.5
S_2	215	190	1.1
S_3	84	30	2.8
Total	549	320	1.7
Day 2			
S_4	100	37	2.7
S_5	134	71	1.8
S_6	125	64	1.9
Total	359	172	2.0
Total Days 1 + 2	**908**	**492**	**1.8**

In this example, tally records represented 908 people, adjusted for number of households in each vehicle, who parked a car, pick-up or SUV.

- These people reported that they came in 492 vehicles.
- Thus, tally information represents 1.8 household party members per vehicle (average).
- From your "census" of vehicles, you counted 3,000 cars, trucks and SUVs.
- From the tally and count estimates, you would assume that the parking lot represented approximately 5,400 attendees in this vehicle type.

Average household party members per vehicle * total counted vehicles = total gross attendees in private vehicles

b) Estimating gross attendance, method 3

Use the calculations described above for Methods 1 and 2 *except* only include tally information for attendees who claimed to have **been on-site during the peak counting period and parked in the peak lot.** You would identify these people by their responses to the additional questions you ask in Q.7 of the tally. Then compile records for all tallied parties who claim that they parked in the specific lot at the time the peak count was done (see example below). These procedures would be performed *independently* for each peak parking lot count (in this example, there were two peak counts).

Tally Stint Records Reporting Use of Lot A During Peak Count 1	# of tallied people in private vehicles from tally	# of private vehicles from tally	Household occupants per private vehicle
Day 1			
S_1	250	100	2.5
S_2	215	190	1.1
S_3	84	30	2.8
Total Day 1	549	320	1.7
Tally Stint Records Reporting Use of Lot A During Peak Count 2			
Day 2			
S_4	100	37	2.7
S_5	134	71	1.8
S_6	125	64	1.9
Total Day 2	359	172	2.0

- **Day 1 Peak Count Gross Attendance Estimate**
    - In this example, tally records represented 549 people who parked a car, pick-up or SUV during the peak vehicle count on Day 1.
    - These people reported that they came in 320 vehicles (Day 1).
    - Thus, tally information represents 1.7 household party members per vehicle (average).
    - From your "census" of vehicles, you counted 3,000 cars, trucks and SUVs during the peak vehicle count on Day 1.
    - From the tally and count estimates, you would assume that the parking lot represented approximately 5,100 attendees in this vehicle type.
- **Day 2 Peak Count Gross Attendance Estimate**
    - Tally records represented 359 people who parked a car, pick-up or SUV during the peak vehicle count on Day 2.
    - These people reported that they came in 172 vehicles (Day 2).
    - Thus, tally information represents 2.0 household party members per vehicle (average).
    - From your "census" of vehicles, you counted 4,000 cars, trucks and SUVs during the peak vehicle count on Day 2.
    - From the tally and count estimates, you would assume that the parking lot represented approximately 8,000 attendees in this vehicle type.

Average party members per vehicle at peak count lot/time * total counted vehicles at peak count lot/time = total gross attendees for each peak count

c) Compiling gross attendance estimates – all methods

To obtain the total number of attendees for all vehicle types, you would repeat the process above for motorcycles and obtain an estimate of the total number of people brought to your site on busses from bus and/or tour companies.

The total gross attendance estimate for this event would be the sum of your estimates of attendees in cars, motorcycles and busses.

	Method 1, 2, 4	Method 3	
		Day 1	Day 2
Private vehicles (calculated as above)	(A) = 5,400	(A) = 5,100	(A) = 8,000
Motorcycles (calculated as above)	(B) = 560	(B) = 560	(B) = 560
Busses (from bus companies/other secondary sources	(C) = 2,040	(C) = 2,040	(C) = 2,040
Total Gross Attendance	(A + B + C) = 8,000	(A + B + C) = 7,700	(A + B + C) = 10,600

d) Step 3: Adjust tally and occupant counts for exclusions

The following table displays the number of tally completions you achieved in each of your six stints, converted to *people* as per Step 1, above.

Stint	# of tallied people
Day 1	
S_1	250
S_2	215
S_3	84
Total	549
Day 2	
S_4	100
S_5	134
S_6	125
Total	359
Total Days 1 + 2	908

Some people in your estimate of total attendance may be *excluded attendees.* Excluded groups might include merchants, paid or unpaid event staff including volunteers, representatives of the media, etc. If you are conducting a tourism economic impact assessment, these individuals must be removed from the tallies.

Generally the people who will be excluded from the final counts are *local* but may be people from outside your community (participants and/or merchants who come to sell food, amusement rides, and retail products at the event). Because the proportions of excluded attendees are likely to vary by place of residence, it is recommended that you adjust for exclusions separately for each major "place of residence" category (see example below).

In some cases, you may not need to identify these excluded groups (volunteers, staff, vendors, etc.) in your tally and go through these special calculations to "take them out" of your estimates because you have other ways to estimate how many people the excluded groups represent.

For example, event organizers may have separate parking areas for "excluded groups". As long as these vehicles are not included in parking lot counts, no special steps are required to exclude them from attendee estimates (you do, however, need to exclude them from your tally data).

The first step in adjusting for excluded groups relies on responses to tally interviews.

Example for Excluding Vendors, Staff, Performers, Etc.						
	Tally Stint Total	% Merchants	% Participants/ Performers	% Staff/ Volunteers	Total Excluded	Total Attendees for Projection Purposes
	(A)	(B)	(C)	(D)	(E)	
					(B+C+D) * A = E	A – E
Stint	#	%	%	%	#	#
S_1	**250**					**237**
Local	175	1%	2%	4%	12	163
Non-local – Same Province/State	28	1%	-	-	0.28	28
Other Domestic	25	-	-	-	0	25
Foreign Countries	22	-	-	-	0	22
S_2	**215**					**211**
Local	145	3%	1%	6%	14	131
Non-local – Same Province/State	50	2%	2%	0	2	48
Other Domestic	12	0	0	0	0	12
Foreign Countries	8	0	0	0	0	8

Excluded attendees must be removed from both the *tally records* and the *vehicle occupant counts.* This process is conducted in two stages:

Stage 1: Calculate and remove exclusions, as above, on a stint-by-stint basis;

Stage 2: Apply the proportion of *all* tally respondents (people) who are excluded to your gross attendance estimate (if using method 3, you would repeat this process for each peak count lot/ time period).

If you were using methods 1, 2 or 4, you would calculate the proportion of excluded groups for each stint and apply the final estimates to your total gross attendance estimate.

Stage 1: Remove exclusions on a stint-by-stint basis			
Stint	# of tallied people	# of tallied people, adjusted for exclusions	Factors for adjusting Day 1 & Day 2 Peak Period/Vehicle Occupant Counts
Day 1			
S_1	250	237	
S_2	215	211	
S_3	84	80	
Total	(A_1) 549	(B_1) 528	$B_1 \div A_1 = 96\%$
Day 2			
S_4	100	97	
S_5	134	131	
S_6	125	123	
Total	(A_2) 359	(B_2) 351	$B_2 \div A_2 = 98\%$
Total Days 1 + 2	(A_3) 908	(B_3) 879	$B_3 \div A_3 = 97\%$

Gross Attendance * adjustment for exclusions = Total Adjusted Counts (exclusions)

Stage 2: Apply Exclusion Proportion for Daily Stints to Gross Attendance			
	Gross Attendance Estimate		
	Methods 1, 2, 4	Method 3	
		Day 1	Day 2
Gross attendee count	8,000	7,700	10,600
Adjustment for exclusions	0.97	0.96	0.98
Attendance adjusted for exclusions	7,760	7,392	10,388
		(a_1)	(a_2)

e) Step 4: Adjust attendance counts for duplication

You need to determine how many of the attendees represented by parking lot counts may have been counted more than once (duplication). This step applies to

- Multiple day events using methods 1, 2, 4;
- Events in which two or more peak counts were made at *different* times.

If only one peak count was done, this step would be ignored. Similarly, the step would be ignored if all peak counts were taken **at exactly the same time** in different locations since an attendee's vehicle could *not* be in more than one lot at the same time.

If required, this step is performed on a stint-by-stint basis, using responses from Question 7 of the Tally Questionnaire where you asked people to indicate their actual or planned attendance pattern at the event and their parking behaviour (see relevant parts of Q.7).

In this example, Day 1 tallied attendees would have been asked if they planned to attend the event on Day 2. Day 2 tallied attendees would have been asked if they attended the event on Day 1.

To estimate the duplication rate for each day, you would calculate the level of duplication for each day of the event, adding together all tallies completed on Day 1 and those from Day 2 who say they attended on Day 1 at Q.7. This sum is divided by all tallied people over the two days to obtain the level of duplication for Day 1 (w_1). Analogous steps are required for Day 2 to obtain the level of duplication for Day 2 (w_2).

Note: if you have multiple parking lots and there is an opportunity that the *same vehicle* could have parked in multiple lots on the same day, you would perform these calculations for each Day/Lot combination.

	(w_1)	(w_2)
Went/planned to attend (from Q. 7 of Tally Questionnaire)	Day 1	Day 2
Stint		
S_1	237	65
S_2	211	102
S_3	80	55
S_4	45	97
S_5	80	131
S_6	51	123
Total	704	573
Proportion of all Tallies (879)	80%	65%

These proportions are applied to the *final adjusted counts (exclusions)*, produced in Step 3:

Day 1 Estimate, excluding staff, vendors, etc. = 7,392 (a_1)

Day 2 Estimate, excluding staff, vendors, etc. = 10,388 (a_2)

You would calculate two different estimates of the total crowd, as described below and use the average of these two as your estimate of total attendees. (If your event ran for more than two days, you would go through the following steps for each day/each parking lot count.)

Estimate #1: Total Attendance (N) is the total visitor population on Day 1 (adjusted for exclusions) plus the proportion of Day 2 attendees (adjusted for exclusions) who did NOT attend on Day 1.

$N_1 = a_1 + [a_2 * (1- w_2)]$

$N_1 = 7{,}392 + [10{,}388 * (1-0.65)] = 11{,}028$

Estimate #2: Total Attendance (*N*) is the total visitor population on Day 2 (adjusted for exclusions) plus the proportion of Day 1 attendees (adjusted for exclusions) who did NOT attend on Day 2.
$N_2 = [a_1 * (1- w_1)] + a_2$
*N_2 = [10,388 * (1-0.80)] + 7,392 = 9,470*

Average of Estimate #1 and #2
(11,028 + 9,470) ÷ 2 = 10,249.

The estimate of total *unique* attendees at your event is estimated to be 10,249.

If *only* peak counts or other parking lot counts were used to estimate attendance, 10,249 would be your final attendance estimate. If, however, you used other measures to estimate attendance at some portions of your event, you would have to make the necessary adjustments to these additional estimates (using weighting/projection techniques appropriate to them) and then undertake a process similar to the one described above to ensure against duplication from the parking lot count estimate and estimates from other portions of your event.

f) Step 5: Adjust tally respondents for duplication

You have now obtained an estimate of your *unique* attendees, taking into account the possibility that some people may have come to your event on more than one day. You not only have to adjust your "counts" for potential duplication, but you also have to take into account the fact that individuals interviewed in your tally survey who come to your event on more than one day have the possibility of being included in your sample *more than one time.* The characteristics of the frequent visitor might be quite different from the once-only visitor and each should have an equal chance of selection in your sample. To adjust your tally data, you also use responses to Question 7, on a record-by-record basis.

Record-by-record, you would divide the number of tallied people by the number of opportunities (days) they might have been interviewed (based on the number of days they attended the event and the days on which you were conducting tallies).

As shown in the accompanying table, a party with two people who came to the event on only one day would count as two people (2 people ÷ 1 day = 2 people). A party with three people that came on two different days would, however, have twice the chance of being included in your sample as a similar party that came only on one day. Thus, this party would represent 1.5 people in your final estimates (3 people ÷ 2 day = 1.5 people).

S_1	Tallied Persons	Days Attended (Q.7)	Adjusted Tally Persons
0001	2	1	2
0002	3	1	3
0003	3	2	1.5
0004	4	1	4
0005	2	2	1
Repeat for each record			
Total S_1	237		118
S_2			
0001	1	2	0.5
0002	1	1	1
0003	2	1	2
0004	2	2	1
0005	5	1	5
Repeat for each record			
Total S_2	211		102

g) Step 6: Expand "stints" to total event

Your stints will have to be adjusted to represent time periods and locations in which tallying did and did *not* take place. Now that you know how many people each sampled stint should represent ("Adjusted Tally Persons"), you must adjust the sample to the full event. You can adjust your stint counts to the total in different ways, depending on how you sampled and how much information you have available.

In the simplest case, you could use the ratio of the number of selected stints to total possible stints as the adjustment factor. In this example, there were 36 possible stints and six were conducted. Thus, in our example, the stint adjustment would be:

Total stints (36) ÷ Sampled stints (6) = Stint Weight (6.0)

The stint weight should be multiplied by the Adjusted Tally Persons to provide the total attendees represented by each tally stint. In the following example, all stints have equal weight.

S_1	Tallied Persons	Days Attended (Q.7)	Adjusted Tally Persons	Stint Weight	Adjusted Tallied Persons
0001	2	1	2	6	12
0002	3	1	3	6	18
0003	3	2	1.5	6	9
0004	4	1	4	6	24
0005	2	2	1	6	6
Repeat for each record					
Total S_1	237		118	6	708
S_2					
0001	1	2	0.5	6	3
0002	1	1	1	6	6
0003	2	1	2	6	12
0004	2	2	1	6	6
0005	5	1	5	6	30
Repeat for each record					
Total S_2	211		107	6	645

The steps described above should be conducted for each record to produce an adjusted tallied person count for each stint. In this example, there are six stints.

	Tallied Persons	Adjusted Tally Persons	Stint Weight	Weighted Tallied Persons
Total S_1	237	118	6	708
Total S_2	211	107	6	645
Total S_3	131	77	6	465
Total S_4	97	55	6	332
Total S_5	80	47	6	282
Total S_6	123	59	6	353

h) Step 7: Expand weighted tallied persons to adjusted attendee counts

To arrive at the final weighted, projected data, each adjusted tally person must represent a *share* of the total adjusted attendees **from the parking lot counts** (see Step 4). In our example, total adjusted attendance was estimated to be 10,249. Each tally record will be assigned a portion of this attendance estimate such that, when all the weights and projections are applied, all tallied people sum to 10,249. While the table below displays this step for each stint as a whole, the procedure must be performed on a record-by-record basis.

	Weighted Tallied Persons	Proportion of Total Tallied Persons	Attendees to be distributed to individual records in stint	Individual Attendee Adjustment Weight (per record)
Total S_1	708	25%	2,562	3.62
Total S_2	645	23%	2,357	3.65
Total S_3	465	17%	1,742	3.75
Total S_4	332	12%	1,230	3.70
Total S_5	282	10%	1,025	3.63
Total S_6	353	13%	1,332	3.77
Total	2,782	100%	10,249	

Thus, on a record-by-record basis, the calculation for weighting and projecting tallied attendees such that they represent the total number of unique attendees at your event would be as follows (note: tally records in which all people in the household party are in *excluded groups* should be eliminated from the weighting/projection process):

[(Household Party Tally Record * Number of people in party) ÷ Number of days at event] * Stint Weight * Individual Attendee Adjustment Weight (from adjusted parking lot counts)

13. Estimating attendance by place of residence

Now that you know how many attendees each party in your tally represents, you are ready to estimate the proportion of attendees from various origin groups. This is a critical element in generating reliable inputs for economic impact estimation. In other words, these are the numbers you went to all the trouble to obtain by sampling, counting vehicles and their occupants, tallying, weighting and projecting.

Once you have calculated the total attendees for each stint, you would determine how many of the projected and weighted tallied individuals are local residents, non-locals from other parts of the community's province or state, from other provinces or states, and from foreign countries.

These ratios are required in order to estimate how much spending at your event derives from the local community and how much is coming in from other places. As shown below for 2 sample stints, the number of attendees from each origin in each stint is multiplied by all the weights to arrive at the final ratios.

Once you have converted your stint parties to people, you would calculate the share each stint represents of total attendance for each origin group included in your tally sheet.

Calculation for *each* place of origin:

Adjusted Tallied Persons by Place of Origin * Stint Weight * Individual Attendee Adjustment Weight (from adjusted parking lot counts)

Stint		Tallied Attendees	Adjusted Tally Persons	Stint Weight	Individual Attendee Adjustment	Weighted, Projected Attendees
S_1	**Total**	237	118	6	3.62	2,563
S_1	Local	178	89	6	3.62	1,933
S_1	Non-local – Same Province/State	34	18	6	3.62	391
S_1	Other Provinces/ States	15	7	6	3.62	152
S_1	Other Country	10	5	6	3.62	109
S_2	**Total**	211	107	6	3.65	2,343
S_2	Local	148	75	6	3.65	1,643
S_2	Non-local – Same Province/State	32	16	6	3.65	350
S_2	Other Provinces/ States	21	11	6	3.65	241
S_2	Other Country	11	5	6	3.65	110
	Repeat for each stint					

Using only two stints for this example, of the 4,906 weighted, projected attendees at the event, 73% were residents of the local community, 15% came from other parts of the province or state, 8% live in other provinces or states, and 4% live in foreign countries. When you go through these procedures, you would calculate the total visitation by origin for *all* stints.

Weighted, Projected Visitors, Stints 1, 2 by Place of Residence				
Place of Residence	Stint 1	Stint 2	Total	Percent
Total (All)	2,563 +	2,343	= 4,906	100%
Local	1,933 +	1,643	= 3,576	73%
Non-local – Same Province/State	391 +	350	= 741	15%
Other Provinces/ States	152 +	241	= 393	8%
Other Country	109 +	110	= 2194	4%

14. What do you do with the ratios by place of residence?

You will apply the ratios by place of residence to the information you collect on spending and other characteristics of the trip that brought the person to the community and the event. In turn, these ratios will enable you to calculate total spending at the event and in the community and to determine how much of this spending is *incremental* because the event attracted *tourists* to the community.

C. PARADE COUNTS

1. Using parade counts to estimate attendance: an overview

In this section you will find steps required to estimate total attendance at your event if you elect to use a parade count for part or all of the estimation process. This approach is appropriate *only* for events in which organizers know that the parade represents "peak" attendance for a "cross section" of attendees (see below for more explanation).

If, for example, your event has a children's parade but also offers many adult-oriented activities, a parade count would likely over-estimate the number of attendees with children and under-estimate the number of adult-only attendee parties at your event. When considering this option, you should think about whether the parade is likely to attract a particular type of attendee or if it would include a *cross section* of attendees (all types of attendees in their correct proportions for the event as a whole). If the parade is unlikely to represent a cross section of attendees, a parade count is not a good tool for estimating total attendance.

To undertake parade counts, you should divide the parade route into segments and assign counters to each segment in a systematic manner. Knowledge of the parade route and locations where spectators are likely to cluster is required.

You will need the following components to estimate attendance using a parade count approach:

- A detailed site map of the parade route
- Identified "count zones"
- At least two (2) "counters" per zone/stint
- Calculations for counting attendees
- A stint sampling plan
- Special questions on tally questionnaire
- Tally stint sampling plan
- Tally interviewers
- Attendee surveys

2. Map of the parade route

Prepare a detailed parade route map, with "grids" clearly marked. These "grids" will be the count zones for your **stint sampling plan for attendee <u>counts</u>**.

Note that you will also require detailed event maps (see Figures 4, 5, 6, pages 62, 68, 69 respectively) for developing a stint sampling plan for tally interviewers and recruitment of attendees for the attendee survey.

3. Counters per zone (stint)

We recommend that individuals assigned the task of "counting" attendees within a zone work in "pairs" to increase the accuracy of your estimates. Depending on the size and population density of each counting zone, you may require multiple "pairs" of interviewers to cover the area.

Each person in the pair would count attendees in the same stint, independently. The counts for each member of the pair would be "averaged" to arrive at an estimate of attendance during this stint. By obtaining independent estimates of the same phenomenon (number of attendees in a zone), you are likely to obtain a more accurate estimate.

4. Extrapolating from counted zones to all zones

Standard calculations for adjusting "sampled stints" to total stints are used to extrapolate estimates of parade attendance from "count zones" to the full parade.

These attendance estimates will be further adjusted using information from the tally interview to eliminate excluded groups such as staff, volunteers, and vendors and to take into account people who attended your event but did *not* attend the parade.

5. Using tally data to adjust for people who were not at the parade

You will estimate how many people *other than those at the parade* attended your event using results of a modified Tally Questionnaire (see Question 7, modified for parade counts) and your estimates of parade attendance. In the modified version of the tally survey, you will ask people if they were at the parade when you did your counts.

If it were a multi-day event, you would also determine at what other times attendees were at your event. You will use this information to adjust your counts so that they:

- Include people who came to the event but were not counted at the parade; and
- Adjust for people who came to the event on more than one day, to obtain **unduplicated** counts.

The modifications required to the tally questions for parade counts are described below. For more details about the tally question list, see Appendix VI.

6. Calculating unduplicated attendance

Since your objective is to identify how many *unique* or *unduplicated* attendees came to your event, you must take special steps to eliminate people who may appear in your counts more than once. The arithmetic procedures for adjusting attendee counts for potential duplication are described in Section 12 of this chapter.

7. Tally questionnaire

The sample tally questionnaire provided in Appendix VI requires some adjustment if attendance is to be estimated from parade counts. Specifically, you will need to ensure that your tally questionnaire provides information to correct attendance estimates for excluded groups of attendees and people who may have been on your site at times *other than* the parade at which you did your counts.

You also need information to correct for people who may have been on your site during more than one "measurement period" (at the parade *and* tallied at a different event or on a different part of the site).

A modified version of Question 7 of the Tally Survey is displayed below. You should start with this modified version of Q.7 and customize it for the specific circumstances of your event.

Question 7 Tally Questionnaire, Modified for Parade Count Method

-a) IF MULTI-DAY EVENT: NAME EVENT lasts for X days. Over the full course of the event, on how many different days have you/do you plan to attend, counting today's visit?

WRITE IN NUMBER OF DAYS	_____
DON'T KNOW/CAN'T ESTIMATE	[ ]

-b) Did you/do you plan to attend the [NAME PARADE]?

Yes	[ ]
No	[ ]
DON'T KNOW	[ ]

8. Tally interviewers

On-site tally interviewers have several key roles to play in the survey process. These interviewers are required to:

- obtain basic information for identifying the proportion of attendees who are *locals* and *tourists;*
- obtain information to enable you to adjust attendance estimates from parade counts in several ways:

1. identify the proportion of attendees who have visited the site more than once;
2. identify the number of attendees who have attended the event but were *not* included in the parade count (because they did not attend the parade); and
3. identify the proportion of attendees that should be *excluded* from the parade count estimate of attendance (see below).

- distribute the Attendee Survey in order to capture critical characteristic and spending information for a tourism economic impact estimate.

9. Adjusting "counts" to "tally" data for *excluded* attendees

Some of the people who are within one of your zones during a stint may be staff members, merchants, participants or volunteers. Generally, these types of attendees are excluded from tourism economic impact assessments.

If any types of attendees are to be excluded from your final estimates, you will have to identify how many *excluded attendees* came to your event and remove them from your "counts". For this reason, the Tally Questionnaire includes a question about which type of entrant each person is. You would use this information to make the appropriate adjustments when you weight and project your tally information.

10. Estimating total attendance, *tourists* and *locals*

The basic "count" of attendees at your event is derived from the combination of parade counts and the information you capture in the tally questionnaire for a sample of attendees. Once you have these basic counts, you will follow the guidelines provided in the following section to utilize tally information to adjust the counts and to estimate the number of *tourists* and *locals* at your event. The estimates of tourists and locals will be used in conjunction with Attendee Surveys to develop the inputs for a tourism economic impact model.

11. A weighting and projection plan for parade counts

a) What is a weighting and projection plan?

A **weighting and projection plan** permits you to generalize from your *sample* to *all* attendees at your event. It is based on a sequence of arithmetical steps, using information you collected and compiled from the **parade counts** and **attendee tallies** conducted over the duration of the event.

b) Why you have to weight & project counts and tallies

Now that you have completed your tally and attendee counts, what do you know about your attendees?

- You know numbers of people who were at the parade; and

- You know the type of entrant (e.g., local, tourist, staff, merchant, etc.), party composition and place of residence of a portion of the people who attended your event at particular times/locations (the portion you "tallied").

You need the same information you collected during counting and tallying for *all* the attendees who came to your event. How do you get this information for *all* attendees? You adjust your attendee estimates and tally data so that you represent all of your attendees. To do this, you must develop and implement a weighting and projection plan.

c) Some definitions

Following are several important definitions you will require for weighting and projection.

Record-by-record: a "record" is all the information collected from a single respondent. Thus, it would be a single "row" on the Tally Sheet or a completed Attendee Survey (questionnaire).

Household Travel Party: a household travel party, household party, or "party" is all the people travelling together and/or who came to the event together and who live in the same permanent residence. Because spending information is collected at the "household party" level but sampling and counting is done at the "person" level, for some parts of the weighting and projection process, it is necessary to convert between "people" and "parties".

The reason spending information is collected at the "household party" level is that an individual respondent may not have personally spent money on a spending category (e.g. gasoline, vehicle repairs, vehicle rental, accommodation) but someone else in the household group travelling together ("party") would have spent money *on behalf* of this individual. By asking about *all* the money spent on various items by *everyone* in the household travel party, spending estimates are more accurate.

12. A step-by-step description of the weighting and projection process

Since the exact nature of calculations to weight and project tally information to parade counts will vary based on the exact circumstances of your event (number and type of tally stints, etc.), we provide an example of the steps required. You would customize the process to meet your particular needs.

Assumptions in this example:

- You conducted parade counts at twelve (12) count zones (stints) on the parade route, representing the 48 possible stints (different zones) during the parade;
- You conducted tally interviews during six (6) stints, representing the 36 possible stints (different zones and times) during your event.

The process described here assumes that a simple random sampling approach was used. If you use a stratified sample, you would repeat the steps for a simple random sample, as described here, for *each* stratum in your sample. Before arriving at your final estimates, you would assign the appropriate weight to the estimates for each stratum, such that the total of all your strata equals the total number of attendees.

a) Steps in the weighting and projection process

The following steps for weighting and projecting tally information to *all* attendees at an ungated event will require customization, depending on the particular characteristics of your event.

Step 1: Convert tallied "party" to "people", on a record-by-record basis

Step 2: Weight parade count stints to total parade

Step 3: Adjust tally and parade counts for exclusions

Step 4-a: Weight tally respondents to total tallied attendees if no adjustment for duplication is required

Step 4-b: Weight tally respondents to total tallied attendees if adjustment for duplication is required

Step 5: Adjust parade attendees to all attendees using tally information

Step 6: Expand weighted tallied persons to adjusted attendee counts

b) Step 1: Convert tallied "party" to "people", on a record-by-record basis

A "household party" is the measurement unit for the tally whereas an individual is the measurement unit for attendee counts. Thus, you need to convert household parties to individuals represented by each party in order to match the tally information to your estimate of event attendance.

The first step is to obtain a count of all the people tallied during a specific stint. You do this by summing all the *people* represented by the household parties tallied in each stint. This should be done on a stint-by-stint basis, adding up all the people represented by each household party that was interviewed during the tally process.

For example, if you tallied 9 parties during a stint, you would add up the number of people represented by each of these 9 parties. In this example, the nine parties would represent 31 people.

Remember that you need to ensure that your projections from tallied *households* to tallied *people* **match** the age groups you have counted in whatever approach you have selected for counting attendees. For example, if you included only people 18 years of age or over in your counts, you would calculate total household party members for each tally record only for individuals 18 years of age or over.

Stint 1 (S_1)	# of People in Party from Tally Form
Tally Record #	
0001	3
0002	4
0003	1
0004	2
0005	6
0006	3
0007	2
0008	2
0009	8
Repeat for each Tally Record	
Total	250
Repeat for Each Stint	

c) Step 2: Weight parade count stints to total parade

Parade count stints are selected *independently* from *tally stints.* They are also weighted independently. In this example, 2,475 people were counted in the 12 parade count stints. There were, however, 48 possible "parade count stints". The stint weight for parade count stints is number of *possible stints* divided by the number of *parade count stints* you conducted. In this example, the parade count stint weight is 48 possible stints ÷ 12 conducted stints = 4. The stint weight is applied to the "counts" for each conducted stint, as per the table below. In this example, the 2,475 people counted in the parade represent 9,900 parade attendees (A * B = C).

	(A)	(B)	(C)
Parade Stints	Counts per Stint	Stint Weight	Weighted Counts at Parade
1	250	4	1,000
2	215	4	860
3	225	4	900
4	180	4	720
5	135	4	540
6	250	4	1,000
7	234	4	934
8	196	4	782
9	225	4	900
10	180	4	720
11	135	4	540
12	250	4	1,000
Total	2,475	48	9,900

d) Step 3: Adjust tally and parade counts for exclusions

Some people who came to the parade and were included in your estimate of total attendance may be *excluded attendees.* Excluded groups might include merchants, paid or unpaid event staff including volunteers, representatives of the media, etc. If you are conducting a tourism economic impact assessment, these individuals must be removed from the tallies.

Generally the people who will be excluded from the final counts are *local* but may be people from outside your community (participants and/or merchants who come to sell food, amusement rides, and retail products at the event). Because the proportions of excluded attendees are likely to vary by place of residence, it is recommended that you adjust for exclusions separately for each major "place of residence" category (see example below).

In some cases, you may not need to identify these excluded groups (volunteers, staff, vendors, etc.) in your tally and go through these special calculations to "take them out" of your estimates because you have other ways to estimate how many people the excluded groups represent. For example, event organizers may know the number of people who would fall into "excluded groups" and would not, therefore, need to generate an estimate of these individuals from tally responses.

Example for Excluding Vendors, Staff, Performers, Etc.						
	Tally Stint Total	% Merchants	% Participants/ Performers	% Staff/ Volunteers	Total Excluded	Total Attendees for Projection Purposes
	(A)	(B)	(C)	(D)	(E)	
					(B+C+D) * A = E	A – E
Stint	#	%	%	%	#	#
S_1	**250**					**237**
Local	175	1%	2%	4%	12	163
Non-local – Same Province/State	28	1%	-	-	0.28	28
Other Domestic	25	-	-	-	0	25
Foreign Countries	22	-	-	-	0	22
S_2	**215**					**211**
Local	145	3%	1%	6%	14	131
Non-local – Same Province/State	50	2%	2%	0	2	48
Other Domestic	12	0	0	0	0	12
Foreign Countries	8	0	0	0	0	8

Excluded attendees must be removed from both the *tally records* and the *parade counts.* This process is conducted in two stages:

Stage 1: Remove exclusions, as above, on a stint-by-stint basis;

Stage 2: Apply the proportion of *all* tally respondents (people) who are excluded to your estimate of total attendees from the parade count.

Stage 1: Remove exclusions from tallied interviews on a stint-by-stint basis			
Tally Stint	(A) # of tallied people	(B) # of tallied people, adjusted for exclusions	Factor for adjusting Parade Counts B ÷ A
S_1	250	237	
S_2	215	211	
S_3	84	80	
S_4	100	97	
S_5	134	131	
S_6	125	123	
Total	908	879	.97%

Weighted counts at parade* adjustment for exclusions = Total Adjusted Counts (exclusions)

Stage 2: Apply Exclusion Proportion for Daily Stints to Parade Count	
Weighted counts at parade (from Step 2)	9,900
Adjustment for exclusions	0.97
Total Attendance	9,584

e) Step 4-a: Weight tally respondents to total tallied attendees if no adjustment is required

In Stage 1 of Step 3, you adjusted Tally Stint records for exclusions. Using these adjusted numbers, you now need to estimate how many individuals your tally interviews represent. In this example, 879 people were represented by your 6 tally stints (adjusted for exclusions). There were, however, 36 possible "tally stints". The stint weight for tally stints is number of *possible stints* divided by the number of *conducted stints*.

In this example, the tally stint weight is 36 possible stints ÷ 6 conducted stints = 6. The stint weight is applied to the people represented by each conducted stint, as per the table below. In this example, the 879 people represent 5,274 attendees (A * B = C).

You need to apply the stint weight to adjusted tallied people at this stage in the process so you can use tally information to adjust for people who were *not* at the parade (Steps 5, 6).

Tally Stint	(A) # of tallied people	(B) # of tallied people, adjusted for exclusions	(C) Stint weight	(D) Adjusted Tally Interviews B * C
S_1	250	237	6	1,422
S_2	215	211	6	1,266
S_3	84	80	6	480
S_4	100	97	6	582
S_5	134	131	6	786
S_6	125	123	6	738
Total	908	879		5,274

You have now obtained an estimate of attendees and a weight you can assign to each tally record so these records represent all the people who came to your event (adjusting for exclusions). If yours is a one day/one-venue event, the process is complete. If, however, your event spans more than one day or there is a possibility that a person could have been included in your sample *more than one time* in the tally survey, you must make additional adjustments. The characteristics of the frequent visitor might be quite different from the once-only visitor and each should have an equal chance of selection in your sample. To adjust your tally data, you should use responses to Question 7, on a record-by-record basis (Alternative Step 4-b).

f) Step 4-b: Weight tally respondents to total tallied attendees if adjustment is required

If yours is a multi-day event with tally stints taking place on different days of the event, you will need to take into account the fact that individuals interviewed in your tally survey who come to your event on more than one day have the possibility of being included in your sample *more than one time.* The characteristics of the frequent visitor might be quite different from the once-only visitor and each should have an equal chance of selection in your sample. To adjust your tally data, you also use responses to Question 7, on a record-by-record basis.

Record-by-record, you would divide the number of tallied people by the number of opportunities (days) they might have been interviewed (based on the number of days they attended the event and the days on which you were conducting tallies).

As shown in the accompanying table, a party with two people who came to the event on only one day would count as two people (2 people ÷ 1 day = 2 people). A party with three people that came on two different days would, however, have twice the chance of being included in your sample as a similar party that came only on one day. Thus, this party would represent 1.5 people in your final estimates (3 people ÷ 2 day = 1.5 people).

S_1	Tallied Persons	Days Attended (Q.7)	Adjusted Tally Persons
0001	2	1	2
0002	3	1	3
0003	3	2	1.5
0004	4	1	4
0005	2	2	1
Repeat for each record			
Total S_1	245		118
S_2			
0001	1	2	0.5
0002	1	1	1
0003	2	1	2
0004	2	2	1
0005	5	1	5
Repeat for each record			
Total S_2	211		102

In the simplest case, you could use the ratio of the number of selected stints to total possible stints as the adjustment factor. In this example, there were 36 possible tally stints and six were conducted. Thus, in our example, the stint adjustment would be:

Total stints (36) ÷ Sampled stints (6) = Stint Weight (6.0)

The stint weight should be multiplied by the Adjusted Tally Persons (taking duplication into account) to provide the total attendees represented by each tally stint. In the following example, all stints have equal weight.

S_1	Tallied Persons	Days Attended (Q.7)	Adjusted Tally Persons	Stint Weight	Adjusted Tallied Persons
0001	2	1	2	6	12
0002	3	1	3	6	18
0003	3	2	1.5	6	9
0004	4	1	4	6	24
0005	2	2	1	6	6
Repeat for each record					
Total S_1	237		118	6	708
S_2					
0001	1	2	0.5	6	3
0002	1	1	1	6	6
0003	2	1	2	6	12
0004	2	2	1	6	6
0005	5	1	5	6	30
Repeat for each record					
Total S_2	211		107	6	645

The steps described above should be conducted for each record to produce an adjusted tallied person count for each stint. In this example, there are six stints.

	Tallied Persons	Adjusted Tally Persons	Stint Weight	Weighted Tallied Persons
Total S_1	237	118	6	708
Total S_2	211	107	6	645
Total S_3	131	77	6	465
Total S_4	97	55	6	332
Total S_5	80	47	6	282
Total S_6	123	59	6	353

g) Step 5: Adjust parade attendees to all attendees using tally information

In this example, the parade count, adjusted for excluded groups, represented 9,584 attendees (refer to Step 3). Some people, however, attended your event but did *not* attend the parade. You obtain an estimate of these people by using information collected in the tally questionnaire at Question 7. Specifically, on a stint-by-stint basis, you would use the weighted tally estimates (adjusted for exclusions) to identify the number of people who were tallied and claim to have been/not have been at the parade, using the response to Q.7.

The example provided here assumes that yours is a single-day event. The example relies on estimates generated at Step 4-a. If it were a multi-day event, you would use the outcome of Step 4-b for estimating total tally respondents.

Relevant section of Question 7, Tally Questionnaire

7-b) Did you/do you plan to attend the [NAME PARADE]?

Yes	[ ]
No	[ ]
DON'T KNOW	[ ]

The calculations are described below and displayed in the following table. Note that these calculations are displayed for the all records in each Tally Stint, but the final "record weight" would be applied to each individual record.

Using Tally Stint 1 (S_1) as an example:

This stint represents 1,422 people at the event (E).

Of the 1,422 people, assume that 823 (F) claim to have been to the parade.

- Of the 3,688 tally records representing people who went to the parade (sum of all tally stints in F), Stint 1 represents 22% [823 ÷ 3,688 = 22%].

- From the Parade Count, we estimated that 9,584 people were at the parade. We now know that 22% of these people were tallied in Stint 1. Thus, the total number of parade attendees represented by Stint 1 is 2,139.

- G = (823 ÷ 3,688) * 9,584 = 2,139

- H = (823 ÷ 1,422) = 58% (or 0.58)

Thus, of all tallied attendees in Stint 1, we estimate that 58% of them were at the parade and they represent 2,139 people. The total number of people at the event must include the remaining people tallied during this stint who did *not* go to the parade (42%).

To reach the final number of attendees represented by tallies in Stint 1, including those who did and did *not* go to the parade, we divide 2,139 by the proportion of tallied attendees who *did* attend the parade:

I = 2,139 [G] ÷ 0.58 [H] = 3,695

Every completed Stint 1 tally (adjusted from households to people) will represent 2.6 event attendees in order to bring the 1,422 total adjusted tally counts (E) to the total estimated attendees (I).

J = 3,695 [I] ÷ 1,422 [E] = 2.6 (factor to be multiplied by every person represented in the adjusted tally counts for Stint 1).

	E	F	G	H	I	J
Tally Stint	Total Adjusted Tally Counts (From Step 4-a)	Claim They Were At Parade (from Q.7)	Parade Counts Adjusted To % of Tallies at Parade	% of Tallies at Parade	Total Adjusted Attendance*	Record Weight**
			G = [F (per stint) ÷ Σ $S_1 \ldots S_6$ (sum of F for all stints)] * Total Parade Count (adjusted)	H = F ÷ E	I = G ÷ H	J =I ÷ E
S_1	1,422	823	2,139	58%	3,695	2.60
S_2	1,266	1,138	2,957	90%	3,290	2.60
S_3	480	336	873	70%	1,247	2.60
S_4	582	441	1,146	76%	1,512	2.60
S_5	786	693	1,801	88%	2,043	2.60
S_6	738	257	668	35%	1,918	2.60
Total	5,274	3,688	9,584		13,706	

*Includes those who did and those who did *not* attend the parade.
**Assumes a one-day event (no adjustment for duplication).

h) Step 6: Expand weighted tallied persons to adjusted attendee counts

To arrive at the final weighted, projected data, each adjusted tally person must represent a *share* of the total adjusted attendees **from the parade counts** (see Step 5). In our example, total adjusted attendance was estimated to be 13,706. Each tally record will be assigned a portion of this attendance estimate such that, when all the weights and projections are applied, all tallied people sum to 13,706. While the table above displays this step for each stint as a whole, the procedure must be performed on a record-by-record basis.

[(Household Party Tally Record * Number of people in party) ÷ Number of days at event] * Stint Weight * [Individual Attendee Adjustment Weight (from adjusted parade counts)]

13. Estimating attendance by place of residence

Now that you know how many attendees each party in your tally represents, you are ready to estimate the proportion of attendees from various origin groups. This is a critical element in generating reliable inputs for economic impact estimation. In other words, these are the numbers you went to all the trouble to obtain by sampling, counting parade attendees, tallying, weighting and projecting.

Once you have calculated the total attendees for each stint, you would determine how many of the projected and weighted tallied individuals are local residents, non-locals from other parts of the community's province or state, from other provinces or states, and from foreign countries.

These ratios are required in order to estimate how much spending at your event derives from the local community and how much is coming in from other places. As shown below for 2 sample stints, the number of attendees from each origin in each stint is multiplied by all the weights to arrive at the final ratios.

Once you have converted your stint parties to people, you will calculate the share each stint represents of total attendance for each origin group included in your tally sheet.

Calculation for *each* place of origin:

Adjusted Tallied Persons by Place of Origin * Stint Weight * Individual Attendee Adjustment Weight (from adjusted parade counts)

Stint		Tallied Attendees	Individual Attendee Adjustment	Weighted, Projected Attendees
S_1	**Total**	237	2.60	616
S_1	Local	184	2.60	478
S_1	Non-local – Same Province/State	37	2.60	96
S_1	Other Provinces/ States	15	2.60	39
S_1	Other Country	10	2.60	26
S_2	**Total**	211	2.60	549
S_2	Local	148	2.60	385
S_2	Non-local – Same Province/State	32	2.60	83
S_2	Other Provinces/ States	21	2.60	55
S_2	Other Country	11	2.60	29
	Repeat for each stint			

Using only two stints for this example, of the 1,165 weighted, projected attendees at the event, 74% were residents of the local community, 15% came from other parts of the province or state, 8% live in other provinces or states, and 5% live in foreign countries. When you go through these procedures, you would calculate the total visitation by origin for *all* stints.

Weighted, Projected Visitors, Stints 1, 2 by Place of Residence					
Place of Residence	Stint 1		Stint 2	Total	Percent
Total (All)	616	+	549	= 1,165	100%
Local	478	+	385	= 863	74%
Non-local – Same Province/State	96	+	83	= 179	15%
Other Provinces/ States	39	+	55	= 94	8%
Other Country	26	+	29	= 55	5%

14. What do you do with the ratios by place of residence?

You will apply the ratios by place of residence to the information you collect on spending and other characteristics of the trip that brought the person to the community and the event. In turn, these ratios will enable you to calculate total spending at the event and in the community and to determine how much of this spending is *incremental* because the event attracted *tourists* to the community.

D. TAG AND RECAPTURE

1. Using tag and recapture approach to estimate attendance: an overview

In this section you will find steps required to estimate total attendance at your event if you elect to use a "tag and recapture" approach for part or all of the estimation process. This approach requires a considerable investment in human resources (interviewers to count and re-count attendees), a rigorous sampling plan and knowledge of when an event is likely to reach its "peak" crowd size at a particular venue. It also requires a large number of tally completions to generate reliable attendee estimates.

The method involves marking (*tagging)* a random sample of individuals (with a brightly coloured button, lanyard, etc.) so they can be "recaptured" at a later point in time. Once the initial "tagged" sample has completely dispersed, a second sample is taken. In this second sample, tagged and untagged attendees are counted at the same time. The ratio of tagged ("recaptured") and untagged respondents is used to calculate the total size of the crowd. A relatively simple calculation allows you to estimate total attendance by comparing "tagged" versus "untagged" attendees in the second sample.

The approach is *not* recommended for multi-day events in which different attendees might go to the event on different days.

In general terms, here is how the tag and recapture approach works.

- Assume a crowd of unknown size is expected to attend your free outdoor festival.
- As attendees arrive, staff (interviewers) randomly distribute a fixed number of "tags" to individuals. "Taggers" would explain that the tags are part of an attendance study and ask respondents to wear them in full view for the duration of the day. For this approach to produce relatively reliable estimates of attendance, event organizers should anticipate tagging about 1-in-10 attendees in each "tag stint".
- As the crowd reaches its maximum size, "counters" would pair off and station themselves at various pre-determined locations (zones) on the site.
- In each of these "count zones", an *imaginary boundary* would be pre-established. One of the counters in each "pair" would count the number of *tagged* people crossing this imaginary boundary and the other counter would count the number of *untagged* people crossing this boundary.

- The total attendance would be estimated using estimates based on the ratio of tagged to untagged attendees "recaptured" at the peak attendance time.

If yours were a multiple-venue event, you would set up tag and recapture zones for *each* venue. You would use tally interview information to adjust your tag and recapture estimates to remove people in excluded groups (e.g., merchants, staff, volunteers, etc.) and to include people who did not have an opportunity to be included in the tag and/or recapture process.

The following are required components to estimate attendance using a tag and recapture approach:

- A detailed site map
- An understanding of the time at which the crowd is expected to "peak"
- Identified "tag" and "recapture" zones
- Sufficient "counters" to tag and recapture attendees
- Calculations for counting attendees
- A stint sampling plan
- Special questions on tally questionnaire
- Tally stint sampling plan
- Tally interviewers
- Attendee surveys

2. Grid map and sampling plans for tag, recapture and tally procedures

a) Grid maps

For the tag and recapture approach, you will need three separate sampling plans.

1. Random sample of times/locations along the perimeter of your event to "tag" attendees;

2. Random sample of locations within your event to "recapture" attendees (these take place at the same time – a time that coincides with your best estimate of "peak attendance");

3. Random sample of times/locations throughout the site to conduct the tally interview and recruit respondents for the Attendee Survey.

You will require a detailed site map, with "grids" clearly marked. Some of these "grids" will be tag zones in which interviewers will approach attendees and request that they wear the tag you have chosen. Generally, "tag zones" would be located along the perimeter of the ungated site(s). As displayed in Figure 8 (page 135), other zones (e.g., zones 1 – 7) could be used as the basis for selecting recapture and tally stints.

b) Tag zones

Generally, "tag zones" would be located along the perimeter of the ungated site(s). An example of a grid map for a contiguous site is provided in Figure 8 (page 135). The perimeter grid (red) would form the basis of your listing of possible "tag" zones. Depending on the physical size of

the event area, you would list all possible areas along the perimeter (e.g., A-1, A-2, A-3 . . . N-18) and make a random selection of zones for tagging, using the principles described in Section IV.

You would establish time periods for tagging that coincide with the period(s) leading up to the "peak" period when you plan to undertake the "recapture" process. Thus, your stint sample listing for tagging will include both perimeter locations and time periods (see example below for listing tag stints).

- Assume the event opens at 10:00 am.
- Assume you expect the crowd to "peak" at approximately 4:00 pm
- Tag stints would be three hours in duration.
- You would stop tagging at least an hour before the "recapture" stints begin because you need to give the crowd an opportunity to disburse.

Based on the site map in Figure 8 (page 135) and the assumptions listed here, you would have 20 possible tag stints.

Tag Stint Listing	Time	Zone
1	10:00 – 12:00	A-1/A6
2	12:00 – 3:00	A-1/A6
3	10:00 – 12:00	A-7/A12
4	12:00 – 3:00	A-7/A12
5	10:00 – 12:00	A-13/A18
6	12:00 – 3:00	A-13/A18
7	10:00 – 12:00	B-1/G-1
8	12:00 – 3:00	B-1/G-1
9	10:00 – 12:00	H-1/M-1
10	12:00 – 3:00	H-1/M-1
11	10:00 – 12:00	N-1/N6
12	12:00 – 3:00	N-1/N6
13	10:00 – 12:00	N-7/N12
14	12:00 – 3:00	N-7/N12
15	10:00 – 12:00	N-13/N18
16	12:00 – 3:00	N-13/N18
17	10:00 – 12:00	B-18/G-18
18	12:00 – 3:00	B-18/G-18
19	10:00 – 12:00	H-18/M-18
20	12:00 – 3:00	H-18/M-18

c) How many stints and interviewers do you need for tagging?

See Section IV for a discussion of how to make your stint selections for a simple or stratified random sample. We recommend that you ensure that all possible time periods and locations on the periphery of your event be included at least once in your sample of stints. Why? Because different types of attendees may enter at different times and from different locations along the periphery of the event.

The number of tag stints and interviewers you require will depend on the approximate size of the crowd. Ideally, you would tag at least every 10th attendee who comes to the event during one of your tag stints. Thus, if you expected a crowd of between 20,000 and 30,000 people, you would require enough interviewers and enough stints to tag 2,000 to 3,000 attendees.

If you assume that an interviewer can approach and tag one individual in about three minutes, you would require approximately 100 interviewer hours to tag 2,000 attendees and about 150 interviewer hours to tag 3,000 attendees.

- 2,000 attendees * 3 minutes to tag each = 100 hours
- 3,000 attendees * 3 minutes to tag each = 150 hours

d) Recapture zones

Determining the locations on the site at which you will "recapture" or count tagged and untagged attendees who cross an imaginary line requires a procedure similar to stint listings and selection for the tally interview, with one major exception. There is only one time period per venue. You need to count tagged and untagged attendees at a randomly selected set of locations but at the *same* time.

Note that if yours is a multi-venue event, you will implement the tag/recapture process independently at each venue. Since attendees cannot be in two venues at exactly the same time, you can combine the information from each venue when estimating total attendance. We do not, however, recommend a tag/recapture approach for multi-day events (unless all attendees come for the full duration of the event).

In this example, the crowd is expected to peak around 4:00 pm. This would be the time at which you would conduct the recapture procedures.

The *duration* of the recapture procedure should be short (e.g., thirty minutes to one hour) because you do not want attendees to have the opportunity to migrate from one "recapture zone" to another while you are counting. If they were to migrate to a different zone, they would be double counted, thereby distorting your attendance estimates.

Using Figure 8 (page 135) as the site map, you would have seven possible "recapture zones". We recommend that you select as many of these zones as possible for recapture because the more "counts" you have, the more accurate your attendance estimate will be. In this example, you would require 14 interviewers working as pairs in each of the seven zones for the recapture process.

e) Imaginary lines

To implement the recapture procedure, you would have established "imaginary lines" on your site in advance of the event. Interviewers would be shown these "lines" and provided with counters or special tally sheets to record the number of tagged/untagged people crossing the line.

f) Tally stints

The grid map will also be used to develop your stint sampling plan for tally interviews. See Figures 5 (page 68), 6 (page 69) or 8 (page 135) for developing a stint sampling plan for tag/recapture counts and tally interviews/recruitment of attendees for the attendee survey. See Section V for more details about developing a stint sampling plan for tally interviews.

3. Number of interviewers for "tagging"

The characteristics and size of your event will determine how many "tag" stints are required. As a general rule, you should station "tag" interviewers at a random sample of zones on the periphery of the site.

We also recommend that you calculate the number of interviewers to "tag" *within* a zone such that staff can "tag" approximately 1-in-10 (10%) of the people in the tag zone.

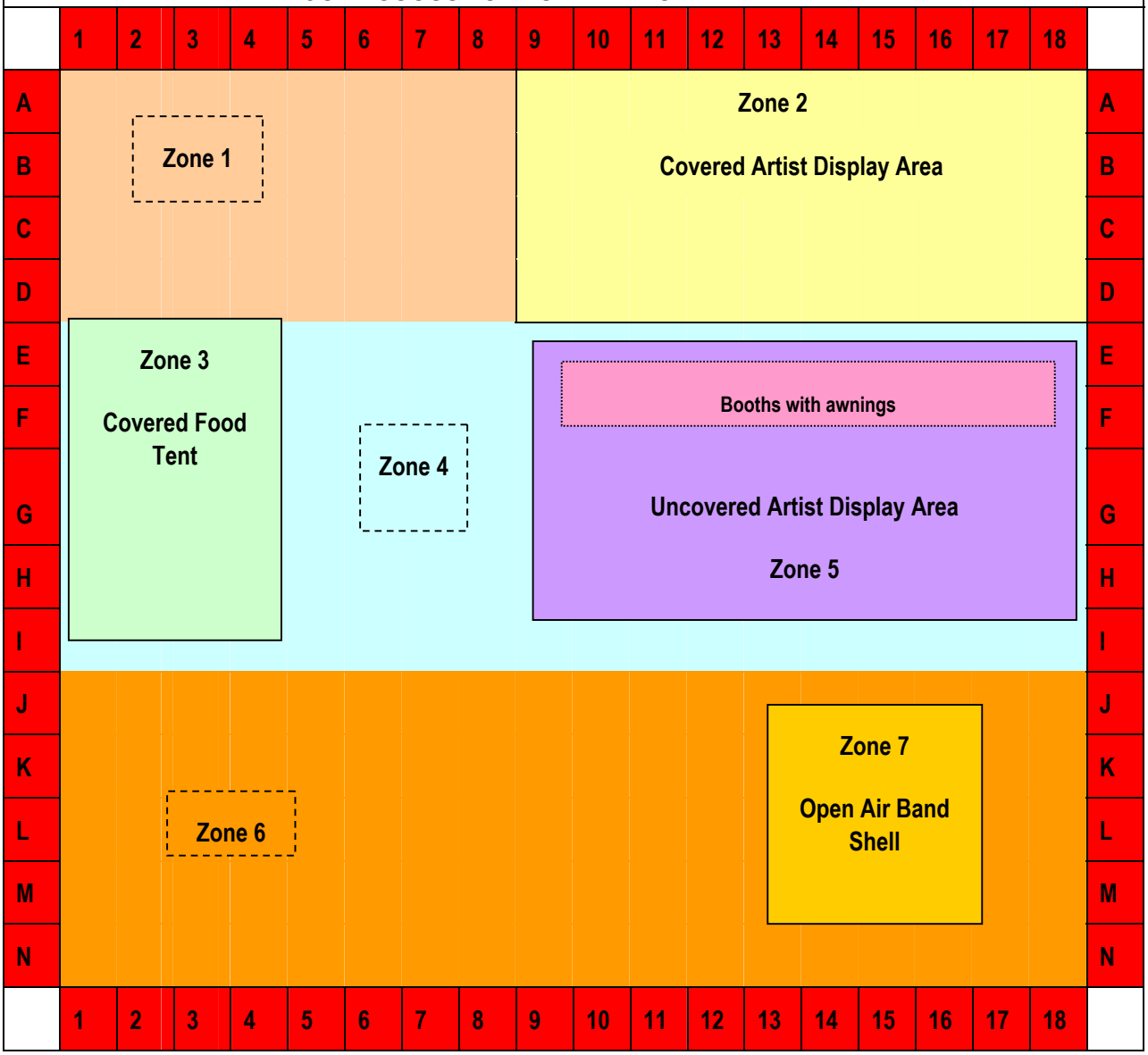
Depending on the size and population density of each tag zone, you may require a sizeable crew of "tag interviewers" to provide sufficient coverage for this approach.

4. Number of interviewers for recapturing "tagged" attendees

Individuals assigned the task of "counting" attendees who cross the imaginary boundary must work in pairs, with one counting the *tagged* people who cross the boundary and the other counting *untagged* attendees. In the example used here, you would have at least seven recapture zones, requiring a minimum of 14 interviewers over a 30-minute to one-hour period.

7 zones * 2 interviewers (1 to count "tagged" and 1 to count "untagged" attendees) = 14 interviewers.

FIGURE 8
CONTIGUOUS ZONE SITE MAP OF EVENT AREA



5. Using tally data to adjust for tagged respondents

Attendees willing to be tagged and those unwilling to wear a button or lanyard throughout the day may differ from one another. In addition, the stints during which tags are distributed may not necessarily represent a "cross section" of all attendees. As a consequence, you will include questions on a modified Tally Questionnaire (see Question 7, modified for tag and recapture) to adjust your attendance estimates. In the modified version of the tally survey, you will ask people if they were tagged or not.

The modifications required to the tally questions for the tag and recapture approach are described below. For more details about the tally question list, see Appendix VI.

6. Tally questionnaire

The sample tally questionnaire provided in Appendix VI requires some adjustment if attendance is to be estimated from the tag and recapture approach. Specifically, you will need to ensure that your tally questionnaire provides information to correct attendance estimates for excluded groups of attendees (merchants, staff, volunteers, etc.) and people who may have been on your site at times *other than* when the tag/recapture counts were made.

A modified version of Question 7 of the Tally Survey is displayed below. Remember that tag and recapture is *not* recommended for multi-day events.

Question 7 Tally Questionnaire, Modified for Tag and Recapture Method

-a) RECORD IF RESPONDENT IS WEARING A TAG TODAY.

WEARING TAG	[ ] SKIP TO Q.8
NOT WEARING TAG	[ ] ASK Q. 7-b, -c

-b) IF NOT WEARING A TAG ASK: At approximately what time did you arrive at NAME EVENT SITE today? Was it (READ LIST)? LIST TIME PERIODS BEFORE, DURING AND AFTER "TAG" STINTS

From time A to time B	[ ]
From time B to time C	[ ]
Etc.	[ ]

-c) IF NOT WEARING A TAG ASK: At approximately what time do you plan to leave NAME EVENT SITE today? Will it be (READ LIST)? LIST TIME PERIODS BEFORE, DURING AND AFTER "RECAPTURE" STINTS

From time A to time B	[ ]
From time B to time C	[ ]
Etc.	[ ]

7. Tally interviewers for tag & recapture

On-site tally interviewers have several key roles to play in the survey process. These interviewers are required to:

- obtain basic information for identifying the proportion of attendees who are *locals* and *tourists;*
- obtain information to enable you to adjust attendance estimates from tag/recapture counts in several ways:
    - identify the number of attendees who have attended the event but were *not* included in the tag/recapture because they did not attend the event during the time period during which tags were distributed and/or counted; and
    - identify the proportion of attendees that should be *excluded* from the estimate of attendance (see below).
- distribute the Attendee Survey in order to capture critical characteristic and spending information for a tourism economic impact estimate.

8. Estimating total attendance, *tourists* and *locals*

The basic "count" of attendees at your event is derived from a special calculation of the proportion *tagged* attendees represent of all *recaptured* attendees and the information you collect in the tally questionnaire for a sample of attendees. Once you have these basic counts, you should follow the guidelines provided in the following section to utilize tally information to adjust the counts and to estimate the number of *tourists* and *locals* at your event. The estimates of tourists and locals will be used in conjunction with Attendee Surveys to develop the inputs for a tourism economic impact model.

9. A weighting and projection plan for tag and recapture estimates

a) What is a weighting and projection plan?

A **weighting and projection plan** permits you to generalize from your *sample* to *all* attendees at your event. It is based on a sequence of arithmetical steps, using information you collected and compiled from the **tag and recapture calculation** and **attendee tallies** conducted over the duration of the event.

b) Why you have to weight & project counts and tallies

Now that you have completed your tally and attendee counts, what do you know about your attendees?

- You know numbers of people who were at your site during tagging and recapture time periods; and

- You know the type of entrant (e.g., local, tourist, staff, merchant, etc.), party composition and place of residence of a portion of the people who attended your event at particular times/locations (the portion you "tallied").

You need the same information you collected during counting and tallying for *all* the attendees who came to your event. How do you get this information for *all* attendees? You adjust your attendee estimates and tally data so that you represent all of your attendees. To do this, you must develop and implement a weighting and projection plan.

c) Some definitions

Following are several important definitions you will require for weighting and projection.

Record-by-record: a "record" is all the information collected from a single respondent. Thus, it would be a single "row" on the Tally Sheet or a completed Attendee Survey (questionnaire).

Household Travel Party: a household travel party, household party, or "party" is all the people travelling together and/or who came to the event together and who live in the same permanent residence. Because spending information is collected at the "household party" level but sampling and counting is done at the "person" level, for some parts of the weighting and projection process, it is necessary to convert between "people" and "parties".

The reason spending information is collected at the "household party" level is that an individual respondent may not have personally spent money on a spending category (e.g. gasoline, vehicle repairs, vehicle rental, accommodation) but someone else in the household group travelling together ("party") would have spent money *on behalf* of this individual. By asking about *all* the money spent on various items by *everyone* in the household travel party, spending estimates are more accurate.

10. A step-by-step description of the weighting and projection process

Since the exact nature of calculations to weight and project tally information to tag/recapture counts will vary based on the exact circumstances of your event (number and type of tally stints, etc.), we provide an example of the steps required. You will need to customize the process to meet your particular needs.

Assumptions in this example:

- You conducted tag stints at twelve (12) zones (stints), representing 20 possible stints (different zones);
- You conducted tally interviews during six (6) stints, representing 36 possible stints (different zones and times) during your event.

The process described here assumes that a simple random sampling approach was used. If you used a stratified sample, you would repeat the steps for a simple random sample, as described here, for *each* stratum in your sample. Before arriving at your final estimates, you need to assign the appropriate weight to the estimates for each stratum, such that the total of all your strata equals the total number of attendees.

a) Steps in the weighting and projection process

The following steps for weighting and projecting tally information to *all* attendees at an ungated event will require customization, depending on the particular characteristics of your event.

Step 1: Convert tallied "party" to "people", on a record-by-record basis

Step 2: Weight tag stints to total stints

Step 3: Weight recapture counts using tag stint weights

Step 4: Estimate total gross attendance using adjusted recapture estimates

Step 5: Adjust tally and tag counts for exclusions

Step 6: Weight tally respondents to total tallied attendees

Step 7: Adjust weighted tallied attendees to adjusted total attendance

b) Step 1: Convert tallied "party" to "people", on a record-by-record basis

A "household party" is the measurement unit for the tally whereas an individual is the measurement unit for attendee counts. Thus, you need to convert household parties to individuals represented by each party in order to match the tally information to your estimate of event attendance.

The first step is to obtain a count of all the people tallied during a specific stint. You do this by summing all the *people* represented by the household parties tallied in each stint. This should be done on a stint-by-stint basis, adding up all the people represented by each household party that was interviewed during the tally process.

For example, if you tallied 9 parties during a stint, you would add up the number of people represented by each of these 9 parties. In this example, the nine parties would represent 31 people.

Remember that you need to ensure that your projections from tallied *households* to tallied *people* **match** the age groups you have counted in whatever approach you have selected for counting attendees. For example, if you included only people 18 years of age or over in your counts, you would calculate total household party members for each tally record only for individuals 18 years of age or over.

Stint 1 (S_1)	# of People in Party from Tally Form
Tally Record #	
0001	3
0002	4
0003	1
0004	2
0005	6
0006	3
0007	2
0008	2
0009	8
Repeat for each Tally Record	
Total	250
Repeat for Each Stint	

c) Step 2: Weight tag stints to total stints

Tag stints are selected *independently* from *tally stints.* They are also weighted independently. In this example, 2,475 people were tagged during the 12 tag stints. When the stint weight (total possible stints ÷ total conducted stints) is applied, these individuals represent 4,133 tagged attendees (A * B = C).

	(A)	(B)	(C)
Tag Stints	Tags per Stint	Stint Weight	Weighted Tagged Attendees
1	250	1.67	418
2	215	1.67	359
3	225	1.67	376
4	180	1.67	301
5	135	1.67	225
6	250	1.67	418
7	234	1.67	391
8	196	1.67	327
9	225	1.67	376
10	180	1.67	301
11	135	1.67	225
12	250	1.67	418
Total	2,475		4,133

d) Step 3: Weight recapture counts using tag stint weights

Lets assume that you counted 500 *tagged* and 2,400 *untagged* attendees during the recapture counts. These counts also need to be adjusted to take into account the fact that you were not *tagging* attendees during the 20 possible tag stints.

Thus, the tagged and untagged attendees counted during the recapture process would be multiplied by the stint weight you used to adjust *tagged* attendees (1.67). As shown in the following table, your adjusted tagged and untagged attendees from the recapture process would be 835 *tagged* and 4,008 *untagged* attendees. These adjusted estimates are the ones you would use in the formula to calculate total gross attendance at your event.

Recapture Counts	Unadjusted	Tag Stint Weight	Adjusted for Tag Stint Weight
Tagged Attendees	500	1.67	835
Untagged Attendees	2,400	1.67	4,008
Total Adjusted			4,843

e) Step 4: Estimating total gross attendance using adjusted recapture estimates

The formula for estimating gross attendance at the event is:

Total crowd size (P) = [Tagged attendees (Z) * Tagged + Non-Tagged Attendees Recaptured (Y)] ÷ Tagged Recaptured Attendees (X)

P = (Z * Y) ÷ X

To arrive at the values for X, Y and Z, you would add all the information you have from your tagging and recapture tally sheets. In the example provided below, your estimate of total gross attendance would be about 23,973.

P = Total crowd size being estimated
Z = Number of tagged attendees (2,475) adjusted for "tag stints" (1.67) = 4,133 in this example
X = Tagged attendees crossing imaginary boundary (500), adjusted by tag stint weight (1.67) = 835 in this example
Y = Tagged (500 * 1.67) + non-tagged attendees (2,400 * 1.67) crossing imaginary boundary = 4,843 in this example
P = Z * Y ÷ X
P = (4,133 * 4,843) ÷ 835
P = 20,016,119 ÷ 835 = 23,973

f) Step 5: Adjust tally and tag counts for exclusions

Some people who came to the event and were included in your estimate of gross attendance may be *excluded attendees.* Excluded groups might include merchants, paid or unpaid event staff including volunteers, representatives of the media, etc. If you are conducting a tourism economic impact assessment, these individuals must be removed from the tallies.

Generally the people who will be excluded from the final counts are *local* but may be people from outside your community (participants and/or merchants who come to sell food, amusement rides, and retail products at the event). Because the proportions of excluded attendees are likely to vary by place of residence, it is recommended that you adjust for exclusions separately for each major "place of residence" category (see example below).

In some cases, you may not need to identify these excluded groups (volunteers, staff, vendors, etc.) in your tally and go through these special calculations to "take them out" of your estimates because you have other ways to estimate how many people the excluded groups represent. For example, event organizers may know the number of people who would fall into "excluded groups" and would not, therefore, need to generate an estimate of these individuals from tally responses.

Example for Excluding Vendors, Staff, Performers, Etc.						
	Tally Stint Total	% Merchants	% Participants/ Performers	% Staff/ Volunteers	Total Excluded	Total Attendees for Projection Purposes
	(A)	(B)	(C)	(D)	(E)	
					(B+C+D) * A = E	A – E
Stint	#	%	%	%	#	#
S_1	**250**					**237**
Local	175	1%	2%	4%	12	163
Non-local – Same Province/State	28	1%	-	-	0.28	28
Other Domestic	25	-	-	-	0	25
Foreign Countries	22	-	-	-	0	22
S_2	**215**					**211**
Local	145	3%	1%	6%	14	131
Non-local – Same Province/State	50	2%	2%	0	2	48
Other Domestic	12	0	0	0	0	12
Foreign Countries	8	0	0	0	0	8

Excluded attendees must be removed from both the *tally records* and the *tag/recapture counts.* This process is conducted in two stages:

Stage 1: Remove exclusions, as above, on a stint-by-stint basis;

Stage 2: Apply the proportion of *all* tally respondents (people) who are excluded to your estimate of total gross attendance (from the tag/recapture calculation).

In this example, 3% of attendees fall into "excluded" categories based on *tally* information. You would use this proportion to adjust the total gross attendance estimate:

23,973 * (1 – 3%) = 23,254

Stage 1: Remove exclusions from tallied interviews on a stint-by-stint basis			
Tally Stint	(A) # of tallied people	(B) # of tallied people, adjusted for exclusions	Factor for adjusting Gross Attendance Counts B ÷ A
S_1	250	237	
S_2	215	211	
S_3	84	80	
S_4	100	97	
S_5	134	131	
S_6	125	123	
Total	908	879	.97%

Gross Attendance Estimate * adjustment for exclusions = Total Adjusted Counts (exclusions)

Stage 2: Apply Exclusion Proportion to Gross Attendance Estimate	
Gross Attendance	23,973
Adjustment for exclusions	0.97
Total Attendance	23,254

g) Step 6: Weight tally respondents to total tallied attendees

Each of the six tally stints represents one-sixth of all possible stints (36). Thus, you multiply the number of tallied people, adjusted for exclusions, by a stint weight. In this case, a simple random sample in which each stint has the same weight is used. If you used a stratified random sample, you would apply the appropriate stint weight to each *stratum.*

Tally Stint	(A) # of tallied people	(B) # of tallied people, adjusted for exclusions	(C) Stint weight	(D) Adjusted Tally Interviews B * C
S_1	250	237	6	1,422
S_2	215	211	6	1,264
S_3	84	80	6	494
S_4	100	97	6	588
S_5	134	131	6	788
S_6	125	123	6	735
Total	908	879		5,274

h) Step 7: Adjust weighted tallied attendees to adjusted total attendance

You will assume that people who came to the site before or after the tagging and/or recapture periods are "just like" your tagged and untagged people. Thus, you will weight and project all tally interviews among those who had an *opportunity* to be tagged and recaptured. Once you have these proportions, you will "gross up" the numbers to include those with *no* opportunity to be tagged and/or recaptured (because of when they were on your site) to obtain your estimates

of total attendance. An example of this step in the process is provided here.

In this example, the tag/recapture estimate of total attendance, adjusted for excluded groups, was 23,973 attendees. You know, however, that some of the people you tallied were *not* included in tag/recapture process, based on responses to Question 7 of the tally questionnaire.

To include tally information for the individuals who did not have an opportunity to be included in the tag/recapture counts in your final estimates, we recommend that you distribute them in the same manner as your tagged versus non-tagged attendees are distributed in the adjusted estimate of total attendees.

Thus, you would *sort* your 5,274 tally records (adjusted for exclusions and stint weight) into groups as follows, using responses to Q.7 of the tally questionnaire. Let's assume you obtained the following responses:

- Wearing tag = 800
- Not wearing tag = 4,042
- Not on site during tag/recapture process = 532.

You know the proportion of *tagged* versus *untagged* attendees from the ratio obtained in the recapture process. In this example, assume you counted 2,900 people crossing the imaginary boundary, representing 4,834 people once adjusted for the tag stint weight. Of these 4,834 people, 500 were "tagged". Thus, the proportion of tagged versus untagged people in your tally sample would be 4,384 : 500. Tagged *tally* respondents would, therefore, represent 17% of all tallied attendees and untagged respondents would represent 83%.

You would generate a weight for each tally record such that *all the people* in the *tagged* tally party (adjusted for the age group you "counted") = 17% of your count adjusted for exclusions. Before you assign weights to individual records, however, you must factor in the people who did not have the opportunity to be tagged or captured because they were not at the site during sampled tag stints or during the recapture process.

Each of these records would be assigned to the *tagged* or *untagged* totals in the same proportions tagged and untagged respondents occur in your sample. In this example, 17% of these "other" records would be assigned to the *tagged* group and 83% would be assigned to the *untagged* group.

While the following table displays these steps for the study as a whole, the procedure must be performed on a stint-by-stint and record-by-record basis.

	A	B	C	D	E	F
	Tallied Attendees Adjusted for Stint Weight & Exclusions	% From Recapture Process	Redistribution of "Other" (Assign "Other" Respondents to Tagged/Untagged as per B%)	Total Tally Respondents for Projection (A + C)	Total Adjusted Attendance	Weight for each Tally Respondent
Total	5,274					
Response at Q. 7						
Tagged	800	17%	73	873	3,953	4.53
Untagged	4,042	83%	359	4,401	19,301	4.39
Other (not on site at relevant time)	432					

You have now obtained an estimate of attendees and a weight you can assign to each tally record so these records represent all the people who came to your event (adjusting for exclusions). If yours is a one-venue event, the process is complete. If, however, your event spans more than one venue, you would repeat the steps described above for each additional venue.

11. Estimating attendance by place of residence

Now that you know how many attendees each party in your tally represents, you are ready to estimate the proportion of attendees from various origin groups. This is a critical element in generating reliable inputs for economic impact estimation. In other words, these are the numbers you went to all the trouble to obtain by sampling, tagging and recapturing attendees, tallying, weighting and projecting.

Once you have calculated the total attendees for each stint, you would determine how many of the projected and weighted tallied individuals are local residents, non-locals from other parts of the community's province or state, from other provinces or states, and from foreign countries.

These ratios are required in order to estimate how much spending at your event derives from the local community and how much is coming in from other places. Once you have converted your stint parties to people, you need to calculate the share each stint represents of total attendance for each origin group included in your tally sheet. In Step 7 you made an adjustment to account for tally respondents who were *tagged* versus those who were *not tagged* or had no opportunity to be tagged because of the timing of their visit. Thus, the final weights to estimate the proportion of total attendees who were local or tourists from various locations would take these final adjustments into account. Examples of the process you would undertake can be found for other estimation procedures (see Aerial Photographs, page 77, Parking Lot Counts, page 103, or Parade Counts, page 119).

Calculation for *each* place of origin:

Adjusted Tallied Persons by Place of Origin * Stint Weight * Individual Attendee Adjustment Weight (from adjusted attendance estimate) for tagged or untagged Tally Attendees

12. What do you do with the ratios by place of residence?

You will apply the ratios by place of residence to the information you collect on spending and other characteristics of the trip that brought the person to the community and the event. In turn, these ratios will enable you to calculate total spending at the event and in the community and to determine how much of this spending is *incremental* because the event attracted *tourists* to the community.

VI. THE TALLY INTERVIEW PROCESS

A. The interviewers

1. A critical component of the research process

Interviewers are a critical component of the research process. They are the link between what you need to know from your attendees and what you find out about them (characteristics, spending, etc.). If interviewers do a good job, the quality of your information improves. If they do a poor job, the quality of your information deteriorates.

In the following sections, general principles for selection, training and supervision are provided, but you are encouraged to find additional resources to ensure that your interviewers are in the best possible position to do a "good job". For additional information on these topics, contact your local economic development office, local colleges or universities, and/or research professional organizations such as the Travel and Tourism Research Association (TTRA, www.ttra.com), Marketing Research and Intelligence Association (Canada) (MRIA, www.mria-arim.ca), or Marketing Research Association (U.S.A.) (MRA, www.mra-net.org).

2. Selecting interviewers

Whether you use local volunteers who will conduct the surveys, hire students or other local people or use professionally trained interviewers, the people involved in the survey process at your event should have the following characteristics*:

- Good communication skills: enunciate well, use language appropriate for interviewing visitors.
- Good interpersonal relations skills.
- Be socially mature.
- Be friendly and outgoing.
- Be good at keeping conversations on track.
- Be good independent workers with a strong work ethic.
- Be able and willing to work irregular hours (such as evenings or weekends).
- Be comfortable using computer programs for data entry and record keeping if this will be part of their work.

*List from *A Guide To Designing and Conducting Visitor Surveys*, Julie Leones, Arizona Cooperative Extension, College of Agriculture, The University of Arizona, September 1998

3. Training interviewers

a) Two basic types of training

Two basic *types* of interviewer training are required:

Type I: general understanding of the survey process, the objectives of the study, general deportment, the importance of administering the questionnaire exactly as it is written, and how to handle "difficult respondents" and unforeseen circumstances.

Type II: familiarity with the survey instruments, including practice interviews to ensure that interviewers are conversant with the language and flow of the questions, skip patterns, and response categories, respondent selection guidelines, etc.

b) A training plan

Interviewing is harder than you might think! While these guidelines provide some training tips, we strongly suggest that you develop and implement an interviewer training plan, particularly if you will be relying on interviewers who have limited or no prior experience. The following list* covers some Type I and Type II elements required of a training plan.

- Explain the objectives of the study and what the main questions are that you wish to answer.
- Go through the survey instrument thoroughly.
- Have the interviewer practice interviewing you and other interviewers before interviewing a visitor.
- Train interviewers in the use of the data entry program you are using and have written instructions on how to use the program (if appropriate).
- Show interviewers how to save data files and help them understand how and why to make back up copies of data files.
- Teach interviewers about the different components of an interview.
- Explain to interviewers that how they ask questions will affect response.
- Train them in good interviewing technique (see next section).
- Show the interviewers what records they must keep and why these are important.

*List from *A Guide To Designing and Conducting Visitor Surveys*, Julie Leones, Arizona Cooperative Extension, College of Agriculture, The University of Arizona, September 1998

4. Supervision

An on-site supervisor must be available to interviewers at all times. More than one supervisor may be required on-site, depending on how large the site is and how many interviewer crews are

working at any one time. A supervisor's tasks would include the following*:

- Ensure that the required numbers of interviewers are at their designated locations at the correct times.
- Circulate among survey locations.
- Collect and check their data files regularly.
- Monitor them at work periodically.
- Encourage them to find ways to do the survey more efficiently or effectively.
- Praise and reward them for good work.
- Warn them and then help them if they are having trouble doing the work involved.
- Give them some flexibility with regard to the days and hours that they work.

*List from *A Guide To Designing and Conducting Visitor Surveys*, Julie Leones, Arizona Cooperative Extension, College of Agriculture, The University of Arizona, September 1998

B. Interviewing

1. Conducting the interview

a) Identification and support materials

Interviewers require some form of "official identification" (i.e., photo-ID badge or letter from event organizers indicating that they are conducting an official survey with the sanction of the event). You might also consider some form of "uniform". This can be a printed t-shirt, smock or cap with "Official Survey" or a similar identifying label so attendees can readily identify them.

Because interviewers will "look" official, attendees may approach them to obtain information about the event. Consequently, you should provide interviewers with a site map and general knowledge about the locations of key amenities (food services, washrooms, etc.). Event organizers should brief the interviewers and provide them with appropriate materials so they can answer basic questions.

Interviewers also require a way to contact a supervisor or event organizer (e.g., cell phone number) in case a respondent wants to call to verify that interviewers are bona fide, if they are experiencing difficulties with a respondent, or in the case of an emergency.

b) Some basic interviewing techniques

As noted above, the success of your study hinges on the interaction between the interviewer and the respondent. Consequently, we recommend that you invest in interviewer training by professionals. These professionals can amplify on the points raised below* and customize the training to match your survey materials (sampling plan, questionnaires, etc.).

1. An interview consists of three basic parts: an introduction, the interview proper and the end.

- In the introduction, you need to introduce yourself, explain what the survey is about, who is sponsoring it and how long it takes to complete it. Then you need to ask the person if they would be willing to be interviewed.

- In the interview proper, you need to carefully follow the questionnaire format provided.

- The end of the interview involves thanking the respondent for their time and bidding them good-bye. If you have an incentive of some sort to give them, this is the time to present it. It is also a good time to provide any information that the respondent may want concerning area attractions, lodging, shopping or restaurants. Make sure that you have been provided with information about these amenities so that you can pass information on to respondents.

2. Try to keep the interview as conversational as possible, but do not modify the question wording. However, if it is clear that the person does not understand a question, rephrase the question or ask it in a different way.

3. If you are not sure you have understood the response or the response is incomplete, try one of the following techniques:

- rephrase what the person has said, say it to them, and ask them if you understood them correctly. For example, "I understood you to say that you are just passing through the area, is that correct?"

- ask the person if they can rephrase their comment or explain further. For example, "Can you tell me a little more about why you are visiting our area?"

4. Use responses from earlier questions to check responses of later responses, especially in the expenditure section. For example, you are asking about other expenses and the person gives you a very low estimate. You might ask: "Does that include the admission fees to the attractions that you mentioned visiting earlier?"

5. Be careful how you ask follow up questions to make sure that they are not insinuating something or suggesting a certain response. Leading questions or a leading tone of voice can bias responses to a question. As much as possible, ask questions in a neutral way since there are no right or wrong answers to the questions.

6. You may need to develop methods for getting respondents back on track if they begin talking in detail after one particular question. For example, a respondent is going on in detail about how much they are enjoying their trip. The interviewer might affirm what they say and move on to the next question: "I am glad you are having a good time in our community, how many nights are you planning to stay?"

7. Interviewers need good listening skills. This includes paying careful attention to what people say, looking alert and interested in the interview, giving appropriate verbal and nonverbal cues that show that you are interested and paying attention.

*From *A Guide To Designing and Conducting Visitor Surveys*, Julie Leones, Arizona Cooperative Extension, College of Agriculture, The University of Arizona, September 1998

2. Stopping an attendee to ask questions using a selection interval (every *nth*)

When approaching people at the event, interviewers need to do so in a "random" manner. Randomness at the respondent selection stage is very important to ensure that the final sample you include in your study is representative of *all* types of attendees (those who look friendly and those who don't look so friendly, those with and without young children, old and young, etc.). The easiest way to achieve randomness at the selection stage is to have the tally and/or tag interviewer approach **every *nth*** (e.g., every 5th) person in stint zone and attempt to obtain this person's cooperation.

The number of people stopped should follow a fixed interval in order to randomize the sample of people who are included in the tally process. By instructing interviewers to select every *nth* person, you will insure all types of attendees are included in the tally – not just the ones that look friendly or easy to approach.

Since tally stints will be conducted at pre-selected sites within zones, interviewers and supervisors will have to use their judgement regarding the most appropriate selection interval. If the area has a comparatively high concentration of attendees, the interval could be every 3rd or every 5th person. If, however, the density of people within the zone is very low, the tally interviewer could be instructed to approach "the next" individual who enters the zone after the previous tally questionnaire is completed.

See Tag and Recapture chapter for comments on the selection interval for *tagging* respondents.

3. The tally unit is a *household party*

Even though the interviewer will approach a *person,* the unit for collecting tally information is the *household party.* Thus, once the interviewer has secured the attention of the *person,* he or she will ask that this person and others in the immediate group step out of the flow of traffic for the interview. The tally questionnaire will aid the interviewer in determining how many *different* people are in the respondent's household party. Each tally interview should represent *all* people in the household party (people who live in the same permanent residence and came to the event together).

4. The tally questionnaire

a) General comments for recruiting Attendees for the Attendee Survey

In the tally interview, you will obtain the information you require to:

- Adjust **counts** of attendees for exclusions, duplication, etc.
- Weight and project the information you collect from your **Attendee Survey**.

We also recommend that you use the tally interview to *recruit* respondents for the Attendee

Survey. Questions associated with the recruitment task included in the tally questionnaire will vary somewhat, depending on how you plan to undertake the Attendee Survey. Different approaches to identifying the sample for the Attendee Survey are listed below. Each will require customized questions or descriptions of procedures in the tally interview.

TAG If you plan to select and "tag" attendees, either as part of the tally interview process or as part of a tag and recapture approach to estimating crowd size so that you can conduct a face-to-face interview with the individual as he/she exits the event, your tally interview would include a question about permission to provide an identifying tag and instructions about interview locations on the site.

TELEPHONE CALL-BACK If you plan to obtain a telephone number and call the respondent back when he/she returns home to conduct the Attendee Survey by telephone, you would have statements that describe this procedure to potential respondents.

ON-SITE RANDOM SELECTION If you plan to approach attendees on a random basis *on the site* during the course of the event to conduct the Attendee Survey, you require a separate stint sampling plan for the Attendee Survey.

SELF-COMPLETION MAILBACK questionnaires can be distributed to randomly selected "tally respondents" or mailed to them at their place of residence. The system of "returns" can be drop-offs on site, by return mail or on a website. Follow-up with telephone calls or e-mails to non-responders is generally required to ensure sufficiently high response rates to the self-completion questionnaire.

WEB SURVEY A website on which the Attendee Survey has been mounted can be constructed. Respondents would be given the site's unique web address and asked to complete the survey once they have access to a computer.

The basic elements of the Tally Questionnaire are the same, no matter which approach to the Attendee Survey you adopt.

b) Paper & pencil or computers

Tally Questionnaires can be "paper and pencil", with interviewers recording the information on printed sheets for subsequent data entry and tabulation or they can be pre-programmed into hand-held or laptop computers. The availability of equipment, weather and site conditions will determine the most effective way to administer the Tally Questionnaire. Remember that if you use a "paper and pencil" approach, you will require the tools and expertise to input tally data into a software system that will permit the weighting and projection of this information.

c) Sample questionnaire and tally sheet

Sample on-site tally questionnaires and tally sheets are provided in Appendix VI (under separate cover).

5. Required tally Information

a) Stint identification

Every assigned stint in your study should have a unique number. This number should be recorded on each tally sheet and each set of materials provided for counting entrants.

b) Interviewer Identification

The interviewer's name should be recorded on each tally sheet for quality control.

c) Refusals

You must be able to measure the response rate (percentage of people who agree to participate) of the tally process. Thus, you must have a mechanism in the tally process to record the number of people who decline/refuse your efforts to interview them when they are asked to participate.

d) Map

Each tally interviewer should have a map that clearly identifies the area you consider to be local. Key landmarks within and outside the local borders should be marked on the map to help people from *outside* the local area understand the local geography. A map with clear boundaries of the areas for which you plan to estimate economic impact is an essential component of the research process.

e) Greeting

To start the interview, the interviewer requires a script. The following sample would be customized to the particulars of your event.

Hi, my name is XXXX INTERVIEWER'S FIRST NAME. Welcome to NAME EVENT. I'd like to ask you just a few questions so we can learn more about who is coming to this event. (TO TAKE RESPONDENT OUT OF TRAFFIC FLOW: Could you and others who are here with you today just step aside for a couple of minutes?)

f) Previous tally

In order to ensure that the respondent has not been interviewed elsewhere on the site on the *same day,* you need to ask this type of question.

If a respondent has already been interviewed, the interviewer should thank the respondent and politely terminate the interview.

Have you already been stopped to answer questions about NAME EVENT today?

No	[ ]	
Yes	[ ]	IF YES, THANK RESPONDENT & TERMINATE

g) A special note about "Previous Tally"

These guidelines provide an Attendee Survey design that captures *all* spending on the site and *all* spending for the stay in the community by attendees for *all* of their visits to the site and for the full duration of their stay. Attendees will be *counted* and *tallied* independently on each day they attend the event but would be asked to complete only ONE Attendee Survey, covering the full duration of their stay in the community. If *local residents* are included in the Attendee Survey, they too will be asked to complete only one Attendee Survey for all the days they visited the event's site.

h) Place of residence - local

It is critical that you are able to distinguish *local residents* and *non-locals* in the tally and Attendee Surveys. Thus, particular attention should be paid to collecting place of residence information completely and accurately.

Is XXXX (NAME CITY/TOWN IN WHICH EVENT IS TAKING PLACE) your permanent place of residence (SHOW MAP*)?

No	[ ]	(These people would be asked city/town, postal code and out-of-town trip questions.)
Yes	[ ]	(These are Locals and would NOT be asked city/town, postal code or out-of-town trip questions.)

*The map should display clear boundaries of what the event has defined to be the "local area".

i) Place of residence - other

IF RESPONDENT LIVES OUTSIDE CITY/TOWN OF EVENT, ASK: In which city/town, province/ state/country is your permanent residence? IF CANADA OR USA, ASK: And what is your postal/zip code?

City/Town	_____
Province/State	_____
Country	_____
IF CANADA/USA: Postal/Zip Code	_____

j) Identifying tourists and overnight tourists

IF RESPONDENT LIVES OUTSIDE CITY/TOWN OF EVENT, ASK: Are you on an out-of-town trip from your permanent place of residence?

No	[ ]
Yes	[ ]

IF YES, ASK: Have you or will you be spending at least one night away from home on this trip?

No	[ ]
Yes	[ ]

k) Household party size

The unit of selection for the tally process is a "household party". It is necessary to collect the number of people included in this household party and the class of ticket they purchased (in order to match the units of tickets sold).

A **household party** is a group of people who enter the site together and who live in the same household. As the spokesperson for this party (respondent), you will need to identify an individual who is *best able to report on spending for all members of the party*.

Examples:

Four young adults enter the site together. Each of these individuals represents a separate party if they live in different households.

Six people enter the site together -- the grandparents (2 people) taking their grown children (2 people) and grandchildren (2 people) to the event. If the grandparents live in the local community and the rest of the family is visiting from a different community, the grandparents represent one "household party" (2 people) and the grown children/grandchildren represent a separate household party (4 people) because they live in separate residences.

Group Tours: you may need to clarify whether members of a "group tour" are reporting the size of their "immediate household party" or the entire group tour. You want the "immediate household party". You do *not* want "all the people on the bus" or in the group tour. A separate question may be required to identify those travelling as part of a "group tour" if you expect your event to attract considerable motorcoach tour traffic.

How many people who live in your household came to NAME EVENT with you today?
IF MORE THAN ONE PERSON IN PARTY, ASK: And how many, if any, of these people are under [XX] years of age? [The age you insert will depend on how you plan to define the sampling unit. See Tally Procedures.]

Total number in household travel party _____
Number under [XX] years _____

l) Purpose of visit (excluded categories)

How many people in your group, if any, are [Are you*] here as staff, a vendor, participant/performer, media or volunteer to help with today's events? RECORD OPPOSITE APPROPRIATE EXCLUDED CATEGORY. IF ALL PARTY MEMBERS ARE "EXCLUDED", RECORD ON TALLY SHEET & TERMINATE

Staff _____
Vendor/merchant _____
Participant/ performer _____
Media _____
Volunteer _____

*wording change required if a one person party

m) Type of ticket(s) used

Which type of ticket(s) did you use to enter NAME EVENT today? OPTIONAL, depends on circumstances of Event. See Tally Procedures)

Individual day ticket	[ ]
Individual event pass [multi-day pass]	[ ]
Family day ticket	[ ]
Family event pass [multi-day pass]	[ ]
NO TICKET (Comp., Vendor, Staff, etc.)	[ ]
OTHER (WRITE IN)	_____

n) Number of days have/plan to attend event

IF MULTI-DAY EVENT: NAME EVENT lasts for X days. Over the full course of the event, on how many different days have you/do you plan to attend, counting today's visit?

WRITE IN NUMBER OF DAYS	_____
DON'T KNOW/CAN'T ESTIMATE	[ ]

o) Additional questions to adjust attendee counts

Additional information is required of tallied parties to adjust counts for ungated events. The additional questions will differ, depending on the approach you adopt for estimating attendance at your event. Examples of additional questions, inserted in the Tally Questionnaire at question 7, are provided in the sections devoted to each approach (e.g., aerial photos, parking lot counts, etc.). These additional questions are also displayed in Appendix VI, Sample Tally Questions.

C. Recruitment for attendee survey

1. Additional tally questions to recruit respondents for the attendee survey

If you were planning to use the tally procedure to recruit participants for the Attendee Survey, you would add the appropriate "recruitment" questions at the end of the tally questionnaire.

We recommend that you distribute a self-completion questionnaire to attendees as they are tallied and collect the completed questionnaire as people exit the site for the *last time* or return via the mail (you need to provide postage paid envelopes for them, ensuring that the postage is appropriate to the country from which they may mail the completed questionnaire – e.g., Canada or USA postage).

This method is recommended because it is the most efficient way to obtain Attendee Surveys from "hard to find" attendees (e.g., tourists) and involves the least investment in interviewer time, training and supervision.

If you plan to collect completed Attendee Surveys as people leave your event, you will need to have collection receptacles and staff at or near exit points reminding attendees who might have

been given surveys to complete and leave them at the site. Because the site is ungated, you may have to include a map of drop-off boxes with the Attendee questionnaire to help respondents locate the receptacles. These locations should be distributed throughout the site(s) and clearly marked. Depending on the nature of your site, you may have to position receptacles for completed surveys at some central points on the site. Candidates for "central points" might be information kiosks, the food/refreshment area, etc.

Ideally, you would have tables and chairs in a protected area at the locations in which you position "drop off" receptacles for the Attendee Survey. A "Complete your Survey Here" sign would also encourage attendees to stop and complete the questionnaire before they leave the site. A supply of pencils should also be available.

2. Incentives

To enhance your response rate, we recommend that you offer an incentive to people who complete and return the Attendee Survey. The incentive could take the form of a souvenir of the event itself, a small cash gift (e.g., $1.00), or a chance to win a prize in a "lucky draw". Local merchants can often be called upon to provide souvenirs or prizes. To ensure responses that are not biased, avoid incentives that not all visitors would enjoy equally (i.e., golf clubs, tickets to an out of town event, etc.).

3. Recruitment for self-completion attendee survey at tally stage

We recommend that you have two versions of the Attendee Survey questionnaire: one for people who live in the local community and a different one for tourists.

If you have selected a distribution interval such that every 5th or every 10th local household party would be asked to complete the Attendee Survey, tally interviewers will have to keep track of the interval as they distribute questionnaires.

Because tourists are generally harder to find at an event than locals, you may wish to distribute an Attendee Questionnaire to *all* tourists.

Because we recommend that different Attendee Questionnaires be used for local and tourist household parties, interviewers will have to check the place of residence question in the tally interview to determine which script to use and which questionnaire version to distribute.

Each Attendee Questionnaire should be *pre-numbered* with a unique identification number (ID). This number would be recorded on the Tally Sheet as the questionnaire is distributed. The purpose of this unique ID number is to permit you to know who did and who did *not* return a completed questionnaire. Those who did *not* return a questionnaire would be re-contacted by telephone or email and encouraged to complete and return the survey.

Because different questionnaire versions are recommended for *local* and *tourist* parties, we suggest that you pre-number each version of Attendee Questionnaires using a different series (e.g., L-0023 for a "local" and T-0045 for a "tourist").

a) Recruitment questions for locals at single day event

ASK EVERY *nth* LOCAL: In order for us to learn more about your reactions to NAME EVENT and your spending here, would **the person most able to report on spending** for all people in your household please complete this short survey just before you leave the site today? You can drop the completed questionnaire in one of the specially labelled boxes at [NAME LOCATION(S) OF DROP OFF BOXES] or return it to us by mail in the postage paid envelope we have provided.

IF THERE IS AN INCENTIVE, CONSTRUCT THE APPROPRIATE STATEMENT: As a thank you for your cooperation, once we have your completed survey, we will provide you with/ you will have a chance to win [NAME PRIZE], etc.

Refuses to accept questionnaire	[ ]	
Accepts questionnaire	[ ]	RECORD UNIQUE ID FROM Q'AIRE ON TALLY SHEET

IF ACCEPTS: Could I please have a local telephone number and the first name of the person who will complete this survey, just in case we have to follow-up on any of your answers?

RECORD LOCAL PHONE NUMBER
RECORD FIRST NAME OF RESPONDENT

b) Recruitment questions for non-locals at single day event

NON-LOCAL: In order for us to learn more about your reactions to NAME EVENT and spending on your trip, would **the person most able to report on spending** for all people in your household who are on the trip with you please complete this short survey just before you leave the site today? You can drop the completed questionnaire in one of the specially labelled boxes at [NAME LOCATION(S) OF DROP OFF BOXES] or return it to us by mail in the postage paid envelope we have provided.

IF USING AN INCENTIVE, CONSTRUCT THE APPROPRIATE STATEMENT: As a thank you for your cooperation, once we have your completed survey, we will provide you with/ you will have a chance to win [NAME PRIZE], etc.

Refuses to accept questionnaire	[ ]	
Accepts questionnaire	[ ]	RECORD UNIQUE ID FROM Q'AIRE ON TALLY SHEET

IF ACCEPTS: Could I please have a telephone number (including area code) where I can reach you at home and the first name of the person who will complete this survey, just in case we have to follow-up on any of your answers?

RECORD PHONE NUMBER
RECORD FIRST NAME OF RESPONDENT

c) Recruitment questions at multi-day event

IF MULTI-DAY EVENT: Have you or has anyone else in your household party received a questionnaire to complete, either today or on a previous day you came to the event?

No	[ ]	GO TO NEXT QUESTION
Yes	[ ]	You need only complete one questionnaire for all your visits to this event. Thank you for your cooperation and enjoy your stay here today.

Recruitment Questions for Non-Locals at multi-day event

In order for us to learn more about your reactions to NAME EVENT and spending on your trip, would **the person most able to report on spending** for all people in your household who are on the trip with you please complete this short survey just before you leave the site today? You can drop the completed questionnaire in one of the specially labelled boxes at [NAME LOCATION(S) OF DROP OFF BOXES] or return it to us by mail in the postage paid envelope we have provided.

IF USING AN INCENTIVE, CONSTRUCT THE APPROPRIATE STATEMENT: As a thank you for your cooperation, once we have your completed survey, we will provide you with/ you will have a chance to win [NAME PRIZE], etc.

Refuses to accept questionnaire	[ ]	
Accepts questionnaire	[ ]	RECORD UNIQUE ID FROM Q'AIRE ON TALLY SHEET

IF ACCEPTS: Could I please have a telephone number (including area code) where I can reach you at home and the first name of the person who will complete this survey, just in case we have to follow-up on any of your answers?

RECORD PHONE NUMBER
RECORD FIRST NAME OF RESPONDENT

Recruitment Questions for Locals at multi-day event

LOCAL: In order for us to learn more about your reactions to NAME EVENT and spending at this event, would **the person most able to report on spending** for all people in your household who came to this event with you please complete this short survey just before you leave the site today? You can drop the completed questionnaire in one of the specially labelled boxes at [NAME LOCATION(S) OF DROP OFF BOXES] or return it to us by mail in the postage paid envelope we have provided.

IF USING AN INCENTIVE, CONSTRUCT THE APPROPRIATE STATEMENT: As a thank you for your cooperation, once we have your completed survey, we will provide you with/ you will have a chance to win [NAME PRIZE], etc.

Refuses to accept questionnaire	[ ]	
Accepts questionnaire	[ ]	RECORD UNIQUE ID FROM Q'AIRE ON TALLY SHEET

IF ACCEPTS: Could I please have a telephone number (including area code) where I can reach you at home and the first name of the person who will complete this survey, just in case we have to follow-up on any of your answers?

RECORD PHONE NUMBER
RECORD FIRST NAME OF RESPONDENT

VII. ATTENDEE SURVEY ANALYSIS PLAN – NON-LOCALS

A. An overview

Once your Attendee Surveys have been completed, they must be transformed into a data file for tabulation and analysis. The steps in converting questionnaires into spending information for input to a tourism economic impact model are complex. For this reason, we highly recommend that you engage the services of professional research and tabulation experts and provide them with these guidelines to complete this part of the process.

The tasks required to transform *questionnaire responses* into estimates to be used as inputs to a tourism economic impact model include:

1. Creating a "raw" data file (includes coding, keying, verification)

2. Creating a "clean" data file (includes editing, assignment of information for missing values and distribution of aggregated spending to categories)

3. Assigning reported, allocated or attributed spending to *geographic areas*

4. Constructing an "Event Account" (identification of spending in the community and larger area that is *incremental)*

5. Weighting and projecting survey responders to all non-local attendees.

These steps are described in greater detail in the sections that follow. Sample Attendee questionnaires are provided in Appendix VII (under separate cover).

B. Creating a "raw" data file

1. What is a "raw data file"?

A "raw data file" is an electronic version of the information provided by the respondent in a completed questionnaire before any editing or adjustments have been made.

2. Unique respondent ID #

When distributed, every questionnaire should have been given a unique identification number that is recorded on the Tally Sheet (for follow-up with non-responders). You can use this number as the "respondent ID" or you can assign a new number series to all returned questionnaires. Whichever number you decide to use, its data entry is very important for the tabulation and analysis process because the unique respondent ID provides you with a "mailing address" in your data file for each completed survey.

If you do not use the pre-assigned questionnaire number you have printed or hand-written on the Attendee Questionnaire (and recorded on your tally sheet to identify *non-responders* and permit you to re-contact them), you can assign consecutive numbers to each questionnaire or you can "group" them by stint, or by type of visitor (local, non-local; overnight or same-day, etc.). For example, you could use the 100 series for *locals,* the 400 series for *non-locals* who live in the same province/state as your event, and the 600 series for *non-locals* who live outside the province/state in which your event takes place. If you group respondent IDs in series, make sure each series will accommodate the number of completions you anticipate receiving for each group. In this example, you could have up to 400 completions with *locals,* 300 completions with *non-locals who live in the same province/state* and so on.

Local	Non-local – same province/state	Non-local – other
100 . . . 399	400. . . 699	700. . .

3. Usable questionnaires

Not every questionnaire that is returned is "usable". Some must be discarded from the analysis process because the respondent provided insufficient information for weighting and projection and/or frivolous responses. You should manually review each returned questionnaire to determine how many, if any, have too little information to be kept for analysis. These "unusable returns" should be retained for estimating your response rate (see below) but should not be included in your tabulations.

4. Calculating response rate

The response rate of your Attendee Survey is a measure of how representative your *sample* of attendees is of *all* attendees. Thus, at the distribution phase, you would keep track of how many people refused to accept the questionnaire when offered (from Tally Sheet) and, of those who did accept it, how many actually returned it. The final response rate is the total usable returns ("C" in the table below) you obtained divided by the total asked to complete the survey (C ÷ N in the table below where N = total number of attendees asked to complete the survey).

Total Asked to Complete	N (number)	Percent
Total Acceptors	A	A ÷ N
Total Returnees	B	B ÷ N
Total Usable Returns	C	C ÷ N

For more information on calculating response rates, see Chapter VIII (*Documenting the Study Process).*

C. Coding survey responses

1. Unique variable addresses in your data file

Responses to each question or "variable" in the questionnaire must be entered into a computer system that will permit you to tabulate and manipulate the results. Generally, a system of numeric codes is developed to assign a unique "address" to each response category for each question. For example, the Respondent ID might be in Field 001 and be four units long. Thus, a questionnaire with Respondent #0239 would be keyed in Field 001 as 0 2 3 9.

Another example: Attendee Survey question about main mode of transport. You might assign codes 1 through 6 for the listed response categories and a "9" for those who leave the question blank:

MAIN TYPE OF TRANSPORTATION
(Type used to travel greatest distance on trip)

	Assigned Code
Auto/truck/motorhome	1
Inter-city bus	2
Train	3
Airplane	4
Boat/ship	5
Other	6
NOT STATED/BLANK	9

You would enter the appropriate code in the field you have assigned to the *Main Mode* variable.

You will require a separate field for each variable you plan to examine. This will include *each* spending category in the *on-site* and *other spending* lists in the Attendee Survey.

2. Numeric fields

For response categories such as **number of nights** and **dollars** (*numeric fields*), you would create fields that can accommodate the maximum number of units you expect to be reported. For example, if you expect the number of nights spent by tourists in your community to be no greater than 99, you could use a two-digit field. In this case, a record with three nights in your community would be entered as "03" and a record with 30 nights would be entered as "30".

You will need to set aside some "codes" for missing information and for "Don't Know" responses. This information should always be included in your data file. In this example, you might use "98" to represent missing information (an item left blank by the respondent) and "99" for "Don't Know".

When setting up numeric fields, be sure to identify the maximum value for the variable in your completed questionnaires so you leave yourself enough room to accommodate the largest value *and* have some codes available to assign to people who mark "don't know" and those who provide "no response" to the variable.

3. Developing code lists for geographical units

For variables such as cities, provinces, states and countries, you will likely need to create a "code list" in which you assign numeric values (codes) to the information provided. As a general rule, it is advised that you rely on census geo-codes at the county (census division) and city levels for the local community and its immediate environs because you will need to be able to sort your respondents into those that live *in* the local area and those who live *outside* this area. For locations outside your province or state, it is usually sufficient to code information only at the province, state or country level.

You can always group smaller geographic units together to build larger ones. Consequently, we recommend that you select the smallest possible unit for geo-coding for locations within your own province or state.

4. Data entry & verification

Once questionnaires have been coded, they must be "entered" or "keyed" into a computer system. Because you will be relying heavily on the dollar values reported by respondents and because it is easy to make errors in keying these numbers, we recommend that you "verify" data entry. Verification is the re-entry of the questionnaire data by a different data entry person and a comparison of the two "files". Any discrepancies between the two files should be resolved by reviewing the actual questionnaire.

5. Keep a copy of the raw data file

Once every usable questionnaire has a unique, electronic "mailing address" and every variable in the questionnaire has a value (code), you have a "raw data file". Keep a copy of your raw data file in a safe place. Make a copy of this "raw" file to use as your "working file". In the "working file", you will clean and edit the data.

D. Creating a "clean" data file

1. Introduction

There are many "editing" procedures required to get your raw data "in shape" to generate the spending estimates necessary to feed a tourism economic impact model. The editing tasks fall

into several main categories:

1. Internal consistency
2. Check for reasonable values
3. Replacing missing values and/or distributing "total" values to specific spending categories

To perform the edits, you need a raw data file that provides all responses for each completed questionnaire, including the unique ID, on a record-by-record basis.

All editing and adjustments to spending are to be completed on *unweighted, unprojected* data (before you have performed the weighting and adjustment tasks).

2. Internal consistency edits

You need to ensure that respondents answered questions in a consistent manner. For example, if they claim to have spent nights in a paid form of lodging (e.g., hotel), they should have entered a dollar amount in the lodging category of the spending question. If they did not do this, you will need to make an adjustment in the data. Similarly, if the *total* number of people in the household travel party is **smaller** than the numbers who are *under 18* years of age, an adjustment is required.

If any adjustments are made (apart from keying errors), they should be recorded as part of the technical documentation for the project, including the original value provided by the respondent, the adjusted value and the unique respondent ID. Keeping a record of changes you make will help you and others understand how you arrived at the final estimates. [See Appendices III and IV for Editing Guidelines]

3. Check for reasonable values

Maximum *reasonable* values for each item of expenditure should be set. All records that exceed these "reasonable" values should be manually examined to ensure accuracy of data entry and reporting. If any adjustments are made (apart from keying errors), they should be recorded as part of the technical documentation for the project, including the original amount, the adjusted amount and the unique respondent ID.

The duration of the trip, number of nights in the community and other parts of the province or state and the number of days on which a respondent went to your event are included in the questionnaire for two reasons: (1) they provide useful information in their own right and (2) they are tools to help you determine if the values provided by a respondent for on-site and other spending are *reasonable.* When assessing completed responses for reasonable values, you should take responses to these questions into account.

4. Replacing missing values and distributing "total" values to specific spending categories

Spending estimates to be used as inputs for a tourism economic impact model must be divided into categories of expenditure because different types of spending have different *impacts* in an economy.

For example, a dollar spent in a grocery store on food has a different economic impact in a community than does a dollar spent in a restaurant on food. Similarly, dollars spent on lodging, various types of transportation, retail and other categories generate different impacts in an economy.

To prepare spending estimates for use in a tourism economic impact model, you need a set of rules to help you divide spending into each of the categories listed in the questionnaire for respondents who were unable or unwilling to divide their spending into the listed categories when they completed their questionnaire. The processes for distributing spending to various categories are referred to as allocation or attribution (see definitions in Section 5, below).

Developing and applying rules to handle each type of spending and each circumstance that can occur when people complete a questionnaire is complex. Why? Because the spending patterns of attendees will differ depending on the nature and duration of their trip, how much information they provided in the questionnaire and whether they detailed their spending or provided you with "total only". The patterns and amount of detail provided can vary from respondent to respondent. For more information on how to distribute spending to various categories, see Appendices III, IV.

5. Definitions: reported, allocated and attributed spending

Reported spending is information provided **by the respondent** and taken directly from the questionnaire "as is". It includes the total amount spent in the province/state and the portion (%) of this spending, converted to dollars, that the respondent claims to have spent in the local community.

Allocated spending is the distribution *you* make to various spending categories and/or locations from the "total" dollar amount supplied by the respondent.

Attributed spending is *your* assignment of spending for various spending categories and to locations for respondents who did NOT provide an indication of how much they spent (i.e., categories and "total" are left blank by the respondent).

E. Assigning spending to geographic areas

Because the costs of a particular item such as accommodation could vary greatly depending on the location in which the expense was incurred (e.g., a hotel night in a major city might cost considerably more than a hotel night in small town), respondents are asked to aid in the assignment process by identifying the proportion of their total spending estimate for a particular category that was attributable to the local community. Not all respondents will provide the proportion (%) of total spending that took place in the *local* community. Consequently, you will need some assignment principles so that you can assign spending to different locations in a consistent manner. We recommend the following principles to manage this process for trip spending apart from spending done on the event site (*all* on- site spending is automatically assigned to the local community:

- If the respondent provides guidance about the proportion of expenditures in a particular

category that was spent in the local area versus the balance of the province/state, use the respondent's distribution for each category, with three exceptions: vehicle operations, vehicle rental and domestic carrier fares (see Appendix IV, Section J, Geographic Distribution Tables).

- If the respondent does not indicate the proportion of expenditures in the local community (or if dollars had to be allocated to specific expenditure items in cases of ascription or distribution of "total" spending), special rules are required (see Appendix IV, Section J Geographic Distribution Tables). These rules help you to allocate expenditures to the local community and the balance of the province/state.

F. Constructing "event accounts" (incremental spending)

Once reported, allocated or attributed spending has been assigned to *geographic areas*, you are ready to isolate the portion of spending that is considered incremental tourism spending. This is the spending that occurred *because* your event took place. It is the spending you will feed into a tourism economic impact model.

Identifying incremental spending is done on a record-by-record basis, using responses to three questions in the Attendee Survey:

- Similar recreational activities in the community (substitution effects);
- Trip replacement; and
- Importance of your event in destination choice.

1. Two event account columns

Some incremental spending accrues to the local community while other incremental spending accrues to the rest of the community's province or state. We recommend that you create two "columns" in your Event Account so you can estimate the incremental spending at both the community and provincial or state levels. You can add additional "event accounts", depending on the number of geographical impact areas you wish to assess. For example, you can add columns to the questionnaire and in the analysis such that you can estimate the tourism economic impact for the *local community*, *county*, and *state.*

2. Substitution effects

If a non-local visitor would have engaged in other similar recreational activities in lieu of going to your event, spending associated with the event is not incremental spending. In other words, it would have occurred irrespective of the event. In this case, the attendee's spending "on site" would not be included in the "Event Account" (see question from Attendee Survey, below).

SIMILAR RECREATIONAL ACTIVITIES IN COMMUNITY
If you had *not* attended [NAME EVENT] on this trip, would you have gone to some other [SIMILAR TYPE OF EVENT] instead? Please refer to the map, if necessary.

	IN [NAME COMMUNITY]	IN [OTHER PARTS OF PROV/STATE]
No		
Yes		
Don't Know		

3. Trip replacement

If the trip that included a visit to your event displaced a trip that would have taken place within the next three months, no spending is considered incremental because a "similar trip" was replaced by "this" trip (see question from Attendee Survey, below). The time period for a replacement trip or time switchers can vary. Some experts recommend a three-month period (used in these materials), whereas others use a twelve-month period. In designing your survey, you will need to determine the time span most appropriate for your event and community.

IS THIS TRIP REPLACING A DIFFERENT TRIP?
Would you have come to [NAME LOCAL COMMUNITY] in the next three months if you had not come at this time for [NAME EVENT]? Please refer to the map, if necessary.

No
Yes
Don't Know

4. Importance of event in destination choice

Once substitution effects and replacement trips have been taken into account, you need to apply the proportion volunteered by the respondent for the importance of your event in the destination choice to remaining expenditures in the "community" and "other parts" of the province/state columns to identify the amounts to be entered in the event account.

THE QUESTION: Circle the number below that best describes how important [EVENT] was in your decision to visit [NAME CITY/TOWN OF EVENT] on this trip, where 0 indicates *no influence* and 10 is that [NAME EVENT] *is the main single reason* for visiting [NAME CITY/TOWN] on this trip.

No Influence									Main Reason	Don't Know
0	1	2	3	4	5	6	7	8	9	10	X

The proportion of spending that is "incremental to your event" is based on the score the respondent volunteers to the "importance question" (see above). Thus, if the respondent claims that the event had "0" influence on the decision to come your community, *no* spending would be included in the event account. If he or she offered a score of "3", 30% of the spending in the community and in other parts of the province/state would accrue to the event account.

See Appendix IV, Section K, *Identifying and Assigning Incremental Spending to Event Account* for a description of how to assign spending to the event account at the local and provincial/state levels.

5. If *importance of event* question is *don't know* or blank

All questionnaires from non-locals require a value for the "importance of the event" in the destination choice. If the respondent does not provide this information or claims not to know the importance, you must calculate and assign a reasonable "surrogate" value. To create a surrogate value, we recommend that you calculate the average score for all those who *offered* a score and apply this average to each "Don't Know" case.

G. Weighting and projecting Attendee Survey data

1. Using tally weights

From the Tally/Counting process, you have estimates of the total number of attendees by place of residence and by stint. Each of your completed **Attendee Surveys** is also linked to a stint because you put a stint ID on each questionnaire before you distributed it (see Tally Process). To estimate the total spending by non-local attendees and the portion of it that will be used in the estimate of economic impact, you would apply the final weights for each stint/place of residence group to those who completed the Attendee Survey.

If yours is a multi-day event, you must use the proportions you calculated in the tally process for *unique local attendees* (taking into account the number of different days they attended your event). Before you do this, you need to "convert" completed attendee survey units from "household parties" to people.

The weighted, projected unique attendees are derived from the calculations described in Section VI for aerial photography, parking lot counts, parade counts and tag and recapture methods.

a) An example

Step 1: Convert completed attendee survey units from "household parties" to people on a record-by-record basis. Each completed questionnaire represents the total number of people on the trip.

Step 2: Use the weighted, projected estimates from the tally process for each place of residence group in each stint (see methodologies for various methods of counting/tallying attendees described in Section VI). In the example used in the tally process, Stints 1 and 2 produced the following distribution.

FROM TALLY PROCESS			
Stint		Tallied Attendees	Weighted, Projected Unique* Attendees
S_1	Local	184	2,040
S_1	Non-local – Same Province/State	37	413
S_1	Other Provinces/ States	15	160
S_1	Other Country	10	115
S_2	Local	148	1,719
S_2	Non-local – Same Province/State	32	367
S_2	Other Provinces/ States	21	252
S_2	Other Country	11	115

*Adjusted for multiple day visits if multiple day event and adjusted for exclusions, duplication, etc.
NOTE: The weighted, projected unique attendees are derived from the calculations described in Section VI for aerial photography, parking lot counts, parade counts and tag and recapture methods.

b) Attendee person weight

Each completed non-local Attendee Survey (questionnaire) for a particular place of residence and stint will be weighted and projected to the total number of *unique attendees* from the corresponding place of residence that came to your event during the particular stint.

Thus, if you estimated that 413 non-locals from the same province/state were represented by Stint 1, each of the thirty-seven (37) completed Attendee Questionnaires representing 12 people from this place of residence/stint group will have a weight of 11.16. In other words, each of these records will "stand for" 11.16 unique non-local attendees. This final attendee weight would be coded on the respondent's record in your data file and would be used when you run tabulations for *attendee* characteristics **excluding spending (see note below).**

*If your event lasted more than one day, you need to make a special adjustment in the weighting and projection to take this into account.

COMBINING TALLY & ATTENDEE INFORMATION					
Stint		Weighted, Projected Unique Attendees	Completed Attendee Questionnaires	Household Members on Trip	Attendee Person Weight
S_1	Local	2,040	N/A	N/A	N/A
S_1	Non-local – Same Province/State	413	13	37	11.16
S_1	Other Provinces/ States	160	9	15	11.00*
S_1	Other Country	115	0	10	
		275	9	25	
S_2	Local	1,719	N/A	N/A	N/A
S_2	Non-local – Same Province/State	367	14	32	11.47
S_2	Other Provinces/ States	252	6	21	12.00
S_2	Other Country	115	4	11	10.45
*Cells must be merged because "Other Country" has "0" value					

c) Attendee household weight (for spending estimates)

Spending information is collected for ***all members of the household party on the trip***. Consequently, when you are working with spending data, you must create and use an **Attendee Household Weight**. This weight is the Attendee Person Weight divided by the total number of household members on the trip. In our example, one of the 13 non-locals from the same province/state in Stint 1 has a household party size of 2 people. The Attendee Household Weight for this record would be 11.16 ÷ 2, or 5.58. In this case, every dollar spent in the community or in a larger geographic area for this household party would be multiplied by 5.58 to represent this and other *similar* attendee parties.

As shown below, the Attendee Household Weight must be calculated individually for each record, using the Attendee Person Weight and the number of household members reported on the trip (from the completed questionnaire). The **sequence** in which you perform these steps is very important.

Like the Attendee Person Weight, the Attendee Household Weight should be coded on the respondent's record in your data file and must be used when you run tabulations for *all* ***spending*** estimates.

S_1 Non-local – Same Province/State					
Record	1	2	3	4	Etc.
Attendee Person Weight (A)	11.16	11.16	11.16	11.16	
# on Trip (B)	2	2	1	3	
Attendee Household Weight (A ÷ B)	5.58	5.58	11.16	3.72	

d) Adjustment for multiple-day attendees

Tourists may come to your event on more than one day during their stay in your community. They are asked to report spending for the *entire stay* in the community and *all* their visits to your

event. Tally information, however, treats each *entry* to your event as a separate household party. If no adjustment were made for people who went to your event on *more than one day,* estimates of spending would be inflated. To resolve this potentially inflationary situation, special adjustments are required in the tally weighting, taking into account the number of different days tallied attendees went/planned to go to the event. [See Tally Weighting for details.]

VIII. DOCUMENTING THE STUDY PROCESS

A. Introduction

1. What is a *Technical Appendix*?

Once your study is over, you will have results based on the information you collected and analyzed. These results should be accompanied by a document that allows users to understand the robustness of your findings. Such information includes the procedures you used to sample, collect information (interviewing), weight and tabulate your results.

The rationale for a ***Technical Appendix***, as this document is often called, is to provide enough detail about *how the study was done* that if someone else followed your procedures, they would get similar results.

This technical documentation not only provides guidance for interpreting the study findings but also provides a handy reference tool for organizations that may wish to undertake the same type of study "next year" or in subsequent years. The Technical Appendix should provide sufficient information on how the study was conducted that the organization can follow it in the future, thereby, obtaining comparable year-to-year results.

The Technical Appendix will be much easier to compile if you collect and retain calculations (spreadsheets) and survey materials as the study unfolds. In fact, much of what you will need for the Technical Appendix will be "in place" prior to starting the interviewing for the study. Keeping complete records of the steps you take in developing your study and recording the outcomes of activities as you go along will make the preparation of the Technical Appendix much easier!

2. What does a *Technical Appendix* contain?

The essential contents of a Technical Appendix are listed below. Details about each of these topics are provided in the following sections.

- Overview of study objectives and study sponsor(s)
- Who conducted the study
- Study timing and survey dates
- Description of the data capture method(s) used
- Description of the universe under study
- Definition of "qualified respondents"
- Sampling
- Field procedures
- Response rate
- Calculations for weighting/projection
- Data editing, cleaning and adjustment procedures
- Field materials

B. Contents of a Technical Appendix

1. Overview of study objectives and study sponsor(s)

This introductory section describes the major information objectives of the study. Here is an example:

This study was initiated by [NAME OF SPONSOR(S)] in order to obtain inputs to estimate the tourism economic impact of NAME EVENT held between [INSERT START AND END DATE OR THE PORTION OF THE EVENT COVERED BY THE STUDY], to gain a better understanding of who comes to EVENT and to identify improvements that might be made to enhance the visitor experience. Specific objectives included estimating the incidence of tourists and non-tourists, demographic and behavioural characteristics of tourists and non-tourists, tourist spending at the event and in the community, ratings of the event on a number of attributes and generation of inputs for a tourism economic impact assessment.

2. Who conducted the study

If your organization undertook all aspects of the study, you should say so. If, however, other organizations were called upon to do significant tasks (e.g., sampling, interviewing, data editing and/or tabulations, etc.) they should be identified in the Technical Appendix.

If the project was largely contracted to a third party (e.g., university, survey research firm, etc.), you may want to provide this section of the Guidelines to the supplier and ask them to provide you with a Technical Appendix that covers the topics described here.

3. Study timing and survey dates

The study timing describes the period the findings represent. For example, if you collected information and weighted and projected to volume estimates for only some of the time period of the event or only for some portions of it, you would provide describe the start and end dates of the survey period and which portions of the event are included and excluded.

4. Description of the data capture method(s) used

This section describes the tools or methods you used to count visitors and collect information from them. Simple descriptions are all you need. For example, if interviewers were used to count entrants, you would say this and indicate what forms or technology they used to keep track of the counts, how many "stints" were assigned to counting, how many "counters" you used and where and when the counting was done. If turnstiles were used you would identify the number and location of turnstiles and how you gathered counts from them (e.g., daily, weekly, etc.).

For collection, you would describe how information was gathered. Some examples:

- *All information was collected via an on-site intercept interview;* or

- *Limited information was collected via an on-site intercept interview and additional information was collected using a self-completion paper questionnaire;* or
- *As above, using a telephone follow-up interview*, etc.

If multiple modes of data collection were used, the basic content of each questionnaire should be described. The actual questionnaires would be appended to the Technical Appendix and do not have to be repeated in their entirety in this section.

5. Description of the universe under study

This section will establish the boundaries of your study findings. The "universe" is the total number of people to which you have weighted and projected questionnaire responses. The information you provide to describe the "universe" would answer the following types of questions:

- Is the universe *all* people who came to the event or attraction or were some types of entrants excluded (e.g., staff, volunteers, media representatives, school groups, bus tours, guests at VIP functions)?
- What mechanisms did you use to exclude certain types of entrants from the tally or attendee survey process? These might include specific questions in the questionnaire or exclusion of some entrances (e.g., staff entrances) from the sample.
- What steps did you take to adjust visitor "counts" to remove certain types of entrants?
- Were local residents and tourists included in your study? If so, how did you define a "tourist"?

If the findings are weighted and projected to tourists or some other subgroup of the total visitor population, you need to provide the definition(s) you used to determine if a person qualified for the subgroup.

6. Definition of "Qualified Respondents"

The criteria used to determine *which* person would be providing information to you (the "qualified respondent") should be documented in this section. If only certain types of people were asked to provide information, you need to describe the qualifications they had to meet. For example, did they have to be at least 18 years of age? Were there other requirements for determining which individual was asked to provide information? For example, did respondents have to be able to report on their own spending and the spending of others travelling with them?

7. Sampling

An overview of the various components of sampling should be provided. What type of sampling plan did you use? Was it a *stratified stint sampling* approach? How were the stints selected? How many were selected? If separate stint samples were developed for *counting* and *interviewing*, materials for each should be included.

This section should also provide information on the *outcome* of your sampling plan. Did all the stints take place as originally intended? Were there cancellations and/or replacements? Were any stints added? How many completions were obtained per stint?

Since you will have compiled much of this information in order to weight and project your interviews or counts to totals, you can either insert your worksheets and full sampling plan for counts and intercepts in the body of the Technical Appendix or summarize stint distribution and outcomes over time (day of week/time of day) and append the more detailed worksheets.

If you plan to provide a summary of the stint sample, including outcomes, you can use the same type of grid provided in these Guidelines for a stratified stint sample with 13 selected stints (see page 45). Using this grid as an example, you would add a column to the table to detail cancellations, replacements and/or additional stints. You would add another column in which you would record the number of completions achieved during each listed stint.

13 Selected High Volume Stints						
					NEW	NEW
Selected Stints	Month	Date	Time	Count	Cancellations/ Substitutions, Other	Number of Completed Interviews
1	June	2	1:30 – 4:30	208		
2	June	14	1:30 – 4:30	16		
3	June	23	10:00 – 1:30	32		
4	July	2	10:00 – 1:30	48		
5	July	12	10:00 – 1:30	64		
6	July	21	10:00 – 1:30	80		
7	July	30	10:00 – 1:30	96		
8	August	8	1:30 – 4:30	112		
9	August	17	1:30 – 4:30	128		
10	August	26	1:30 – 4:30	144		
11	Sept	5	1:30 – 4:30	160		
12	Sept	14	1:30 – 4:30	176		
13	Sept	23	1:30 – 4:30	192		

This section should also cover the procedures used to select respondents for intercept interviews/other interviews. For example, was it every n^{th} party or individual? If so, what interval was used?

8. Field procedures

This section would include brief descriptions of the following elements (as applicable):

- How many interviewers worked on each stage of the project (e.g., counting, tallying, interviewing)?
- How much prior interviewing experience did they have?
- What training was provided to them?
- What supervision procedures were developed for the project (monitoring "count" stints; interview stints, etc.)?
- How many field supervisors worked on the project?
- Were interviewer instruction manuals prepared? If so, a copy should be appended to the Technical Appendix.

9. Response rate

The response rate you achieve in your study is an indication of how representative the surveyed population is of the "universe under study". This number helps you and those using your estimates to understand the robustness and reliability of your findings.

An example of how to calculate the response rate is provided below.

Row		Number	Percent	Formula
1	Total number of entry parties approached during Tally process (A) ["A" = B + C]	2000	100%	
2	Total number of entry parties that completed the Tally interview (sum of completed "rows" on Tally Sheets for all stints) (B)	1200	60%	B ÷ A
3	Total number of entry parties that refused to cooperate with Tally (sum of refusals from the box on top of all Tally sheets [sum of "last number crossed out" on each completed Tally Sheet for all stints]) (C)	800	40%	C ÷ A
4	Total in-scope entry parties for Attendee Survey (Total eligible to receive or asked to complete Attendee Survey. This number is the sum of rows with either a "refusal" or "accepts" mark at Q.8 on the Tally Sheet for all stints) (D) ["D" = E + F]	1,000	50%	D ÷ A
5	Total number of entry parties that refused self-completion/ on-site interview (This number is the sum of rows with a "refusal" mark at Q.8 on the Tally Sheet) (E)	150	8%	E ÷ A
6	Total number of entry parties that accepted self-completion/ completed on-site administered interview (This number is the sum of rows with an "accepts" mark at Q.8 on the Tally Sheet) (F)	850	43%	F ÷ A
7	Returned self-completion survey/completed on-site administered interview (G)	430	22%	G ÷ A
8	Unusable questionnaires (H) (Number of questionnaires that were not processed because they were incomplete, were returned too late, or for other reasons]	15	1%	H ÷ A
9	Usable questionnaires for processing (I) [I = G - H)	415	21%	I ÷ A
10	Completed Questionnaires Among All Entry Parties	22%	Row 7	
11	**Usable Completed Questionnaires Among All Entry Parties**	**21%**	Row 9	
12	**Usable Completed Questionnaires Among All In-Scope Parties**	**42%**		I ÷ D

Notes for example

- Rows 1 – 3: You would sum **refusals** (the row of numbers at the top of the tally sheet that are "crossed out" as parties refuse the tally process) and sum **completed rows** from all tally sheets for all stints. The sum of these two (Rows 2 and 3) represents the number of "encounters" interviewers had with attendee parties. You would record this number in Row 1.

- Rows 4 – 6: You would use information recorded on the tally sheets for each entry party interviewed (in this example, the information is based on the response to Question 8 of the tally questionnaire).

- Rows 7 – 9: These are the number of completed Attendee Surveys that were returned.

10. Calculations for weighting/projection

A brief description of the steps you took to weight and project your survey findings to the universe under study should be presented in this section. It should also include the calculations you performed, as described in Chapters IV, V and VII of these Guidelines.

11. Data editing, cleaning and adjustment procedures

A brief description of the steps you took to clean and edit questionnaires and to create the event account (if applicable), as described in Chapter VII, Sections D, E, F of these Guidelines should be presented in this section.

12. Field materials

As **appendices** to your Technical Appendix, you should include copies of *all* survey materials:

- Written interviewer instructions
- Written supervisor instructions
- Tally Sheet /Tally questions
- Self-completion/ other questionnaires

IX. GLOSSARY

Allocated spending Allocated spending is the distribution *you* make to various spending categories and/or locations from the "total" dollar amount supplied by the respondent.

Attributed spending Attributed spending is *your* assignment of spending for various spending categories and to locations for respondents who did NOT provide an indication of how much was spent.

Concentrated entry event An event in which most or all of the attendees arrive within a very short time span. Examples might include a concert or other performance or a sporting event.

Contiguous zones Count zones (on grid map) for an event in which all activities associated with the event take place in physically adjacent sites (contiguous).

Count zones Areas on a grid map of the event area that are used to sample and count/tally attendees.

Counts All attendees entering during tally stint. You will project the people you tallied during the stint to the total *count* during the same stint.

Cross section of attendees All types of attendees in their correct proportions for the event as a whole (different demographic, origin, and behavioural groups, in the same proportions as they occur in the *real* population).

Event account The event account includes the portion of tourist spending that is considered incremental. This is the spending that occurred *because* an event took place. It is the spending that would be fed into a tourism economic impact model.

Final Ticket Adjustment Weight Adjustment to match the total number of ticketed attendees who came to the event to the number represented by your sample.

Gated event An event that takes place in a confined area with "gates" or other "controlled" points of entry/exit.

Grid map A map that divides the event site(s) into identifiable areas for purposes of counting and tallying attendees.

Gross domestic product (GDP) The value of goods and services produced by labour and capital located within a country (or region), regardless of nationality of labour or ownership, which is measured at market prices. Tourism GDP refers to the GDP generated in those businesses that directly produce or provide goods and services for travellers.

Household travel party/household party All people travelling together and/or who came to the event together and who live in the same permanent residence.

Incidence Incidence as used in these guidelines generally refers to the proportion a smaller sub-group represents of all attendees at your event (e.g., the *incidence of tourists is estimated to be 15%* means that you expect that 15% of all attendees at your event will be *tourists*).

Incremental spending Incremental spending is money that is spent at or because of the event *that would not otherwise* have been spent in the community. If the same money that is spent at or as a result of an event would have been spent in the community on other activities, goods or services, the event is not deemed to be responsible for the spending. In other words, some of the spending that takes place at an event is *not* incremental – it would have happened anyway.

Interviewer Stint A unique time period at a specific entry point to your event to which one interviewer is assigned to collect information (tally and/or count attendees at your event).

Multi-venue events **Multi-venue events** are those in which different activities take place at **non-contiguous** locations. A music festival with street performances, indoor concerts at concert facilities or clubs around town and a fireworks display at a central site would be a multi-venue or non-contiguous event.

Non-contiguous zones Count zones (on grid map) for an event with multiple venues that are not physically adjacent to one another.

On-site tally A systematic way of intercepting a random sample of event attendees as they enter the site and asking them a few questions to determine the proportion of attendees from different places of residence (e.g., *locals* and *non-locals*).

Private vehicles All vehicle types excluding large commercial vans and school and/or tour busses. Thus, private vehicles include cars, trucks, SUVs, motorhomes, RVs, bicycles and motorcycles.

Projection procedures *Projection procedures* refer to how you will expand the subset (sample) of attendees included in the research process to *all* attendees and/or *all* tourists who came to your event.

Record A "record" is all the information collected from a single respondent. Thus, it would be a single "row" on the Tally Sheet or a completed Attendee Survey (questionnaire).

Reported spending Reported spending is information provided by the respondent and taken directly from the questionnaire "as is". It includes the total amount spent in the province/state and the portion (%) of this spending, converted to dollars, that the respondent claims to have spent in the local community.

Sampling procedures *Sampling procedures* refer to the mechanisms you will use to identify the subset of attendees and/or tourists that will be included in the research process.

Segments	A "segment" is a group of people who share one or more common characteristics. Examples of tourist "segments" include those who are out-of-town visitors but live in the same province or state as your event versus those who live outside your province or state.
Single venue events	**Single venue events** are those in which all the activities associated with the event take place at a single site. The "site" could be a fairground or a park that includes tents, buildings and open areas, so long as these facilities are **contiguous**. That is, attendees do not have to leave the site to go from one activity to another.
Stint	Unique time period designated for the purpose of measurement (data collection) or observation at a specific entry point or location at an event. The stint forms the basis for *sampling* attendees who come to an event.
Stint Sample	A randomly selected set of stints during which you will count and/or tally attendees at your event.
Stint Weight	Adjustment to sampled stints so that they represent all people who entered your event.
Substitution effects	Spending that would have taken place if your event had not been held. For example, if Dave and Diane decided to go to the event instead of going to a movie at the theatre and the ticket prices for your event and the movie were the same, your event would have produced *no* incremental spending. Why not? Because Dave and Diane would have spent the *same amount* of money in your community on a recreational activity – whether your event took place or not. (Note that we are assuming that any difference in the indirect or induced impacts are likely small and can be safely ignored.)
Tally Interview	Short interview to obtain basic information about which attendees are locals, tourists, etc. The Tally Interview also provides information required for weighting and projecting the sampled population to the full population of attendees at an event and a tool for distributing a more detailed Attendee Survey to a sample of attendees (to capture spending and rating characteristics).
Time switchers	See "trip replacement" below.
Tourism economic impact	Tourism economic impact is the *change* in sales, income and jobs in businesses or agencies that receive tourists' spending directly, indirectly or as a result of household expenditures, from the income earned directly or indirectly because tourists came to the community and spent money there.
Tourism economic impact model	An econometric tool that utilizes the structure of the region's economy, generally based on national statistical organizations' data (such as input/output tables), and provides estimates of the impact tourists' spending has on overall economic activity, jobs and taxes.

Tourist

The manner in which the World Tourism Organization's guidelines for the *tourism* component of *travel* is operationalized for measurement purposes varies from country to country. Event organizers should check with the appropriate authorities to determine the operational definition in use in their particular jurisdiction. The operational approach adopted by Canada for identifying tourists is provided here.

An overnight domestic tourist is one who claims to have taken an *out-of-town* trip of at least one night away from home for any purpose apart from commuting to work or school, moving to a new residence, routine trips (shopping, medical, religious observance, pick-ups/deliveries, service/sales calls or other routine work-related trips). The trip must be completed within 365 days.*

A same-day domestic tourist is defined in a manner similar to the overnight tourist but the out-of-town trip must take the traveller at least 40 kilometres (25 miles) one-way from home and be completed within less than 24 hours (different jurisdictions use different distance criteria).

A same-day or overnight international tourist is one who crosses an international boundary (e.g., from Canada to the USA) on a trip for any purpose, excluding commuting to work or school, on military or diplomatic or as a member of a crew.* The trip must be completed within 365 days. *Some other minor exclusions apply.

Trip replacement or "time switchers"

If the trip that included a visit to your event displaced a trip that would have taken place in the future, no spending is considered incremental because a "similar trip" was replaced by "this" trip. The time period for a replacement trip can vary. Some experts recommend a three-month period (used in these materials), whereas others use a twelve-month period. In designing your survey, you will determine the time span most appropriate for your event and community.

Ungated or Partially Gated Event

An event that takes place in whole or in part in an open area where access is not controlled.

Vehicle Household Party

total number of reported or counted *occupants* per vehicle who live in the same household as the tally respondent.

Vehicle Occupants

The total number of reported or counted *occupants* per vehicle (irrespective of whether they all live in the same household as the tally respondent).

APPENDIX I: SUPPORTERS & PANEL OF EXPERT MEMBERS

A. Supporters

Financial support for this project from the following organizations is gratefully acknowledged.

Canada	Tourism British Columbia Canadian Tourism Commission Ontario Ministry of Tourism Nova Scotia Department of Tourism, Culture and Heritage Alberta Tourism, Parks, Recreation and Culture Federal-Provincial-Territorial Culture/Heritage and Tourism Initiative Tourism Prince Edward Island Government of Yukon – Department of Tourism and Culture Government of the Northwest Territories – Department of Resources, Wildlife, & Economic Development
USA	Texas A&M University

B. Panel of Experts

Canada
- Bonnie Mactavish, Royal Agricultural Fair*
- Judy Rogers, Research Resolutions & Consulting Ltd.

USA

Texas A&M University
- Dr. John Crompton
- Dr. James F. McNamara
- Dr. Joseph O'Leary
- Dr. James Petrick
- Dr. Douglass Shaw

*Canadian Association of Fairs and Exhibitions (C.A.F.E.) Representative

APPENDIX II: MARGIN OF ERROR TABLE

Table of Margin of Error at 95% Level of Confidence

	PROPORTION OF RESPONDENTS PROVIDING A SPECIFIC RESPONSE TO A SURVEY QUESTION									
	5.0% or 95.0%	10.0% or 90.0%	15.0% or 85.0%	20.0% or 80.0%	25.0% or 75.0%	30.0% or 70.0%	35.0% or 65.0%	40.0% or 60.0%	45.0% or 55.0%	50.0%
SAMPLE SIZE										
20	9.6%	13.1%	15.6%	17.5%	19.0%	20.1%	20.9%	21.5%	21.8%	21.9%
40	6.8%	9.3%	11.1%	12.4%	13.4%	14.2%	14.8%	15.2%	15.4%	15.5%
60	5.5%	7.6%	9.0%	10.1%	11.0%	11.6%	12.1%	12.4%	12.6%	12.7%
80	4.8%	6.6%	7.8%	8.8%	9.5%	10.0%	10.5%	10.7%	10.9%	11.0%
100	4.3%	5.9%	7.0%	7.8%	8.5%	9.0%	9.3%	9.6%	9.8%	9.8%
120	3.9%	5.4%	6.4%	7.2%	7.7%	8.2%	8.5%	8.8%	8.9%	8.9%
140	3.6%	5.0%	5.9%	6.6%	7.2%	7.6%	7.9%	8.1%	8.2%	8.3%
160	3.4%	4.6%	5.5%	6.2%	6.7%	7.1%	7.4%	7.6%	7.7%	7.7%
180	3.2%	4.4%	5.2%	5.8%	6.3%	6.7%	7.0%	7.2%	7.3%	7.3%
200	3.0%	4.2%	4.9%	5.5%	6.0%	6.4%	6.6%	6.8%	6.9%	6.9%
220	2.9%	4.0%	4.7%	5.3%	5.7%	6.1%	6.3%	6.5%	6.6%	6.6%
240	2.8%	3.8%	4.5%	5.1%	5.5%	5.8%	6.0%	6.2%	6.3%	6.3%
260	2.6%	3.6%	4.3%	4.9%	5.3%	5.6%	5.8%	6.0%	6.0%	6.1%
280	2.6%	3.5%	4.2%	4.7%	5.1%	5.4%	5.6%	5.7%	5.8%	5.9%
300	2.5%	3.4%	4.0%	4.5%	4.9%	5.2%	5.4%	5.5%	5.6%	5.7%
320	2.4%	3.3%	3.9%	4.4%	4.7%	5.0%	5.2%	5.4%	5.5%	5.5%
340	2.3%	3.2%	3.8%	4.3%	4.6%	4.9%	5.1%	5.2%	5.3%	5.3%
360	2.3%	3.1%	3.7%	4.1%	4.5%	4.7%	4.9%	5.1%	5.1%	5.2%
380	2.2%	3.0%	3.6%	4.0%	4.4%	4.6%	4.8%	4.9%	5.0%	5.0%
400	2.1%	2.9%	3.5%	3.9%	4.2%	4.5%	4.7%	4.8%	4.9%	4.9%
420	2.1%	2.9%	3.4%	3.8%	4.1%	4.4%	4.6%	4.7%	4.8%	4.8%
440	2.0%	2.8%	3.3%	3.7%	4.0%	4.3%	4.5%	4.6%	4.6%	4.7%
460	2.0%	2.7%	3.3%	3.7%	4.0%	4.2%	4.4%	4.5%	4.5%	4.6%
480	1.9%	2.7%	3.2%	3.6%	3.9%	4.1%	4.3%	4.4%	4.5%	4.5%
500	1.9%	2.6%	3.1%	3.5%	3.8%	4.0%	4.2%	4.3%	4.4%	4.4%
520	1.9%	2.6%	3.1%	3.4%	3.7%	3.9%	4.1%	4.2%	4.3%	4.3%
540	1.8%	2.5%	3.0%	3.4%	3.7%	3.9%	4.0%	4.1%	4.2%	4.2%
560	1.8%	2.5%	3.0%	3.3%	3.6%	3.8%	4.0%	4.1%	4.1%	4.1%
580	1.8%	2.4%	2.9%	3.3%	3.5%	3.7%	3.9%	4.0%	4.0%	4.1%
600	1.7%	2.4%	2.9%	3.2%	3.5%	3.7%	3.8%	3.9%	4.0%	4.0%
620	1.7%	2.4%	2.8%	3.1%	3.4%	3.6%	3.8%	3.9%	3.9%	3.9%
640	1.7%	2.3%	2.8%	3.1%	3.4%	3.6%	3.7%	3.8%	3.9%	3.9%
660	1.7%	2.3%	2.7%	3.1%	3.3%	3.5%	3.6%	3.7%	3.8%	3.8%
680	1.6%	2.3%	2.7%	3.0%	3.3%	3.4%	3.6%	3.7%	3.7%	3.8%
700	1.6%	2.2%	2.6%	3.0%	3.2%	3.4%	3.5%	3.6%	3.7%	3.7%
720	1.6%	2.2%	2.6%	2.9%	3.2%	3.3%	3.5%	3.6%	3.6%	3.7%
740	1.6%	2.2%	2.6%	2.9%	3.1%	3.3%	3.4%	3.5%	3.6%	3.6%
760	1.5%	2.1%	2.5%	2.8%	3.1%	3.3%	3.4%	3.5%	3.5%	3.6%
780	1.5%	2.1%	2.5%	2.8%	3.0%	3.2%	3.3%	3.4%	3.5%	3.5%
800	1.5%	2.1%	2.5%	2.8%	3.0%	3.2%	3.3%	3.4%	3.4%	3.5%
820	1.5%	2.1%	2.4%	2.7%	3.0%	3.1%	3.3%	3.4%	3.4%	3.4%
840	1.5%	2.0%	2.4%	2.7%	2.9%	3.1%	3.2%	3.3%	3.4%	3.4%
860	1.5%	2.0%	2.4%	2.7%	2.9%	3.1%	3.2%	3.3%	3.3%	3.3%
880	1.4%	2.0%	2.4%	2.6%	2.9%	3.0%	3.2%	3.2%	3.3%	3.3%
900	1.4%	2.0%	2.3%	2.6%	2.8%	3.0%	3.1%	3.2%	3.3%	3.3%
920	1.4%	1.9%	2.3%	2.6%	2.8%	3.0%	3.1%	3.2%	3.2%	3.2%
940	1.4%	1.9%	2.3%	2.6%	2.8%	2.9%	3.0%	3.1%	3.2%	3.2%
960	1.4%	1.9%	2.3%	2.5%	2.7%	2.9%	3.0%	3.1%	3.1%	3.2%
980	1.4%	1.9%	2.2%	2.5%	2.7%	2.9%	3.0%	3.1%	3.1%	3.1%
1000	1.4%	1.9%	2.2%	2.5%	2.7%	2.8%	3.0%	3.0%	3.1%	3.1%

Here is an example. Assume 200 tourists completed the Attendee Survey. Your "sample size" is 200. In response to the question about their "Similar recreational activities in Community" 20% of them report that they would have gone to a different attraction or event on this trip ("Yes"). In the table provided here, you would read down the first column (SAMPLE SIZE) until you reach "200" and then read across this row until you find the proportion (or nearest proportion) that corresponds to the estimate in your study. In this case, you would be looking for a column labelled "20% ". Read down this column until it intersects with your sample size. In this case, the number you would find is 5.5% (see example below).

This means that there is a 95% probability (19 times out of 20) that the percentage of your sample that said "yes" is within 5.5% of the true percentage of all attendees who visited your community. You would report this in a manner such as the following: *About twenty percent of tourists at NAME EVENT (±6%) would have gone to a different attraction or event in the community if they had not come to NAME EVENT on their trip.*

Note: even though the table provides estimates with a decimal point, we have rounded the 5.5% up to 6% and advise that you always round the ± percentage up to the nearest whole number in order to minimize impressions of false precision.

PROPORTION OF RESPONDENTS PROVIDING A SPECIFIC RESPONSE TO A SURVEY QUESTION

	5.0% or 95.0%	10.0% or 90.0%	15.0% or 85.0%	20.0% or 80.0%	25.0% or 75.0%	30.0% or 70.0%	35.0% or 65.0%	40.0% or 60.0%	45.0% or 55.0%	50.0%
SAMPLE SIZE										
20	9.6%	13.1%	15.6%	17.5%	19.0%	20.1%	20.9%	21.5%	21.8%	21.9%
40	6.8%	9.3%	11.1%	12.4%	13.4%	14.2%	14.8%	15.2%	15.4%	15.5%
60	5.5%	7.6%	9.0%	10.1%	11.0%	11.6%	12.1%	12.4%	12.6%	12.7%
80	4.8%	6.6%	7.8%	8.8%	9.5%	10.0%	10.5%	10.7%	10.9%	11.0%
100	4.3%	5.9%	7.0%	7.8%	8.5%	9.0%	9.3%	9.6%	9.8%	9.8%
120	3.9%	5.4%	6.4%	7.2%	7.7%	8.2%	8.5%	8.8%	8.9%	8.9%
140	3.6%	5.0%	5.9%	6.6%	7.2%	7.6%	7.9%	8.1%	8.2%	8.3%
160	3.4%	4.6%	5.5%	6.2%	6.7%	7.1%	7.4%	7.6%	7.7%	7.7%
180	3.2%	4.4%	5.2%	5.8%	6.3%	6.7%	7.0%	7.2%	7.3%	7.3%
200	3.0%	4.2%	4.9%	5.5%	6.0%	6.4%	6.6%	6.8%	6.9%	6.9%
220	2.9%	4.0%	4.7%	5.3%	5.7%	6.1%	6.3%	6.5%	6.6%	6.6%
240	2.8%	3.8%	4.5%	5.1%	5.5%	5.8%	6.0%	6.2%	6.3%	6.3%
260	2.6%	3.6%	4.3%	4.9%	5.3%	5.6%	5.8%	6.0%	6.0%	6.1%
280	2.6%	3.5%	4.2%	4.7%	5.1%	5.4%	5.6%	5.7%	5.8%	5.9%
300	2.5%	3.4%	4.0%	4.5%	4.9%	5.2%	5.4%	5.5%	5.6%	5.7%
320	2.4%	3.3%	3.9%	4.4%	4.7%	5.0%	5.2%	5.4%	5.5%	5.5%
340	2.3%	3.2%	3.8%	4.3%	4.6%	4.9%	5.1%	5.2%	5.3%	5.3%
360	2.3%	3.1%	3.7%	4.1%	4.5%	4.7%	4.9%	5.1%	5.1%	5.2%
380	2.2%	3.0%	3.6%	4.0%	4.4%	4.6%	4.8%	4.9%	5.0%	5.0%
400	2.1%	2.9%	3.5%	3.9%	4.2%	4.5%	4.7%	4.8%	4.9%	4.9%

APPENDIX III: ATTENDEE SURVEY: EDITING & SPENDING ALLOCATION

Special Edit Rules for Lodging

Total nights on the trip cannot be less than sum of total nights in each sub-location. If sum of nights in all lodging types/locations is greater than the total nights on the *trip,* adjust the nights on trip to equal the sum of nights reported in the lodging questions.

If lodging spending is provided in the *Spending* question AND . . .

. . . *only* unpaid lodging is used (e.g., private home or cottage), move lodging spending to "other" spending;

. . . Not Stated (NS) or Don't Know (DK) to type of lodging, re-code type to "paid -- type unknown" lodging and retain spending reported in the *Spending* question;

. . . same-day trip (e.g., no nights), move lodging spending to "other" spending.

APPENDIX IV: ASSIGNING SPENDING TO CATEGORIES

These guidelines assume that on-site spending and "other spending" is calculated separately, as per the sample Attendee Survey Non-Local questionnaire included in these materials. The principles listed below would be applied *separately* for On-Site and Other Spending. (See **Guidelines for Calculating Average Spending for Allocation/ Ascription** for more details.)

A. Only "Total" provided

Distribution of "total only" spending will depend on whether the respondent did or did not identify whether money was spent on various items (checked at least one of the "spent any" boxes).

1. Checked some "Spent Any" boxes

Calculate average spending per category for records that supplied the full array of detailed spending. Use these averages to generate ratios for the "mix" of items on which the respondent claims to have spent money but did not provide an amount. The ratios will guide how you distribute the respondent's "total spending" to each category on which the respondent claims to have spent money but did not provide an amount. To the extent that the data can support it, different sets of ratios would be calculated for major origin groups and separately for same-day and overnight travellers.

We recommend that averages be based on cells (segments) with at least fifty (50) records of respondents who *do* provide a complete spending profile.

2. Checked no "Spent Any" boxes

Calculate average spending per category for records that supplied the full array of detailed spending. Use these averages to generate ratios to assign the respondent's "total spending" to *each* category. To the extent that the data can support it, different sets of ratios would be calculated for major origin groups and separately for same-day and overnight travellers.

B. No Total Provided and Some Items Marked with "Don't Know" Amount

If respondent did not know (DK) how much was spent on a specific item, the average amount for an analogous visitor (same origin, same transport mode) on a per person per night basis would used to attribute dollars to the DK categories.

In the case of carrier fares, the average spending for commercial *domestic* air carrier and *other* air carrier would be calculated and assigned as per the appropriate origin group.

C. Total Provided and Some Items Marked with "Don't Know" Amount

Subtract itemized values from total. Assign the remainder to categories marked as "don't know", using ratios from the calculated average spending per category for records that supplied the full array of detailed spending*. These ratios would only include the "mix" of items marked "don't know" by the respondent.

*To the extent that the data can support it, different sets of ratios would be calculated for major origin groups and separately for same-day and overnight travellers.

D. No Spending Information Provided

Calculate average spending per category for records that supplied the full array of detailed spending.* Assign these averages using the appropriate origin/length of stay and unit (per person, per person per night, per household party) to each category.

As an alternative to calculating and assigning average spending to non-responders, you can exclude records that provide no spending information as *unusable* (see above). This option should be selected *only* if you have met your target number of completions per cell (e.g., 200 tourists).

*To the extent that the data can support it, different sets of ratios would be calculated for major origin groups and separately for same-day and overnight travellers.

E. Guidelines for Calculating Average Spending for Allocation/ Ascription

Item	Unit	Type Of Averages To Be Used For Assignment/Allocation of Spending
ON-SITE SPENDING		Assumes at least 50 records in each cell for calculating averages.
Admission	Per Person	Total Attendees
Other on-site tickets/ admissions (special events, concerts, etc. held at the attraction but not included in the general admission price)	Per Person	Total Attendees
Food & beverages at restaurants, fast food outlets, concessions	Per Person	Total Attendees
At lounges, bars, clubs at event	Per Person	Total Attendees
Souvenirs/gift shop purchases	Per Person	Total Attendees
Other shopping/retail	Per Person	Total Attendees
Parking	Per Household Party	Total Attendees

Item	Unit	Type Of Averages To Be Used For Assignment/Allocation of Spending
OTHER SPENDING		Assumes at least 50 records in each cell for calculating averages. If less than 50 records per cell, collapse origin cells.
Gasoline/repairs for vehicle	Per Household Party Night*	Total Domestic For Domestic Residents; Total Non-Domestic For All Other
Vehicle rental	Per Household Party Night*	Total Domestic For Domestic Residents; Total Non-Domestic For All Other
Parking	Per Household Party Night*	Total Domestic For Domestic Residents; Total Non-Domestic For All Other
Local taxis, local buses, subways	Per Person Night*	Total Domestic For Domestic Residents; Total Non-Domestic For All Other
Groceries/beverages (at grocery/liquor stores)	Per Person Night*	Total Domestic For Domestic Residents; Total Non-Domestic For All Other
Food & beverages at restaurants	Per Person Night*	Total Domestic For Domestic Residents; Total Non-Domestic For All Other
At lounges, bars, clubs	Per Person Night*	Total Domestic For Domestic Residents; Total Non-Domestic For All Other
Clothing	Per Person Night*	Total Domestic For Domestic Residents; Total Non-Domestic For All Other
Other shopping	Per Person Night*	Total Domestic For Domestic Residents; Total Non-Domestic For All Other
Lodging	Per Person Night	Total Domestic For Domestic Residents; Total Non-Domestic For All Other
Any Other Expenses	Per Person Night*	Total Domestic For Domestic Residents; Total Non-Domestic For All Other
Domestic Carrier *Within* Province/Territory/State		
Bus/Train	Per Person	Total Domestic For Domestic Residents; Total Non-Domestic For All Other
Air Carrier/Boat/Ship	Per Person	Total Non-Local
Domestic Carrier *To* Province/Territory/State		
Bus/Train	Per Person	Total Non-Local
Air Carrier/Boat/Ship	Per Person	Total Non-Local
*For local residents and non-locals with no nights in the province/territory/state, use “per person” in lieu of “per person per night”.		

F. Attendee Survey: Geographic Distribution Tables

Rules for assigning spending to geographic locations if % not reported by respondent & special rules for ALL gasoline/repairs, vehicle rental, domestic carrier fares	
Category	
Local & Non-Local Attendees Error! Bookmark not defined.	
All On-Site spending	Assign to "Local Community"
Non-Local	
Gasoline/repairs for vehicle	***These Rules Override Respondents' Assignments:*** **Same-Day Trip:** If resident of province/territory/state: Assign To Place of Residence If other non-local: Divide evenly between "local community" and "other part of province/territory/state **Overnight Trip:** Divide according to ratio of nights spent in Local Community/ Other Part of Province/territory/state
Vehicle rental	***These Rules Override Respondents' Assignments:*** **Same-Day Trip:** If resident of province/territory/state: Assign To Place of Residence If other non-local: Divide evenly between "local community" and "other part of province/territory/state **Overnight Trip:** Divide according to ratio of nights spent in Local Community/ Other Part of Province/territory/state
Parking	**Same-Day Trip:** Assign to "Local Community" **Overnight Trip:** Divide according to ratio of nights spent in Local Community/ Other Part of Province/territory/state
Local taxis, local buses, subways	**Same-Day Trip:** Divide evenly between "Local Community" and Place of Residence (e.g., Other Part of Province/territory/state OR Other Province/territory/state) **Overnight Trip:** Divide according to ratio of nights spent in Local Community/ Other Part of Province/territory/state
Groceries (at grocery stores)	**Same-Day Trip:** Assign to "Local Community" **Overnight Trip:** Divide according to ratio of nights spent in Local Community/ Other Part of Province/territory/state
Food & beverages at restaurants	**Same-Day Trip:** Assign to "Local Community" **Overnight Trip:** Divide according to ratio of nights spent in Local Community/ Other Part of Province/territory/state
At lounges, bars, clubs	**Same-Day Trip:** Assign to "Local Community" **Overnight Trip:** Divide according to ratio of nights spent in Local Community/ Other Part of Province/territory/state
Clothing	**Same-Day Trip:** Assign to "Local Community" **Overnight Trip:** Divide according to ratio of nights spent in Local Community/ Other Part of Province/territory/state
Lodging	**Overnight Trip:** Divide according to the ratio of ***paid*** accommodation nights spent in Local Community/ Other Part of Province/territory/state
Other shopping	**Same-Day Trip:** Assign to "Local Community" **Overnight Trip:** Divide according to ratio of nights spent in Local Community/ Other Part of Province/territory/state
Any Other Expenses	**Same-Day Trip:** Assign to "Local Community" **Overnight Trip:** Divide according to ratio of nights spent in Local Community/ Other Part of Province/territory/state
Domestic Carrier Fares (Plane, Train, Bus, Ship)	***These are special rules for domestic carrier fares.*** If resident of province/territory/state: Assign To Place of Residence If resident of provinces/states other than that of the local community: No domestic Carrier Fares assigned If resident Of Other Country: Assign To Main Destination NOTE: Foreign carrier fares are not assigned to any domestic location (they accrue to the place of residence of the respondent.)

G. Identifying and Assigning Incremental Spending to Event Account

	% of Spending to Be Assigned to . . . Account	
	Event's Community Account	**Event's "Other Part" of Provincial/ Territorial/State Account**
Substitution Effect		
"No" or "Don't Know" to other similar recreational activity	100% of On-Site Spending; Proportion Of Community Expenditures On Basis Of "Importance" Question for Other Spending	0% of On-Site Spending; Proportion Of Other Province/territory/state Expenditures On Basis Of "Importance" Question for Other Spending
"Yes" to other similar recreational activity		
. . . in community	0% of All Spending	0% of All Spending
. . . in other part of province/territory/state	100% of On-Site Spending; Proportion Of Community Expenditures On Basis Of "Importance" Question for Other Spending	-100% of On-Site Spending; - (minus) Proportion Of Other Province/territory/state Expenditures On Basis Of "Importance" Question for Other Spending
All Other Attendees		
Proportions from the "Importance" question are assigned in units of ten percent, from "0" influence (0%) to "10" influence (100%).	Proportion Of Community Expenditures On Basis Of "Importance" Question	Proportion Of Other Province/territory/state Expenditures On Basis Of "Importance" Question

APPENDIX V: ANNOTATED LITERATURE REVIEW FOR EVENTS & FESTIVALS

A. Gated Events

Brown, M.D.; Var, T.; Lee, S. (2002) Messina Hof Wine and Jazz Festival: an Economic impact analysis. *Tourism Economics* 8 (3) pp 273-279.

This article studies the economic impact on a community during a wine and jazz festival. The study uses IMPLAN PRO software to analyze the data gathered at the festival. Brown et al. focus on two questions: "Is the event economically feasible?" and "What economic impacts will the event or festival have on the surrounding community?" Brown et al. defined the regional economy structure as including production, income distribution, trade, consumption of goods/services, saving and investments. Brown et al. did not collect original data, but rather used secondary data. It is also noted that Brown et al. used "ball park" figures (276). The Jazz Festival was expected to produce $892,981 in sales output in the Brazos County area. The results of the input-output analysis were that the sales output was $581,298. Indirect sales output was $139,323 with induced sales output of $172,360.

Crompton, J.L.; Lee, S.; Shuster, T.J. (2001) A Guide for Undertaking Economic Impact Studies: The Springfest Example. *Journal of Travel Research* Vol. 40 pp. 79-87.

This article focuses on a generalized model for studying the economic impacts of a festival on a community. The article discusses the why and why not to include local residents, "time-switchers" and "casuals", use of income rather than sales output, and proper or accurate interpretation of employment multipliers. Crompton et al. discusses the rationale and provides a model for communities to invest in the production of festivals as an economic benefit to the community. Crompton et al. suggest that economic impact studies are not bottom line, but rather are "best guesses" of the impact of money being spent at a festival. The authors give examples of how the numbers from an impact study can be manipulated in order to bring about a certain outcome. The authors briefly give reasons on why not to include local residents, "time switchers" and "casuals". A brief discussion takes place in regards to the use of income rather than sales measures as well as the need for interpretation of employment measures needs to be done carefully.

The authors give the instrument and calculations in collecting data and why each question was asked. The authors discuss in their conclusion the importance of estimating the total attendance. They emphasize the importance of identifying local residents, "time-switchers" and "casuals" and the importance of interpreting the output numbers especially in income multipliers and job creation.

Tyrrell, T.J. & Johnston, R.J. (2001) A Framework for Assessing Direct Economic Impacts of Tourist Events: Distinguishing Origins, Destinations, and Causes of Expenditures. *Journal of Travel Research* Vol. 40 pp. 97-100.

The authors of this article discuss a standardized method in which to measure tourism events. This is not a tool to measure tourism, but rather a single or series of short-term events. The authors argue that a framework must be created to account for "1) the source of expenditure, 2) the geographic starting point 3) the destination or end point of the expenditure, and 4) the reason for the expenditure" (p.94). The purpose for the framework is for practitioners not to make mistakes that are common in assessing net economic impacts from a tourist event. The authors include anyone and everyone that attend the tourist event from the local residents, media, performers,

sponsors, organizers and the vendors of the event in their economic impact analysis. The authors point out that it is important for practitioners to be able to accurately estimate the tourist expenditure at an event and distinguish between and tourist event, site or just tourism.

Yoon, Y.; Chen, J.S.; Gursoy, D.; (1999). An investigation of the relationship between tourism impacts and host communities' characteristics. *Anatolia; an international journal of tourism and hospitality research.* 10 (1). pp. 29-44

The authors of this article mailed a survey to an urban area in Virginia in order to identify residents' perceptions of tourism development. Two questions were developed to address this issue:

1) "How do host community residents perceive and categorize the impacts of tourism development?"

2) "Are there any relationships between the host communities characteristics and perception and categorization of tourism impacts?" (p. 29)

Economic benefits, social costs, cultural enrichment, environmental deterioration, and physical enhancement were identified as impact factors through factor analysis. These were the main factors identified that affect residents' attitudes toward tourism development. The methodology used was a self-instructed questionnaire collected by a stratified sampling method (the questionnaire is given in table format in this article). It was concluded in the article there is a relationship between community characteristics and perceived tourism impacts. It is also noted that the results of this survey were different from two other studies done in rural communities and that stakeholders in the urban area were more sensitive to the impacts than rural stakeholders. The authors suggest that a possible reason for this is due to a larger dependence in the rural community on tourism. Some other characteristics identified as having a larger impact on perceptions of tourism development were "community attachment, length of residency and birth place" (p. 42).

Gratton, C.; Taylor, P.; (1986) Arts festivals. *Leisure management.* 6 (11) pp. 20-22

This article discusses research by Vaughn (1980) (also reviewed in this bibliography). The authors discuss the economic viability of art festivals in Edinburgh and take the reader through Vaughn's methodology of how the analysis was conducted and to whom. The authors specifically address whether or not the festival was justified in having government subsidies. It was concluded that indeed the government subsidies were justified and that the economic benefit from the festival was extremely fruitful to the local communities.

The author also concluded that for small towns or communities with small festivals, the financial return in sales, income, and employment had as great if not a greater impact on the community than would have been found in a larger city.

Vaughn, D.R. (1980) Does a festival pay? *Economic policy for the arts.* pp. 319-331.

This is the study discussed by Gratton and Taylor (1986) [see above]. Vaughn conducted interviews with 660 groups of visitors to the events of which 360 gave details regarding the groups' expenditures. Vaughn gives details into the formulas for deriving multipliers.

He argues that success of a festival must be defined by the stakeholders and that economic gain is not necessarily the primary arbitrator for success, but rather there are social implications as well. Vaughn states that managers not only need to count how many visitors attend a festival, but what types as well; thus providing better or different accommodations for guests and visitors to the festivals. This analysis gives guidance on how tourism should be developed. Vaughn concluded that "festivals [are]…major economic assets which produce a measurable financial return" (p. 329).

Auld, T.; McArthur, S. (2003). Does event-driven tourism provide economic benefits? A case study from the Manawatu region of New Zealand. *Tourism economics; the business and finance of tourism and recreation.* 9 (2) pp. 191- 201.

This article discusses whether or not events in the Manawatu region of New Zealand are economically beneficial. The authors used incremental analysis and estimated the "changes to costs and revenues arising from an event compared with the no-event situation" (pp193). The authors discuss opportunity costs and define two economic costs:

1) *explicit costs,* which involve monetary exchange when they are incurred (these are the ordinary payments identified by most people as costs, such as wages or payments for printed advertising) and

2) implicit or 'invisible' costs, which involve no monetary exchange when they are incurred (these include items such as foregone incomes or depreciation on assets).

The authors used a self-administered 'tick the box' survey as means for data collection. A problem arising from this is double-counting of expenditures as several events were being held at the same time. Flaws within their questionnaire were not taking day trippers into account and "failure to ask respondents the number of people accounted for in their expenditure estimates" (p 196). However, in conclusion the authors state that the events did generate economic benefits to the region, but discuss problems with time switchers, and locals.

Gratton, C; Taylor, P; (1986). Economic impact study. Hayfield International Jazz Festival. *Leisure Management.* 6 (10), pp. 19-21

This article gives a brief view of the economic impacts to a small village, Hayfield – outside of Manchester, from a jazz festival held annually. This article gives a chart of the total expenditures directly associated with the festival along with the total expenditures.

The authors then give a brief account of multipliers and discuss the information obtained from the festival. The authors point out that during the festival the local hotels, motels, and campsite were completely full, the authors recommend that a study be done of the locals in order to discover the negative affects such as dissatisfaction with the event and amount of visitors to the local area. The authors do, however, conclude that the overall economic impact to the area was an increase from previous years.

Mitchell, C.; Wall, G.; (1986). Impacts of cultural festivals on Ontario communities. *Recreation Research Review.* 13 (1). pp. 28-37.

The objective of this article was to offer evidence that festivals and events attract outside visitors, increases sales of local businesses and attract new enterprises to the community. The authors, through Dun and Bradstreet Analysis, identify nine business types or groups which are relevant to the Blyth festival in Ontario, Canada. These are the following: agriculture, communications, construction, finance, manufacturing, retail, service, transportation, and wholesaling (p. 30). The authors found that prior to the era of festivals, agriculture, construction, financial, and transportation increased while retail (-9), service (-4) and manufacturing functions (-3) all declined. However, wholesale, transportation, service and retail functions increased during the festival period (tables and charts are given – p. 31).

The authors distributed a survey to the local businesses in the area in August of 1985 in order to evaluate which businesses rely heavily on the festival. Through this survey which netted a 95% response rate from retail, accommodations, and dining establishments found that three businesses had been formed as a direct result from the festival. The authors concluded that while the economic impact to the rest of the community was minimal at best, the overall impact of the festival was positive.

Felsenstein, D.; Fleischer, A. (2003). Local Festivals and Tourism Promotion: The Role of Public Assistance and Visitor Expenditure. *Journal of Travel Research.* Vol. 41 pp. 385-392.

The authors of this study of two festivals in Northern Israel discuss the rationalization for public assistance for these festivals. The authors present a method in order to account for increases in local income. The authors argue that most economic impact studies of festivals do not go far enough in their evaluation process and do not show how the income of the festival is distributed to the locals that are not directly involved with the festival.

In the authors methodology they separate local expenditures from local residents and non-local residents. The authors give a formula for calculating the economic growth which is represented by an increase in private and public income as a result of the festival. How they derived this formula and methodology is discussed at length by the authors. The conclusions of this article show that there is a net growth in personal and local income, but it needs to be kept in proportion. This is done by "accurately representing their full effects, avoiding double-counting and the inclusion of expenditures that would have occurred in the absence of the festival" (391).

Kim, K.; Uysal, M. (2003) Perceived Socio-Economic Impacts of Festivals and Events Among Organizer. *Journal of Hospitality & Leisure Marketing.* 10 (3/4) pp. 159-171.

The authors of this article discuss and argue two areas of interest; "(1) to delineate the organizers perception of socio-economic impacts of the festival and event tourism, and (2) to compare these results with those of attendees from the literature" (p 159). The authors discuss at length that while economic impacts are relatively easy to study and understand and give direct input and results back to the community, impacts such as noise, pollution, and congestion and are not easily measured and can result in negative attitudes within the community towards a festival, event or tourism in general.

The authors discuss the methodology, the instrument, and results (with charts and graphs) used in collecting and analyzing data from event organizers in the Commonwealth of Virginia. The authors concluded from

the survey that organizers perceived four socio-economic impacts and discuss the results of the following: community cohesiveness; economic benefits; social costs; and social incentives. The survey concluded that negative impacts such as crime, congestion, social costs and pressure on local services increased substantially. Policy considerations are suggested by the authors in order to give a more positive view of the event to the local communities.

Burgan, B; Mules, T.; (2001) Reconciling cost-benefit and economic impact assessment for event tourism. *Tourism Economics: the business and finance of tourism and recreation.* 7 (4) pp. 321-330.

The authors of this paper discuss the differences and benefits of economic impact analysis vs. cost-benefit analysis (CBA) approach to tourism events and festivals. The authors argue that there is "common ground" in regards to economic impact analysis and cost-benefit analysis. The authors discuss in detail the principles of CBA and the benefits the spending has on the community and region.

The paper concludes that economic impact analysis is an appropriate way to measure the costs/benefits of an event for a community.

Bernthal, M.; Regan, T. (2004). The Economic Impact of a NASCAR Racetrack on a Rural Community and Region. *Sport Marketing Quarterly.* 13, pp. 26-34.

The authors study the economic impact of multiple events at a NASCAR Racetrack to the region. Methodology of the study and results from using the IMPLAN model are discussed and charted. The authors determined the "amount of dollars that circulates" in the region as a result of the raceway. The authors give characteristics of those sampled and included locals in their study. Using IMPLAN the authors were able to determine the economic impact of the events to the region as well as where the attendees spent their monies. The authors discovered that more money was spent outside the track than inside and concluded that economic impact studies are "extremely valuable" as a marketing tool for NASCAR. The study also concluded that the impact to the area in direct, indirect and induced impacts were remarkable.

Stynes, D. J., Sun, Y. (2004). *Economic Impacts of National Heritage Area Visitor Spending: Summary Results from Seven National Heritage Area Visitor Surveys.* East Lansing, Michigan; Department of Community, Agriculture, Recreation and Resource Studies, Michigan State University.

The authors of this report summarize survey results to seven National Heritage Areas. They specifically look at four types of visitors: local residents, day trips from outside the local area, overnight trip stays in the local hotels and motels and overnight trip stays with friends or relatives. The authors discuss the methods of collecting the surveys, response rates and non-response bias for the mail back survey, and the economic impact methods. The authors used the MGM2 (money generation model) model.

The authors discuss the survey results which include the following: trip characteristics and awareness, lodging segments, spending profiles, and economic impacts of National Heritage Areas.

Stynes, D. J., Propst, D.B., Chang, W., Sun, Y. (2000). *Estimating national park visitor spending and economic impacts: The MGM2 model.* East Lansing, Michigan; Department of Community, Agriculture, Recreation and Resource Studies, Michigan State University.

Chhabra, D.; Sills, E.; Cubbage, F. (2003). The Significance of festivals to Rural Economies: estimating the Economic Impacts of Scottish Highland games in North Carolina. *Journal of Travel Research.* 41 pp. 421-427.

The authors of this paper discuss the economic impact of two Scottish festivals in North Carolina and how the impact depends on different characteristics of the festival and local economy (other attractions). The method used was self-administered surveys at the site of the festival. Analysis of the data collected was done with IMPLAN. The authors noted that lodging had the greatest economic impact on the area for multi-day festivals, whereas beverages and food had the greatest impact on single day festivals.

The authors noted also discussed the reasons behind the different multipliers for the festivals. They argue that this is due in part to the magnitude of each festival and area of leakage.

Snowball, J.; Antrobus, G. Valuing the arts: Pitfalls in economic impact studies of arts festivals.

The authors of this article argue that in the case of arts festivals economic impact studies do not quantify or estimate the value of such festivals and that the willingness to pay should be added into the survey.

The authors study the 'pitfalls' of economic impact studies. Theses include the following: defining the area of study, including local spectators, including time switchers and casuals, determining the size of the multiplier, and employment multiplier. It is further argued by the authors that economic impact studies do not take into account opportunity costs.

The authors concluding remarks argue that the true value of an arts festival cannot be measured using economic impact studies; rather contingent valuation methods should be used in order to discover the value or worth of an arts festival.

Dwyer, L.; Forsyth, P.; Spurr, R. (2005). Estimating the Impacts of Special Events on an Economy. *Journal of Travel Research.* 43 (4). pp. 351-359.

The authors of this article argue that the widely used Input-Output analysis in special events or festivals is rejected in other areas of economic impacts. The authors discuss and contrast comprehensive computable general equilibrium (CGE) as the alternative to the traditional I/P models. The authors argue that the CGE model gives a better description and broader base of the impact by increase tourism to an area.

The authors argue that the CGE model best illustrates the impact of an event on the economy as a whole and that this will allow the government agencies to do a better cost analysis and benefits of such events.

Jackson, J.; Houghton, M.; Russell, R.; Triandos, P. (2005). Innovations in Measuring Economic Impacts of Regional Festivals: A Do It Yourself Kit. *Journal of Travel Research.* 43 pp. 360-367.

The authors of this article have developed a tool in which festival and event organizers can use a "do it yourself" kit to measure the economic impacts of a festival or event to the region. This kit is designed to be inexpensive, duplicated, and replicated. The article discusses the importance of festivals and the importance of evaluating the festival impacts. Discussion of how the team disseminated the kit to the region and managers is discussed.

Results of the case study showed that the response rate was close to 100% and was used by small and large events and festivals. Reception of the kit was good as several organizers requested to use again in the future.

The authors concluded that this kit would help to standardize the criteria for evaluating the economic impact or significance of an event. This would help organizers to better market their festival or event.

B. Ungated Events

Brothers, G.L., & Brantley, V. (1993). Tag and Recapture: testing an attendance estimation technique for an open access special event. Festival Management & Event Tourism, Vol. 1, pp. 143-146.

The authors of this article discuss a standardized methodology of estimating number of visitors at open access festivals and events. They tested the "tag and recapture" method which is used in counting the population of wildlife. The authors discuss the methodology behind "tag and recapture" and give formulas to utilize.

The authors concluded that the "tag and recapture" method was fairly accurate in the estimation of the visitors to the event, but said that the number of visitor tagged should have been increased to further increase accuracy.

Caughley, G. (1974). Bias in aerial surveys. *The Journal of Wildlife Management.* Vol. 38, pp. 921-933.

The author argues that in large mammal aerial census there seems to be some bias. The accuracy deteriorates with larger transect width, speed and altitude. He discusses the weaknesses with aerial surveys and how to decrease bias. The author suggests techniques in which bias can be eliminated from the study. Caughley gives a method in which the bias can be measured and correct the estimates. The author concludes with a seven step process in which to decrease or account for bias in estimation.

Hofstee, P. (1984). Simple and cheap do-it-yourself technique. *Cities.* 1 (3) pp. 243-247.

This author discusses the economically viable method of small format aerial photography used to approximate maps of cities. The author states that it only requires a single engine airplane, pilot and photographer. This method is used when "no precision mapping is required". The author discusses how the light aircraft do not need airports but can take off from pastures, roads, football fields, etc.

Myers, R.A., & Bowen, W.D. (1989). Estimating bias in aerial surveys of Harp Seal production. *Journal of Wildlife Management.* Vol. 53, pp. 361-372.

This article suggests ways in which to reduce bias in aerial surveys. However, this article primarily discusses the inability of aerial photography to locate all whelping grounds of the Harp Seal. The authors do provide equations in which to reduce bias in aerial photography.

Ralston, L.S. (1992). The Application of Systematic Survey Methods at Open Access Special Events and Festivals. *Visions in Leisure and Business*, 11(3), 18-24.

This article discusses and attempts to validate the use of self-administered surveys at an open access event. The author talks about previous literature in regards to this method. Un-gated and multi-entrance events and the method in which to distribute the survey materials are discussed.

Raybould, M., Mules, T., Fredline, E., & Tomljenovic, R. (2000). Counting the herd using aerial photography to estimate attendance at open events. *Event Management.* Vol. 6, pp. 25-32.

The authors discuss the need for researchers estimating attendance to open access daytime events in which economic impact studies are being conducted. The researchers discuss other methods such as tag and recapture, parade counts, entrance and exit counts, and finally aerial photography. The conclusion from these authors is that no one method is right for all applications. However, the authors suggest that for daytime, open air events aerial photography is the most cost effective method.

Sutherland, W.J. (1996). Mammals In W.J. Sutherland (Ed). *Ecological census techniques: A handbook*. pp. 260-278. Melbourne, Australia: Cambridge University Press.

The author of this chapter discusses the problems with counting mammals that are secretive or "out of view" of the counter. Methods are suggested along with advantages and disadvantages for counting large mammals in wildlife as well as bias. Strip and line transects, aerial strip and line transects are discussed in some detail and examples given. One method described in counting practices in the call method. This is where the vocalizations of mammals can be recorded and then counted. Advantages, disadvantages and bias are given for this method as well.

Other methods such as trapping and counting footprints and runways are discussed but the author suggests that counting footprints only gives the observer a sense of how dense the population is.

Trenkel, V.; Buckland, S.; McLean, C.; & Elston, D. (1997). Evaluation of Aerial Line Transect Methodology for Estimating Red Deer (*Cervus elaphus)* Abundance in Scotland. *Journal of Environmental Management.* 50, pp. 39- 50.

The authors of this article compare three studies performed in Scotland on Red Deer. The authors argue that aerial line transect surveys were adequate in estimating the number of deer in the population as well as stags, hinds and calves. The authors discuss the efficiency of the aerial line transect versus conventional ground based census. The authors find that the aerial line transect greatest us is when a large area is being censused and the population is large whereas, a ground census is better for small populations.

Tyrrell, T.J., Williams, P., & Johnston, R.J. (2003). How Many Visitors Were There? Presented to the 53rd AIEST Congress. Athens, Greece. September 10.

This article discusses ways in which to identify at a multi-event where ticketed patrons may come and go to several different venues. Survey data are discussed as to what should be collected and how. A visitor count model is diagrammed in order to estimate the number and types of visitors to a multi-venue event.

Vaughan, D.R., Farr, H. & Slee, R.W. (2000). Estimating and interpreting the local economic benefits of visitor spending: an explanation. *Leisure Studies*. Vol. 19, pp. 95-118.

This article discusses the use of economic impacts of visitor spending and addresses the issue of validity, relevance, and interpretation as well as data collection and analysis. The authors discuss the methodology of a three year study from Exmoor National Park. This paper discusses various ways to collect data through sampling and how to develop questionnaires. Discussed at length is direct, indirect and induced impacts and how to analyze these.

APPENDIX VI: SAMPLE TALLY QUESTION LIST AND TALLY FORM

You can print all the tally questions on a single sheet of paper. Interviewers should read from this sheet to administer the interview, and record responses on a "tally sheet". Samples of these materials are provided. You should, of course, customize them to meet your needs.

Stint Identification Every assigned stint in your study should have a unique number. This number should be recorded on each Tally sheet and each set of materials provided for counting entrants.

Interviewer Identification The interviewer's name should be recorded on each Tally sheet for quality control.

Tally Box **Refusals** you must be able to measure the response rate to the Tally Process. Thus, you must have a mechanism in the Tally process to record the number of people who decline/refuse your efforts to interview when approached.

Introduction Hi, my name is XXXX INTERVIEWER'S FIRST NAME. Welcome to NAME EVENT. I'd like to ask you just a few questions so we can learn more about who is coming to this event. (TO TAKE RESPONDENT OUT OF TRAFFIC FLOW: Could you and others who are here with you today just step aside for a couple of minutes?)

Questions

1. Have you already been stopped to answer questions about NAME EVENT ***today***?

No	[ ]	
Yes	[ ]	IF YES, THANK RESPONDENT & TERMINATE

2. Is XXXX (NAME CITY/TOWN IN WHICH EVENT IS TAKING PLACE) your permanent place of residence (SHOW MAP*)?

Yes	[ ]	LOCAL: SKIP TO Q.
No	[ ]	NON-LOCAL: ASK Q.3

*The map should display clear boundaries of what the event has defined to be the "local area".

3-a) **IF RESPONDENT LIVES OUTSIDE CITY/TOWN OF EVENT, ASK: In which city/town, province/ state/country is your permanent residence?** IF CANADA OR USA, ASK: And what is your postal/zip code?

City/Town	_____
Province/State	_____
Country	_____
IF CANADA/USA: Postal/Zip Code	_____

3-b) **IF RESPONDENT LIVES OUTSIDE CITY/TOWN OF EVENT, ASK:** Are you on an out-of-town trip from your permanent place of residence?

No	[ ]	
Yes	[ ]	IF YES, ASK 3-c)

3-c) Have you or will you be spending at least one night away from home on this trip?

No	[ ]
Yes	[ ]

4-a) How many people who live in your household came to NAME EVENT with you today?
IF MORE THAN ONE PERSON IN PARTY, ASK: And how many, if any, of these people are under [XX] years of age?

Total number in household travel party _____ IF MORE THAN ONE PERSON IN PARTY OR IF ANY LOOK TO BE TEENS/CHILDREN, ASK 4-b). OTHERS, SKIP TO Q.5

4-b) And how many, if any, of these people are under [XX] years of age?

Number under [XX] years _____

5. How many people in your group, if any, are [Are you*] here as staff, a vendor, participant/performer, media or volunteer to help with today's events? RECORD OPPOSITE APPROPRIATE EXCLUDED CATEGORY. IF ALL PARTY MEMBERS ARE "EXCLUDED", RECORD ON TALLY SHEET & TERMINATE

CODE	#
Staff	_____
Vendor/merchant	_____
Participant/ performer	_____
Media	_____
Volunteer	_____

*wording change required if a one person party

6. Which type of ticket(s) did you use today to enter NAME EVENT? OPTIONAL, depends on circumstances of Event. See Tally Procedures)

CODE	
Individual day ticket	[ ]
Individual event pass [multi-day pass]	[ ]
Family day ticket	[ ]
Family event pass [multi-day pass]	[ ]
NO TICKET (Comp., Vendor, Staff, etc.)	[ ]
OTHER (WRITE IN)	_____

7-a) IF MULTI-DAY EVENT: NAME EVENT lasts for X days. Over the full course of the event, on how many different days have you/do you plan to attend, counting today's visit?

WRITE IN NUMBER OF DAYS _____

DON'T KNOW/CAN'T ESTIMATE [ ]

Additional Questions for Estimating Attendance

See additional questions at the end of this sample to be inserted at Q.7, depending on which approach is adopted to estimate total attendance at the event:

- Aerial photos
- Parking lot counts
- Parade counts
- Tag and recapture

RECRUITING FOR ATTENDEE / ON-SITE SPENDING SURVEY

8-a) IF MULTI-DAY EVENT: Have you or has anyone else in your household party received a questionnaire to complete, either today or on a previous day you came to the event?

No	[ ]	GO TO NEXT QUESTION
Yes	[ ]	You need only complete one questionnaire for all your visits to this event. Thank you for your cooperation and enjoy your stay here today.

8-b) Non-local

NON-LOCAL: In order for us to learn more about your reactions to NAME EVENT and spending on your trip, would **the person most able to report on spending** for all people in your household who are on the trip with you please complete this short survey just before you leave the site today? You can drop the completed questionnaire in one of the specially labelled boxes at [NAME LOCATION(S) OF DROP OFF BOXES] or return it to us by mail in the postage paid envelope we have provided.

IF USING AN INCENTIVE, CONSTRUCT THE APPROPRIATE STATEMENT: As a thank you for your cooperation, once we have your completed survey, we will provide you with/ you will have a chance to win [NAME PRIZE], etc.

Refuses to accept questionnaire	[ ]	
Accepts questionnaire	[ ]	RECORD UNIQUE ID FROM Q'AIRE ON TALLY SHEET

IF ACCEPTS: Could I please have a telephone number (including area code) where I can reach you at home and the first name of the person who will complete this survey, just in case we have to follow-up on any of your answers?

RECORD PHONE NUMBER
RECORD FIRST NAME OF RESPONDENT

8-b) Local

LOCAL: In order for us to learn more about your reactions to NAME EVENT and spending at this event, would **the person most able to report on spending** for all people in your household who came to this event with you please complete this short survey just before you leave the site today? You can drop the completed questionnaire in one of the specially labelled boxes at [NAME LOCATION(S) OF DROP OFF BOXES] or return it to us by mail in the postage paid envelope we have provided.

IF USING AN INCENTIVE, CONSTRUCT THE APPROPRIATE STATEMENT: As a thank you for your cooperation, once we have your completed survey, we will provide you with/ you will have a chance to win [NAME PRIZE], etc.

Refuses to accept questionnaire	[ ]	
Accepts questionnaire	[ ]	RECORD UNIQUE ID FROM Q'AIRE ON TALLY SHEET

IF ACCEPTS: Could I please have a telephone number (including area code) where I can reach you at home and the first name of the person who will complete this survey, just in case we have to follow-up on any of your answers?

RECORD PHONE NUMBER
RECORD FIRST NAME OF RESPONDENT
Thank respondent for his/her cooperation.

INTERVIEWER NOTE: REMEMBER TO WRITE UNIQUE ID NUMBER FROM ATTENDEE SURVEY FORM ON YOUR TALLY SHEET BEFORE DISTRIBUTING THE ATTENDEE QUESTIONNAIRE.

Additional Tally Questions to Adjust Attendee Counts (Q.7)

Aerial Photos

a) Question 7 Tally Questionnaire, Modified for Aerial Photograph Method

-a) IF MULTI-DAY EVENT: NAME EVENT lasts for X days. Over the full course of the event, on how many different days have you/do you plan to attend, counting today's visit?

WRITE IN NUMBER OF DAYS

DON'T KNOW/CAN'T ESTIMATE [ ]

-b) Did you/do you plan to attend the [NAME PEAK EVENT(S) DURING WHICH AERIAL PHOTO(S) WAS/WERE /WILL BE TAKEN]? [IF MULTI-DAY EVENT, SAY: on NAME EACH DAY? REPEAT FOR EACH DAY, AS REQUIRED. **SEE ALTERNATIVE BELOW IF MULTI-DAY/MULTI-VENUE AERIAL PHOTOS TAKEN**

	DAY 1	DAY 2	DAY 3	Etc.
Yes	[ ]	[ ]	[ ]	[ ]
No	[ ]	[ ]	[ ]	[ ]
DON'T KNOW	[ ]	[ ]	[ ]	[ ]

-b) **ALTERNATIVE FOR MULTI-DAY/MULTI-VENUE AERIAL PHOTOS** Which of the following, if any, activities have you/do you plan to attend? [READ LIST AND MARK APPROPRIATE RESPONSE FOR EACH ITEM]. THE LIST WILL INCLUDE THE NAME, LOCATION AND DAY OF THE PEAK EVENT(S) DURING WHICH AERIAL PHOTO(S) WAS/WERE /WILL BE TAKEN.

	YES	NO	DON'T KNOW
Peak Event A, at LOCATION, on NAME DATE	[ ]	[ ]	[ ]
Peak Event B, at LOCATION, on NAME DATE	[ ]	[ ]	[ ]
Peak Event C, at LOCATION, on NAME DATE	[ ]	[ ]	[ ]
Etc.	[ ]	[ ]	[ ]

Parking lot counts

Question 7 Tally Questionnaire, Modified for Parking Lot Counts

Special questions for multi-day events:

-a) IF MULTI-DAY EVENT: NAME EVENT lasts for X days. Over the full course of the event, on how many different days have you/do you plan to attend, counting today's visit?

WRITE IN NUMBER OF DAYS

DON'T KNOW/CAN'T ESTIMATE [ ]

Additional questions for Method 3:

-b) Were you/do you plan to be at NAME EVENT on NAME DAY at NAME TIME(S) [DURING WHICH PARKING LOT COUNT(S) WAS/WERE /WILL BE TAKEN]? [IF MULTI-DAY EVENT, SAY: on NAME EACH DAY? REPEAT FOR EACH DAY, AS REQUIRED. **SEE ALTERNATIVE BELOW IF MULTI-DAY/MULTI-VENUE PARKING LOT COUNTS**

	DAY 1 at TIME __	DAY 2 at TIME __	DAY 3 at TIME __	Etc.
Yes	[ ]	[ ]	[ ]	[ ]
No	[ ]	[ ]	[ ]	[ ]
DON'T KNOW	[ ]	[ ]	[ ]	[ ]

-c) **ADDITIONAL QUESTION IF MULTI-VENUE PEAK PERIOD PARKING LOT COUNTS** When you came/when you plan to come to NAME EACH DAY/TIME RECORDED AS "YES" IN –b), in which parking lot did you/do you plan to park? [READ LIST AND MARK APPROPRIATE RESPONSE FOR EACH ITEM]. THE LIST WILL INCLUDE THE NAME, LOCATION OF PARKING LOTS AVAILABLE AT PEAK PERIODS.

	PARKING LOT	DON'T KNOW
DAY 1 at TIME __	A [ ] B [ ] C [ ]	[ ]
DAY 2 at TIME __	A [ ] B [ ] C [ ]	[ ]
DAY 3 at TIME __	A [ ] B [ ] C [ ]	[ ]
Etc.	A [ ] B [ ] C [ ]	[ ]

-d) And which type of vehicle did you/do you plan to use when you parked/plan to park in NAME EACH LOT and DAY/TIME RECORDED AS "YES" IN –c)? Was it a . . . READ LIST

	Vehicle type				
	Car, van or pick-up truck	Motorhome or RV	Bus	Motorcycle	OTHER (WRITE IN)
DAY 1					
LOT A	[ ]	[ ]	[ ]	[ ]	_____
LOT B	[ ]	[ ]	[ ]	[ ]	_____
LOT C	[ ]	[ ]	[ ]	[ ]	_____
DAY 2					
LOT A	[ ]	[ ]	[ ]	[ ]	_____
LOT B	[ ]	[ ]	[ ]	[ ]	_____
LOT C	[ ]	[ ]	[ ]	[ ]	_____
DAY 3					
LOT A	[ ]	[ ]	[ ]	[ ]	_____
LOT B	[ ]	[ ]	[ ]	[ ]	_____
LOT C	[ ]	[ ]	[ ]	[ ]	_____
Etc.					

-e) FOR EACH VEHICLE TYPE IN –d), ASK: And how many people in total came to the event/plan to come to the event on NAME DAY in your NAME VEHICLE? RECORD NUMBER OF OCCUPANTS IN VEHICLE FOR EACH VEHICLE ON EACH DAY.

	Number of Occupants per Vehicle				
	Car, van or pick-up truck	Motorhome or RV	Bus	Motorcycle	OTHER (WRITE IN)
DAY 1					
LOT A	_____	_____	_____	_____	_____
LOT B	_____	_____	_____	_____	_____
LOT C	_____	_____	_____	_____	_____
DAY 2					
LOT A	_____	_____	_____	_____	_____
LOT B	_____	_____	_____	_____	_____
LOT C	_____	_____	_____	_____	_____
DAY 3					
LOT A	_____	_____	_____	_____	_____
LOT B	_____	_____	_____	_____	_____
LOT C	_____	_____	_____	_____	_____
Etc.					

-f) ASK ONLY IF MORE THAN ONE OCCUPANT IN VEHICLE: How many *different* households were represented in the vehicle?

One (just your household/all from same household) [ ]

OTHER (WRITE IN NUMBER OF HHs, INCLUDING RESPONDENT'S HOUSEHOLD) _____

IF ONE-DAY SINGLE PARKING LOT EVENT:

-a) In which type of vehicle did you come to this event today? Was it a . . . READ LIST?

Car, van or pick-up truck	[ ]
Motorhome or RV	[ ]
School or tour bus	[ ]
Motorcycle	[ ]
Other (WRITE IN)	_____
DON'T KNOW	[ ]

-b) And how many people in total came to the event today in your NAME VEHICLE? RECORD NUMBER OF OCCUPANTS IN THE VEHICLE.

	TOTAL OCCUPANTS
Car, van or pick-up truck	_____
Motorhome or RV	_____
School or tour bus	_____
Motorcycle	_____
Other (Write in)	_____
DON'T KNOW	

-c) ASK ONLY IF MORE THAN ONE OCCUPANT IN VEHICLE: How many *different* households were represented in the vehicle?

One (just your household/all from same household)	[ ]
OTHER (WRITE IN NUMBER OF HHs, INCLUDING RESPONDENT'S HOUSEHOLD)	_____

Parade counts

Question 7 Tally Questionnaire, Modified for Parade Count Method

-a) IF MULTI-DAY EVENT: NAME EVENT lasts for X days. Over the full course of the event, on how many different days have you/do you plan to attend, counting today's visit?

WRITE IN NUMBER OF DAYS	_____
DON'T KNOW/CAN'T ESTIMATE	[ ]

-b) Did you/do you plan to attend the [NAME PARADE]?

Yes	[ ]
No	[ ]
DON'T KNOW	[ ]

Tag and Recapture

Question 7 Tally Questionnaire, Modified for Tag and Recapture Method

-a) RECORD IF RESPONDENT IS WEARING A TAG TODAY.

WEARING TAG	[ ] SKIP TO Q.8
NOT WEARING TAG	[ ] ASK Q. 7-b, -c

-b) IF NOT WEARING A TAG ASK: At approximately what time did you arrive at NAME EVENT SITE today? Was it (READ LIST)? LIST TIME PERIODS BEFORE, DURING AND AFTER "TAG" STINTS

From time A to time B	[ ]
From time B to time C	[ ]
Etc.	[ ]

-c) IF NOT WEARING A TAG ASK: At approximately what time do you plan to leave NAME EVENT SITE today? Will it be (READ LIST)? LIST TIME PERIODS BEFORE, DURING AND AFTER "RECAPTURE" STINTS

From time A to time B	[ ]
From time B to time C	[ ]
Etc.	[ ]

Sample Tally Sheet

(Does not include extra questions for tallies at locations *within* the event site (at food kiosks, washroom lines, etc.) to capture entrance/time of entry. These questions are required if tallies are conducted *within* the site.)

Stint ID (Write in)_____ **Interviewer ID (Write in)**_____

Refusals: STRIKE THROUGH *NEXT* NUMBER FOR EACH INDIVIDUAL THAT REFUSES TO PARTICIPATE WHEN APPROACHED.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49

	Q1.		Q.2		Q.3-a				Q. 3-b		Q. 3-c		Q. 4-a)	Q. 4-b)	Q.5					Q.6		Q.7	Q. 8 Recruitment for Attendee Survey/On-Site Spending Study						
	Already Tallied Today (IF YES, ENTER ON TALLY & TERMINATE)		Local/Non-Local		Place of Residence (Non-Local only) (WRITE IN)				Out-of Town Trip		Nights Away		Total in Household Party	# Under XX Years	# in HH Party in Each Excluded Category (ENTER # FOR EACH CODE) IF ALL HH MEMBERS ARE EXCLUDED, ENTER ON TALLY SHEET & TERMINATE					Type of Ticket (Write in Code)		# of days attended/ will attend + extra questions*					Telephone #		First Name
	Yes	No	Local	Non-Local	City	Prov/ State	Country	Postal Code/Zip	No	Yes	No	Not Asked			All	A	B	C	D	Code	Other (Write in)		Not Asked (interval)	Not Distributed - Already Has Q'aire	Refusal	Accepts **WRITE IN UNIQUE ID FROM ATTENDEE SURVEY**	Area Code	Number	
1.																																										( )		
2.																																										( )		
1.																																										( )		
3.																																										( )		
4.																																										( )		
5.																																										( )		
6.																																										( )		
7.																																										( )		
8.																																										( )		
9.																																										( )		
10.																																										( )		

*** Add response categories for additional tally questions (at Q.7) required to adjust attendee counts.**

APPENDIX VII: SAMPLE ATTENDEE SURVEY QUESTIONNAIRES (NON-LOCAL & LOCAL VERSIONS)

NON-LOCAL VERSION

INSTRUCTIONS FOR COMPLETING THIS QUESTIONNAIRE

Who should complete this survey?	An adult on the trip that included a visit to NAME EVENT who is **most able to report on spending and activities** for *all* people in this household who went on the trip.
Why is the survey important?	Information you provide will help NAME EVENT organizers plan for future events and demonstrate the benefits the event brings to the community and to people like yourself.
Is the information I provide kept confidential?	Yes. All information collected in the survey is used only for statistical analysis. Your responses are never associated with your name and all information you provide is confidential and anonymous. If you want to receive the NAME INCENTIVE be entered in the NAME CONTEST, include your name, address and telephone number in the space provided. This information will be detached from your survey responses and discarded once your gift has been sent/the winner has been notified.
Who can I call to verify the legitimacy of the survey?	Here is a number you can call if you have any questions or wish to verify the legitimacy of the survey (INSERT PHONE NUMBER)
What do I do with the completed survey?	There are "drop off" boxes at each gate or mail it back to us in the postage paid envelope we have provided. The cut-off date for processing returns is **Day-Month-Year**.
Freedom of Information	To be inserted based on regulations in your jurisdiction.
What is the "local" area or "community"?	Please refer to the **map** included in this questionnaire to identify the boundaries of the "local community" when answering questions about where you spent nights and money.
What is "on-site" spending?	By "on-site" (spending), we mean within the event's immediate area. For example, if you parked at the event's parking facility, you would write in your parking costs under "on-site spending", but if you parked a few blocks away, you would enter your parking costs (along with any other parking you paid for on this trip) in "other spending".
What if I have more than one copy of the questionnaire?	Complete only ONE questionnaire for the **entire trip** that included one or more visits to NAME EVENT.
What if my trip is not over yet?	If your trip is not over, please provide your best estimate of how much money you will spend at NAME EVENT for *all* your visits to the event and on the **entire trip**. Please provide your best estimate of spending for yourself and all other household members (people who live in the same permanent residence) who came on the trip with you.

PROVIDE MAP THAT CLEARLY DISPLAYS THE BOUNDARIES OF THE EVENT SITE'S COMMUNITY ("LOCAL") AND THE BALANCE OF THE PROVINCE OR STATE FOR WHICH YOU PLAN TO ESTIMATE THE TOURISM ECONOMIC IMPACT.

NON-LOCAL VERSION

Stint ID: _____

Unique ID: _____ (PRE-PRINT A UNIQUE NUMBER ON EACH ATTENDEE SURVEY BEFORE DISTRIBUTION. RECORD THIS NUMBER ON TALLY SHEET WHEN THE QUESTIONNAIRE IS HANDED OUT.)

ABOUT YOUR TRIP (EVERYONE ANSWERS)

WHERE DO YOU LIVE? **(Write in)**

City/Town _____
Province/State _____
Country _____
IF CANADA/USA:
Postal/Zip Code _____

HOUSEHOLD MEMBERS ON TRIP

	1	2	3	4	5	6	Other WRITE IN
Total (including yourself)							

	0	1	2	3	4	5	Other WRITE IN
Number under 18 years							

MAIN DESTINATION OF TRIP (Write in)

City/Town _____
Province/State _____
Country _____

NIGHTS AWAY FROM HOME ON ENTIRE TRIP

NONE

Number of nights you plan to be away from home on entire trip _____ nights

IF ANY NIGHTS AWAY FROM HOME

LODGING NIGHTS (have or plan to spend in each location before returning home from trip)

	[NAME LOCAL COMMUNITY] # of nights	Other Parts of [NAME PROVINCE/STATE] # of nights
Hotel, resort, lodge, etc.	_____	_____
Motel	_____	_____
B&B	_____	_____
Campground/RV Park	_____	_____
Other paid lodging	_____	_____
Private home or cottage (unpaid)	_____	_____
Other unpaid lodging	_____	_____

NUMBER OF <u>DIFFERENT</u> DAYS VISITED/PLAN TO VISIT [NAME EVENT] ON *THIS* TRIP

WRITE IN # OF DAYS

EVERYONE ANSWERS

MAIN TYPE OF TRANSPORTATION
(Type used to travel greatest distance on trip)

Auto/truck/motorhome
Inter-city bus
Train
Airplane
Boat/ship
Other

EVERYONE ANSWERS

HOUSEHOLD MEMBERS WHO WENT TO [EVENT]

	1	2	3	4	5	6	Other
Total (including yourself)							WRITE IN

	0	1	2	3	4	5	Other
Number under 18 years							WRITE IN

SIMILAR RECREATIONAL ACTIVITIES IN COMMUNITY

If you had *not* attended [NAME EVENT] on this trip, would you have gone to some other [SIMILAR TYPE OF EVENT] instead? Please refer to the map, if necessary.

	IN [NAME COMMUNITY]	IN [OTHER PARTS OF PROV/STATE]
No		
Yes		
Don't Know		

EVERYONE ANSWERS

IMPORTANCE OF EVENT IN DESTINATION CHOICE

Circle the number below that best describes how important [EVENT] was in your decision to visit [NAME CITY/TOWN OF EVENT] on this trip, where 0 indicates *no influence* and 10 is that [NAME EVENT] *is the main single reason* for visiting [NAME CITY/TOWN] on this trip.

No Influence									Main Reason	Don't Know
0	1	2	3	4	5	6	7	8	9	10	X

IS THIS TRIP REPLACING A DIFFERENT TRIP?

Would you have come to [NAME LOCAL COMMUNITY] in the next three months if you had not come at this time for [NAME EVENT]? Please refer to the map, if necessary.

No
Yes
Don't Know

SPENDING FOR ALL HOUSEHOLD MEMBERS ON THE TRIP (EVERYONE ANSWERS)

Provide your best estimate for the entire duration of your planned stay in [NAME OF LARGEST AREA INCLUDED IN ECONOMIC IMPACT ASSESSMENT]. Please include the following:

- **Cash, credit cards, debit cards, travellers cheques.**
- **Travel packages you might have purchased for goods or services used on this trip (such as lodging, admission to attractions or events, meals, vehicle rental, airfare or bus fare, etc.).**
- **Taxes and tips.**

Please report your spending in XX currency for you and all other household members on trip with you.

For each item, check box ( ) if any money was spent on the item and provide your best estimate of the amount. If you cannot estimate the amount, check the "Don't Know" box for the item and complete the "Total Amount" at the end of each list.

For "OTHER SPENDING" IN [NAME OF LARGEST AREA], please provide the proportion of your spending that was or will be done in [NAME COMMUNITY].

ON-SITE SPENDING AT [NAME EVENT]

If you went or plan to go to NAME EVENT on more than one day, please write in your best estimate of the ***total*** amount you have or will spend on ***all*** your visits to the event for each category.

	Spent Any?	**Amount in XX$** (currency)
Admission to [NAME EVENT] (including tickets purchased in advance)	[ ]	$_____.00 Don't know
Other on-site tickets/ admissions (rides, movies, etc. on the event site)	[ ]	$_____.00 Don't know
Food & beverages at restaurants, fast food outlets, concessions	[ ]	$_____.00 Don't know
At lounges, bars, clubs	[ ]	$_____.00 Don't know
Souvenirs	[ ]	$_____.00 Don't know
Other shopping/retail	[ ]	$_____.00 Don't know
Parking	[ ]	$_____.00 Don't know
TOTAL Total spent/will spend at [NAME EVENT] site		$_____.00 Don't know

ANY PLANE, TRAIN, INTER-CITY BUS, SHIP TICKETS BOUGHT FOR TRIP?

No
Yes
IF YES: Was that a . . . ?
domestic transportation company
foreign transportation company

Total spent on transportation tickets for all household members in XX currency (WRITE IN) $_____.00

Don't know

OTHER SPENDING IN [NAME OF LARGEST AREA] (excluding ON-SITE spending) **See note**.

	Spent Any?	**Amount in XX$** (currency)	**Proportion spent/will spend in** [NAME COMMUNITY]
TRANSPORT			
Gasoline/repairs for vehicle	[ ]	$_____.00 Don't know	_____% Don't know
Vehicle rental	[ ]	$_____.00 Don't know	_____% Don't know
Parking	[ ]	$_____.00 Don't know	_____% Don't know
Local taxis, local buses, subways	[ ]	$_____.00 Don't know	_____% Don't know
FOOD & BEVERAGES			
Groceries (at grocery stores)	[ ]	$_____.00 Don't know	_____% Don't know
Food & beverages at restaurants	[ ]	$_____.00 Don't know	_____% Don't know
At lounges, bars, clubs	[ ]	$_____.00 Don't know	_____% Don't know
SHOPPING			
Clothing	[ ]	$_____.00 Don't know	_____% Don't know
Other shopping	[ ]	$_____.00 Don't know	_____% Don't know
LODGING			
Lodging (including camping fees)	[ ]	$_____.00 Don't know	_____% Don't know
RECREATION			
Other recreation/ entertainment (excluding EVENT)	[ ]	$_____.00 Don't know	_____% Don't know
OTHER			
All other spending	[ ]	$_____.00 Don't know	_____% Don't know
TOTAL All spending during planned stay in [NAME LOCATION]	[ ]	$_____.00 Don't know	_____% Don't know

ABOUT [NAME EVENT]

OVERALL RATING OF EVENT

Very Unsatisfied									Very Satisfied	Don't Know
1	2	3	4	5	6	7	8	9	10	X

RATING OF EVENT FOR VARIOUS CHARACTERISTICS

	Very Unsatisfied									Very Satisfied	No Opinion
Food	1	2	3	4	5	6	7	8	9	10	x
Entertainment	1	2	3	4	5	6	7	8	9	10	x
Wait times	1	2	3	4	5	6	7	8	9	10	x
Washrooms	1	2	3	4	5	6	7	8	9	10	x
Parking	1	2	3	4	5	6	7	8	9	10	x

Add additional characteristics, if desired.

ATTENDANCE AT [NAME EVENT] IN PAST 3 YEARS
(mark all that apply)
- Never attended before
- Attended last year
- Attended two years ago
- Attended three years ago

LIKELIHOOD OF RETURNING IF EVENT HELD NEXT YEAR
- Definitely would return
- Probably would return
- Might or might not return
- Probably would not return
- Definitely would not return
- Don't Know/No Opinion

WHERE FIRST HEARD ABOUT [NAME EVENT]
(mark ONE only)
- Newspaper
- Radio
- Television
- Magazine
- Billboard or poster
- Word of mouth from friends/relatives
- Other

You can request the respondent to write in the name of the media source if you wish to have this additional information.

ABOUT YOU AND YOUR HOUSEHOLD (OPTIONAL)

YEAR OF BIRTH

_____

GENDER
- Male
- Female

HOUSEHOLD COMPOSITION
- All household members 18 years of age or over
- Any household members under 18 years
- Any household members under 12 years

HERE'S HOW TO RETURN YOUR COMPLETED QUESTIONNAIRE

Please drop this completed questionnaire in one of the specially marked boxes or mail it back to us in the postage paid envelope provided. [INSERT MAILING ADDRESS HERE].

If you have any questions about this study, please contact:
NAME OF CONTACT PERSON
PHONE NUMBER

THANK YOU FOR YOUR COOPERATION!

YOUR CHANCE TO WIN!

If you are interested in winning XX/receiving your [GIFT], please provide your name and complete mailing address so we can contact you. This information will be separated from your answers to this questionnaire so your responses will be anonymous and confidential. To have a chance to win/receive your gift, we must have your completed questionnaire no later than [**INSERT DEADLINE**].

Your Name _____
City/Town _____
Province/State _____
Country _____
IF CANADA/USA:
Postal/Zip Code _____

NOTE: This sample questionnaire is designed to produce tourism economic impact inputs at the local and provincial or state level. You can, however, add additional "event accounts", depending on the number of geographical impact areas you wish to assess. For example, you can add columns to the questionnaire and in the analysis such that you can estimate the tourism economic impact for the *local community*, *county*, and *state.*

LOCAL VERSION
INSTRUCTIONS FOR COMPLETING THIS QUESTIONNAIRE

Who should complete this survey?	An adult who is **most able to report on spending** for *all* people in this household who went to NAME EVENT.
Why is the survey important?	Information you provide will help NAME EVENT organizers plan for future events and demonstrate the benefits the event brings to the community and to people like yourself.
Is the information I provide kept confidential?	Yes. All information collected in the survey is used only for statistical analysis. Your responses are never associated with your name and all information you provide is confidential and anonymous. If you want to receive the NAME INCENTIVE be entered in the NAME CONTEST, include your name, address and telephone number in the space provided. This information will be detached from your survey responses and discarded once your gift has been sent/the winner has been notified.
Who can I call to verify the legitimacy of the survey?	Here is a number you can call if you have any questions or wish to verify the legitimacy of the survey (INSERT PHONE NUMBER)
What do I do with the completed survey?	There are "drop off" boxes at each gate or mail it back to us in the postage paid envelope we have provided. The cut-off date for processing returns is **Day-Month-Year**.
Freedom of Information	To be inserted based on regulations in your jurisdiction.
What is "on-site" spending?	By "on-site" (spending), we mean within the event's immediate area. For example, if you parked at the event's parking facility, you would write in your parking costs under "on-site spending", but if you parked a few blocks away, you would *NOT* enter your parking costs.
What if I have more than one copy of the questionnaire?	If you received more than one questionnaire, please complete ONLY one questionnaire for all the days you have or plan to attend NAME EVENT.
What if I don't know exactly what I/all members of my household spent?	Please provide your best estimate of spending for yourself and all other household members (people who live in the same permanent residence) who came to NAME EVENT with you throughout *all* your visits to the event.
What if I plan to come to this event on another day?	If you plan to come to the event again, please provide your best estimate of spending for yourself and all other household members for *all* your visits to the event including future visits.

LOCAL VERSION

Stint ID: _____

Unique ID: _____ (PRE-PRINT A UNIQUE NUMBER ON EACH ATTENDEE SURVEY BEFORE DISTRIBUTION. RECORD THIS NUMBER ON TALLY SHEET WHEN THE QUESTIONNAIRE IS HANDED OUT.)

WHERE DO YOU LIVE? (Write in)

City/Town _____

Province/State _____

Country _____

IF CANADA/USA:

Postal/Zip Code _____

OVERALL RATING OF EVENT

Very Unsatisfied									Very Satisfied	Don't Know
1	2	3	4	5	6	7	8	9	10	X

ON-SITE SPENDING AT [NAME EVENT] TODAY

- **Please report your spending in XX currency for <u>you and all other household members who came with you to the [EVENT].</u>**
- **If you went or plan to go to the event on more than one day, include spending for you and other members of your household for *all* your visits to the event. Please include your best estimate of what you will spend on future visits to this event.**
- **By "on the event site" we mean within the boundaries of the event. If you parked or purchased food, beverages or souvenirs *near* but not *on* the site, you would NOT include this spending.**
- **Provide your best estimate, including cash, credit cards, debit cards, travellers cheques. Include taxes and tips. Please report your spending in XX currency.**
- **For each item, check box ( ) if any money was spent on the item and provide your best estimate of the amount. If you cannot estimate the amount, check the "Don't Know" box for the item and complete the "Total Amount" at the end of each list.**

RATING OF EVENT FOR VARIOUS CHARACTERISTICS

	Very Unsatisfied								Very Satisfied		No Opinion
Food	1	2	3	4	5	6	7	8	9	10	x
Entertain-ment	1	2	3	4	5	6	7	8	9	10	x
Wait times	1	2	3	4	5	6	7	8	9	10	x
Washrooms	1	2	3	4	5	6	7	8	9	10	x
Parking	1	2	3	4	5	6	7	8	9	10	x

Add additional characteristics, if desired.

ATTENDANCE AT [NAME EVENT] IN PAST 3 YEARS

(mark all that apply)

Never attended before

Attended last year

Attended two years ago

Attended three years ago

NUMBER OF <u>DIFFERENT</u> DAYS VISITED/PLAN TO VISIT [NAME EVENT]

WRITE IN # OF DAYS ___

If you went or plan to go to NAME EVENT on more than one day, please write in your best estimate of the ***total*** amount you have or will spend on ***all*** your visits to the event for each category.

	Spent Any?	**Amount in XX$** (currency)
Admission to [NAME EVENT] (including tickets purchased in advance)	[ ]	$_____.00 Don't know
Other on-site tickets/ admissions (rides, movies, etc. on the event site)	[ ]	$_____.00 Don't know
Food & beverages at restaurants, fast food outlets, concessions	[ ]	$_____.00 Don't know
At lounges, bars, clubs	[ ]	$_____.00 Don't know
Souvenirs	[ ]	$_____.00 Don't know
Other shopping/retail	[ ]	$_____.00 Don't know
Parking	[ ]	$_____.00 Don't know
TOTAL Total spent at [NAME EVENT]		$_____.00 Don't know

LIKELIHOOD OF RETURNING IF EVENT HELD NEXT YEAR

Definitely would return
Probably would return
Might or might not return
Probably would not return
Definitely would not return
Don't Know/No Opinion

WHERE FIRST HEARD ABOUT [NAME EVENT]
(mark ONE only)
Newspaper
Radio
Television
Magazine
Billboard or poster
Word of mouth from friends/relatives
Other
You can request the respondent to write in the name of the media source if you wish to have this additional information.

ABOUT YOU AND YOUR HOUSEHOLD (OPTIONAL)	
YEAR OF BIRTH _____	**GENDER** Male Female **HOUSEHOLD COMPOSITION** All household members 18 years of age or over Any household members under 18 years Any household members under 12 years
THANK YOU!	**YOUR CHANCE TO WIN!**
Please drop this completed questionnaire in one of the specially marked boxes or mail it back to us in the postage paid envelope provided. [INSERT MAILING ADDRESS HERE]. If you have any questions about this study, please contact: NAME OF CONTACT PERSON PHONE NUMBER	If you are interested in winning XX/receiving your [GIFT], please provide your name and complete mailing address so we can contact you. This information will be separated from your answers to this questionnaire so your responses will be anonymous and confidential. To have a chance to win/receive your gift, we must have your completed questionnaire no later than [**INSERT DEADLINE**]. Your Name _____ City/Town _____ Province/State _____ Country _____ IF CANADA/USA: Postal/Zip Code _____