**ECONOMIC IMPACT AND SIGNIFICANCE:  ADDITIONAL INSIGHTS FOR MEASUREMENT IN SPECIAL EVENTS**

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**Abstract**
Special events are an important component of the tourism industry, and they attract visitors to areas where they are hosted. These events have an economic impact and significance in the local host communities, since the visitors will spend money during their travel and visits to these destinations that bring benefits.  While substantial effort has been made in the past to measure the economic impact of attractions and destinations, less time has been spent on adapting these measures for the measurement of periodic special events.  The purpose of this study is to further examine and update the measurement concepts associated with assessing the economic impact and significance of three different special events. Specifically, this study examined and further the study of these economic impact measurements through the examination and application of EIS measurement techniques to three events in Western Massachusetts: Great New England Air Show, Volleyball Hall of Fame Events, and Westfield International Air Show.

**1.0   Background and Introduction**
In recent decades, tourism has developed rapidly and has become one of the fastest growing sectors in the world economy (UNWTO, 2012). Within the tourism sector, the creation of special events and attractions have become important tourism components and increasingly play an important role in attracting tourists to a local region or community. These attractions and events may enhance the image of the local area, build business networking, increase residents' morale and promote the civic pride (Dwyer, Forsyth, & Spurr, 2005; Gursoy, Kim, & Uysal, 2004; Lee & Taylor, 2005). Besides these advantages, the local community can also benefit greatly from the special events or attractions when "new money" comes into the local area from non-local visitors or attendees.  The expenditures from these visitors/attendees can increase sales, support more jobs and promote the residents' incomes, and further enhance the residents' quality of life.  When of sufficient scale, these impacts can have multiple effects called multiplier effects – multiple longer lasting effects that create additional impacts throughout the community.  These effects are called the "economic impact" and include both direct, indirect and induced expenditures and effects locally.

"Economic impact" can be defined as "the net economic change in the incomes [and expenditures] of the local residents and the jobs of the local community that results from the expenditures attributed to tourists associated with tourist policy, events, facilities or destinations" (Crompton, 2006; Tyrrell & Johnston, 2006). The typical economic impact includes the direct, indirect and induced effects and measures the economic expenditures by the "real visitors" (Stynes, 1997). There is also another emerging concept, "economic significance," that focuses on measuring the direct economic expenditures by all types of visitors and estimates the economic contribution from a simple, but straightforward, perspective of the real magnitude of the expenditures in the local community for the event or attraction.

The purpose of this study is to further examine and update the concepts and measurement issues associated with assessing the economic impact and significance of tourism attractions and events, and specifically, to examine these measurements through the examination and application of EIS techniques over three different cases in Western Massachusetts: (1) Great New England Air Show, (2) Volleyball Hall of Fame and its related events, (3) Westfield International Air Show.

**2.0 Review of Literature**
The measurement of economic impact and significance has been developing for decades, and a number of scholars have contributed to the development and refinement of the framework of the EIS theory and the various measurement techniques. Two scholars, John Crompton and Daniel Stynes have been significant and dedicated contributors to the efforts in further the EIS theory and measurements. Crompton, Lee, and Shuster (2001) systematically build the basic process to undertake an economic impact study, and further generalized four basic principles of economic impact studies: "(1) the exclusion of local residents, (2) the exclusion of 'time-switchers' and 'casuals', (3) the use of income rather than sales measures, and (4) the careful interpretation of employment measures" (Crompton et al., 2001; Crompton & Lee, 2000). Based on the four important principles, Crompton et al. (2001) presented a refined instrument for data collection, and Stynes (1999) has dedicated a significant amount of his research to the development and implementation of EIS.

To estimate economic impact and significance, it is very critical to apply a proper model. There are a variety of models and techniques to estimate economic impact and significance, and arguments exist between scholars on the application of these models and which models can reach or produce the more accurate results (Crompton et al. 2001; Dwyer, Forsyth, & Spurr, 2006;

Tyrrell & Johnston, 2006; Dwyer, Forsyth, & Spurr, 2004). The three major models are: (1) Input-Output Model (I-O Model), (2) Computable General Equilibrium (CGE), and (3) Tourism Satellite Account (TSA). An Input-Output Model is a mathematic technique that illustrates the flows of money and the linkages between industries in a study area (Stynes, 1997). To apply an Input-Output Model, it usually begins with estimating the total dollars injected in the local region due to the tourism events, including visitor expenditures, sponsors' fund, etc. (Dwyer, Forsyth, & Spurr, 2006), and the flow of the injected money is then traced as it would flow through the local economy. An Input-Output Model uses the Input-Output tables and applies the appropriate multipliers to convert the input into output in every sector, as well as the sales, income and employment. The spending in tourism events may have direct, indirect and induced effects, and contribute to the entire local economy (Stynes, 1997; Frechtling & Horvath, 1999). I-O Model is one of the most widely used models in economic impact studies. A modified I-O model measuring only the direct and indirect impact measures was used in these case studies.

Computable General Equilibrium (CGE) is considered as one of the more proper methods that can more fully assess the entire economic impact of tourism, reaching more accurate results (Dwyer, Forsyth, & Spurr, 2006). Actually, the Input-Output framework is embedded in the new CGE model; however, the new CGE model improves upon the basic Input-Output method by considering the economy as a whole, eliminating some of the unrealistic assumptions and providing a more direct measure of specific effects (Dwyer, Forsyth, & Spurr, 2006). Tourism Satellite Account (TSA) is a new statistical method to assess the economic impact of tourism, which is considered as a strategic program for the World Tourism Organization (UNWTO, 2011). The purpose of a TSA is "to analyze in detail all the aspects of demand for goods and services associated with the activity of visitors; to observe the operational interface with the supply of such goods and services within the economy; and to describe how this supply interacts with other economic activities."

As the pioneers developed the EIS theories and models, a number of scholars also conducted the economic impact studies on particular attractions and events. With increased popularity and the growth of special events, organizers and local communities are now more concerned about how the attractions or events affect the local economy. . The types of attractions or special events where scholars have used economic impact and significance studies include: the Scottish Highland Games in North Carolina (Chhabra, Sills, & Cubbage, 2003), FIFA World Cup (Lee & Taylor, 2005), Olympic Games (Li, Blake, & Cooper, 2011), and as the guide to EIS process in the Springfest Event in Ocean City, Maryland (Crompton, et al., 2001) among others (Dwyer, Forsyth & Spurr, 2005; Crompton & Lee, 2000). While the air shows and sports tourism venues have become increasingly popular, there is little literature focusing on measuring economic impact and significance in these later areas (Warnick et al, 2011).

**3.0 Methodology**
Three case studies were included in this review to assess various measurement techniques of economic impact and economic significance: (1) Great New England Air Show (September 2008), (2) Volleyball Hall of Fame (HOF) and its related events (October 2009), and (3) Westfield International Air Show (August 2010). Each of these special events was held in Western Massachusetts and the air shows drew a significant number of visitors from local, regional and national locales while the Volleyball HOF were smaller in scale. Each of the surveys conducted for these case studies involved a detailed data collection instrument developed following the guidelines of Crompton, et al. (2001) and Stynes (1999). Data were collected through an online registration process and on-ground intercepts. Surveys were sent and retrieved via the online email and survey platform called Qualtrics™. Various measurements concepts were examined in the three case studies and the application of the appropriate techniques to estimate and adjust the economic impact and significance were made. Specifically, within the context of these studies, the exclusion of local attendees and the measurement of the VFR markets (visiting friends and relatives), the exclusion of causals and time switchers, and the measurements of economic impact and economic significance were considered.

3.  Table 1. The Cases Involved in the Study.

| Case | Location | Time | Sample Size | Response Rate |
|---|---|---|---|---|
| Great NE Air Show | Chicopee, MA | Sep. 6-7, 2008 | 3,078 | N=1,109 (36.0%) |
| Volleyball HOF Events | Holyoke, MA | October, 2009 | 1,244 | N= 308 (30.5%) |
| Westfield International Air Show | Westfield, MA | Aug. 19-21, 2010 | 2,687 | N=1,140 (42.4%) |

*3.1. Exclusion of Local Visitors.*
One of the most critical principles in the economic impact study is to exclude the local visitors because only the expenditures by the non-local visitors contribute to the local economy by bringing in "new money" (Crompton et al., 2001). The expenditures by the local visitors are considered an internal recycling of money, and further rationale suggests that if the local visitors did not spend the money in the attraction or special event, they would spend the money in somewhere else within the local area or community. (Crompton et al, 2001; Stynes, 1999). Thus, expenditures by locals should be excluded; however, it may be argued that not all locals act like locals and may actually entertain people from outside the region during special events (the visiting

friends and relatives or VFR market), particularly if the events are unique and not regularly held.  Furthermore, Crompton et al. (2001) and Stynes (1999) provide only passing reference to defining locals or the expenditure area; so it may be equally important do determine and examine "how local is local" or how should one measure or define local attendees.

There are three major methods to identifying local visitors: (1) mileage distance factor, (2) travel time measures, and (3) the definition of shopping area districts to define local versus non-local attendees. Most of the economic impact and significance studies used the "mileage distance factors" and define "tourists" or "visitors" as living more than 50 miles or 100 miles from the destination.  Crompton et al., (2001) defined locals as those residing in the local zip codes and suggested the collection of primary resident zip codes as the methods to define locals.  However, when measuring local and regional events, visitors may come from a larger day use market and may be comprised of individuals traveling on day trips to special events or visiting friends and relatives in the local community for the sole purpose of attending a local special event, especially if the event is unique and of large magnitude.  Another method not considered but attempted in one of the case studies was to define the local market by shopping districts.  The Volleyball HOF Case Study utilized a combined travel distance and shopping district profiling of local zip codes and the Westfield International Air Show (WIAS) used the "shopping area districts" profiles to delineate between local and non-local while classifying these nearby groups into "local" and "regional" shopping profile groups.

The concept of measuring and defining the "visiting friends and relatives (VFR)" market has rarely been defined in economic impact studies.  However, the VFR market was considered unique in large special events and was felt to be significantly different and worthy of measurement. Therefore, these visitors who are from outside the area and who visit special attractions/events while staying with the locals during their travels may be overlooked or not appropriately categorized as locals or non-locals.  It was felt that these groups, locals with visiting friends and relatives (VFR markets) might behave differently and need to be profiled in the measurement process. The case study of WIAS attempted to examine this effect in more detail including expenditure patterns and group size.

*3.2  Exclusion of "Casuals" and "Time-Switchers"*
"Casuals" and "time-switchers" are the other two types of visitors that cannot contribute "new money" to the local economy. "Casuals" visit the local area for other initial reasons other than attending or visiting the attraction or attending the event and just happen to casually attend or visit. If they did not spend the money on the attraction or event, they would spend the money somewhere else within the local area (Crompton et al., 2001). "Time-switchers" were planning to visit the local area sometime later but switch the timing to coincide with the events. If they did not spend the money in the local area at this time, they would make the expenditures sometime later in the local area (Crompton et al., 2001). Therefore, the expenditures of both the "casuals" and "time-switchers" should not be attributed directly to the attraction or event, and should be excluded in the typical economic impact assessment.  While Crompton et al. (2001) suggest that these visitors, causals and time-switchers, should be excluded, further definition of refining the measurement of them may be helpful.  For example, how would they switch their time if the event was not held and attended during the event's time frame.  The case study for WIAS further define how these concepts may be measured and examined in more detail.

*3.3  Travel Group*
Tourists usually travel to a destination, visit an attraction or attend an event by groups. In the economic impact and significance studies, the travel group is the common unit of analysis. The typical economic impact and significance studies usually collect the total expenditures by group and then average across the groups to individuals.  Travel group measurement was applied across all three case studies here. Group size and group expenditures were collected and then averaged by dividing group size into the overall expenditures and extrapolated to the larger crowd estimates for overall measurements.  The coordinating councils of the air shows and the military personnel monitoring and measuring the crowds provided the attendance figures for both the GNEAS and WIAS.  For Volleyball Hall of Fame study, the attendance data were measured by registration and event numbers of the sanctioned events (Volleyball games, etc.) and awards banquet/dinner.  However, by classifying locals and non-locals and even other unique market groups (VFR groups), group spending patterns can be realized and adjustments can be made to the measurement of economic impacts.

*3.4  Expenditures*
To examine the economic contributions, it is very important to accurately estimate the expenditures of the visitors that are spent in the local area. To promote the accuracy and completeness of the estimates of the visitors' expenditures, the overall expenditures were divided into several prescribed categories, such as overnight accommodations, food and drink, transportation services, shopping, etc., as Stynes (1999) and Crompton et al. (2001) recommended. The total expenditures are an important indicator to calculate the overall economic impact and significance.  The measurement of all expenditures followed the recommendation by these researchers in each of these case studies.  Crompton et al. (2001) recommended a more precise measure of expenditures within the local event market area and outside the local event market area and this technique was employed here in the WIAS; but due to space limitations was not presented here although the data were gathered.

*3.5  Economic Impact vs. Economic Significance*
There are two major measures to assess the economic contributions – the economic impact and the economic significance. The typical economic impact assessment usually excludes the local visitors, casuals and time-switchers, and examines the actual "new

money" coming into the local area. Further, an appropriate multiplier is applied for further adjustment to assess the modified indirect and induced impact of non-local attendee expenditures in the local or regional economy. In these studies, the conservative multipliers were also employed for the three cases as defined by the Massachusetts Office of Travel and Tourism (MOTT) (D'Agostino, 2009-2010) in the appropriate year (2008, 2009 and 2010) for the Pioneer Valley and county area and adjusted accordingly after both locals and causals/time switchers were excluded. Since the expenditures of the local visitors, casuals and time-switchers have some economic value, these measures were also included to examine the total "economic significance" or the economic contributions as a basic benchmark measure for all event attendees. Furthermore, when local corporate sponsors are seeking to define more local and regional markets, the inclusion and measurement of their expenditures were considered to be important as well as their identification. In this context, applying a multiplier is inappropriate, since both the internal and new money is being mixed; but, it is appropriate to estimate the overall event expenditures and this measure is called the "economic significance" as recommended by Crompton et al. (2001). The adjusted direct expenditures for non-locals were calculated and the multiplier applied to these measures to provide an estimate of the direct and indirect impacts of the "new money" coming into the local area by the use of the modified I/O model. The economic impact and economic significance can be estimated as the following equations: 1) *Economic Impact = Number of "Real Visitors" X Average Individual Expenditures X Multiplier;* and 2) *Economic Significance = Number of Total Attendees X Average Individual Expenditures.*

## 4.0 Results
This section presented the results of the economic impact and significance of the three cases and the concepts refined and extended for further consideration. An analysis and application of each of the following case studies appears here.

*4.1 Great New England Aid Show (Case Study #1)*
The 2008 Great New England Air Show (Case Study #1) was a two-day event, and held on September 6 and 7 at the Westover Air Reserve Base. The event attracted about 345,000 attendees to the local area during the two days. For this case, 3,078 survey questionnaires were sent out after the event and 1,109 usable responses were received. There was an average of 3.77 members in a single group. The average travel distance of the visitors was 45.1 miles, and about 60.87% of the attendees were determined to be non-locals, that is, 210,002 were real "visitors," when locals were excluded. The expenditures of the visitors were profiled by eight expenditure categories, and the average expenditures in every category and the average total are presented in Table 2.

Table 2. The Average Expenditures by Category for GNEAS.

| Category | Expenditures per Group ($) | Expenditures per Person ($) |
|---|---|---|
| Refreshments | 20.53 | 5.45 |
| Food/drinks before after event | 17.51 | 4.64 |
| Souvenirs or gifts | 14.80 | 3.93 |
| Clothing or accessories | 3.93 | 1.04 |
| Transportation | 24.47 | 6.49 |
| Local attractions | 2.10 | 0.56 |
| Overnight accommodations | 12.26 | 3.25 |
| Other | 2.40 | 0.64 |
| Total | 98.00 | 25.99 |

The average expenditures per group were $98.00, and the average expenditures per person were $25.99. The multiplier provided by MOTT for the area and used in this case was 1.5. The overall direct "economic impact" of the GNEAS would appear to be about $13.55 million (345,000 attendees x $25.99 per person x 1.5 multiplier); however, this greatly over-estimates the impact as it includes locals and incorrectly includes local expenditures. Nevertheless, it would be appropriate to show what the estimated expenditures by all attendees were including both locals and non-locals as a measure of "economic significance" of the event. It was estimated to be $8.97 million (345,000 attendees x $25.99 per person). When the appropriate adjustments were made to exclude the locals the more direct measure of the economic impact was more conservative. Therefore, when excluding the local visitors and applying the multiplier provided by MOTT, the overall economic impact was $8.17 million (210,002 non-locals or visitors X $25.99 per person X 1.5 = $8,186,928). While these estimates were improved, more conservative and better than the initial estimate of applying Crompton's (2001) and Stynes (1999) appropriate adjustments, it was felt that other improvements to these measures could be made. Some of these adjustments were made in the following case studies for the Volleyball HOF events and the WIAS.

*4.2 Volleyball Hall of Fame (Case Study #2)*
The Volleyball Hall of Fame is a sports heritage attraction located in Holyoke, Massachusetts, and was established for the living memorial to the history of volleyball and its honorees. It also organizes annual events every year that include high profile high school and college volleyball contests/tournaments. During the month of October, it has the most concentrated set of events, including several volleyball tournaments, induction banquet and ceremony, and a media conference. This case study was conducted during this time period to assess the measures and impact of the total set of events during the month of October 2009. For this case, 1,244 survey questionnaires were sent out and 380 usable responses were received. Among them, 102 respondents indicated that they visited the Volleyball Hall of Fame and/or attended its related events during October 2009. The estimated

attendance of these events was 2,500.

In this case, the region in Massachusetts within 15 miles distance (driving time of approximately 20-30 minutes) from Holyoke was considered as the local area and was defined on the basis of a shopping district or area.  These events although generally considered to be more regional or national attracted a larger local set of attendees and it was estimated that a shopping district profile would be a more appropriate measure of differentiating between locals and non-locals. The residence of each attendee was identified by primary home residence zip code identification. Consequently, there were 36 respondents considered as the local visitors, while there were 57 respondents considered as the non-local visitors and nine respondents did not specify their residence. Then, the casuals and time-switchers were identified. Consequently, there were 31 respondents indicating that they were not local visitors, casuals or time-switchers, which was considered as the "real visitors" qualified for the typical economic impact assessment.  Because this study and the sampling frame was so small, this was considered to be an exploratory measurement and initial benchmark for future larger scale assessments in the future.   The expenditures were divided into eleven categories and the average expenditures of the "real visitors" and all types of visitors are presented respectively in Table 3.

Table 3. The Average Expenditures by Category for the Volleyball Hall of Fame and Its Events

| Category | Expenditures per Group ($) | | Expenditures per Person ($) | |
|---|---|---|---|---|
| | All the Visitors | Real Visitors | All the Visitors | Real Visitors |
| Refreshments purchase | 32.25 | 48.33 | 3.41 | 5.11 |
| Food or drinks | 62.01 | 99.06 | 6.55 | 10.47 |
| Souvenirs or gifts | 15.04 | 11.12 | 1.59 | 1.17 |
| Clothing or accessories / event | 32.19 | 53.10 | 3.40 | 5.61 |
| Private/personal auto expenses | 33.15 | 65.16 | 3.50 | 6.89 |
| Local attractions | 0.08 | 0.00 | 0.01 | 0.00 |
| Overnight accommodations | 92.11 | 194.48 | 9.74 | 20.56 |
| Transportation services | 41.11 | 87.10 | 4.35 | 9.21 |
| Admission/banquet tickets | 34.86 | 37.74 | 3.68 | 3.99 |
| Clothing or merchandise @ HOF | 28.45 | 47.00 | 3.01 | 4.97 |
| Other | 0.96 | 0.48 | 0.10 | 0.05 |
| Total | 372.22 | 643.58 | 39.35 | 68.03 |

The overall economic significance was estimated to be $98,375 (2,500 attendees X $39.35 per person = $98,375), when including all types of attendees.  When adjusted and locals excluded, the estimated number of visitors during October 2009 was 2,500, and 33.3% of them were considered as the "real visitors."  Further, the local visitors, casuals and time-switchers were excluded, and a multiplier was applied to examine the "new money" coming into the local area. Therefore, the overall economic impact was estimated to be $89,537 (2,500 attendees X 33.3% [estimate of non-locals] X $68.03 per person for non-local expenditures X 1.58 multiplier = $89,537.)  The improvements in this study were more direct differentiation and accounting for time switchers and casuals, and adjusting the expenditure pattern of non-locals for an improved measure of their expenditure patterns over an overall group average application.

*4.3  Westfield International Air Show (Case Study #3)*
The 2010 Westfield International Air Show (WIAS) was a two-day event held at the Barnes Air National Guard Base in Westfield, MA. The air show was hosted on August 20 and 21 with the Media Day on August 19. There were approximately 268,000 visitors coming to the local area to attend the air show. For this case, 2,687 survey questionnaires were sent out, and 1,140 usable responses were received.  In this case, the visitors were segmented into three categories by the principle of a combined driving time and regional  "shopping area districts" configuration:

(1) Locals: Attendees from Westfield and its neighboring cities or towns using Westfield as their major shopping area.
(2) Regionals: Attendees from the cities or towns within an 18-mile radius of Westfield and who do not use Westfield as their major regional shopping area
(3) Non-locals: Visitors from the cities or towns more than 18 miles away from Westfield.

According to the survey results, 16.0% of the visitors were considered as the local attendees, 6.9% of them were the regional attendees, and 77.1% of them were the non-local visitors. The expenditures of the visitors were split into eight categories, and the average expenditures per group of the local visitors, regional visitors and non-local visitors are presented in Table 4.

Table 4.  The Average Expenditures by Category for WIAS

| Category | Expenditures per Group ($) | | | |
| --- | --- | --- | --- | --- |
| | Non-Local | Regional | Local | All |
| Refreshments | 27.16 | 23.44 | 20.52 | 25.45 |
| Food/drinks before/after event | 22.48 | 11.98 | 15.64 | 21.20 |
| Souvenirs or gifts | 16.74 | 13.64 | 8.21 | 15.27 |
| Clothing or accessories | 5.94 | 8.52 | 4.53 | 5.70 |
| Transportation | 32.62 | 9.96 | 14.26 | 29.24 |
| Local attractions | 2.87 | 0.47 | 2.01 | 2.73 |
| Overnight accommodations | 21.18 | 3.98 | 17.42 | 20.56 |
| Other | 6.69 | 3.08 | 2.00 | 5.87 |
| Total | 135.63 | 75.07 | 84.59 | 126.00 |
| Average Expenditures per Person | 36.17 | 20.18 | 23.30 | 34.90 |

Therefore, the overall economic significance was estimated to be $9.35 million (268,000 attendees x $34.90 per person = $9,353,200). When excluding the local and regional attendees and employing the MOTT multiplier, the overall economic impact was estimated to be $11.36 million (268,000 attendees X 77.1%) x $36.17 per person x 1.52 (economic multiplier) = $11,360,077.  These measures improved upon the definition of the local, regional and non-local markets with appropriate adjustments made in the measures of expenditures by each market segment.

In this case study, additional adjustments were made.  First, the VFR market was defined and fully examined as the "visiting friends and relatives" effect within the local market segment.  It was felt that these sub-markets of locals actually might behave more like non-locals in their expenditure patterns. The results are presented in Table 5. The average expenditures of the local and regional groups with visiting friends and relatives were $111.71 per group and $101.50 per group respectively, and they were $27.12 per person (locals) and $26.43 per person (regionals) higher than the average expenditures of the typical local ($84.59 per group) and regional ($75.07 per group) groups. These numbers were close to the average expenditures of the non-local groups, which were $135.63.  See Table 5 here.

Table 5. Visiting Friends and Relatives Expenditures and Group Size Effects.

| | Non-local | Local | Regional | All |
| --- | --- | --- | --- | --- |
| Number or Groups | 718 | 64 | 149 | 931 |
| Expenditures Per Group: | | | | |
| Typical average expenditures per group | $135.63 | $ 84.59 | $ 75.07 | $126.00 |
| Average expenditures per group with VFR | N/A | $111.71 | $101.50 | N/A |
| Added group income from VFR market/group | N/A | $27.12 | $26.43 | N/A |
| | | | | |
| Group Size | Non-Local | Local | Regional | All |
| Typical group size per type | 3.75 | 3.63 | 3.72 | 3.61 |
| Average group size of VFR markets | NA | 5.14 | 6.25 | NA |
| Average expenditure per group person w/in VFR | NA | $21.73 | $16.24 | NA |
| Percent of Groups with VFR markets | NA | 12.5% | 13.7% | 3.0% |

Second, further examination of their casual behavior (defining casuals) and time switching behavior was undertaken in the WIAS study.  For example, was the event a planned event or a substitute activity?  First, it was found that for 98% of the attendees this was a "planned event" and not a substitute event.  When asked if the event was not held on this particular weekend what would the attendees do, it was found that 47% would work or relax around the home; another 20% would engage in a local recreational activity; 8% would do nothing special or extraordinary and only 24% would engage another typical "tourist  behavior" (i.e., go to the beach, visit another attraction/event).  Thus, for this event, there was little evidence of casual or time switching behavior when probed and these groups were not excluded.

### 5.0  Conclusion, Discussion, Implications and Limitations.
This study examined the measurements of assessing the economic impact and significance, and further applied these techniques in three different case studies in measurements in Western Massachusetts. The economic impact and significance of the three events or attractions were explored examined and adjusted according to the recommendations by Crompton et al. (2001) and Stynes (1997) and further refined with the appropriate adjustments to the definition of locals and submarkets such as the VFR market. The study provided preliminary assessment of the economic contributions of these events and attractions to the local communities and the refinement of these measures.

In the case of the Volleyball Hall of Fame, the measurements were refined, and the casuals and time-switchers were also identified and excluded in the economic impact assessment to achieve a more accurate result. The average group size, the number of attendance and the average group expenditures were other important measures in the assessment process as well. However, the estimates of casuals and time switchers also need to be carefully considered.  In the WIAS air show, when probed, there was little evidence of substitute or casual behavior stated by the attendees.  This was probed beyond the study questions recommended by Crompton, et al. (2001).   So, although it is important to consider and exclude these other types of attendees to classify all of them as similar or with similar intentions would not be appropriate.  One needs to further explore their intentions of the basis of the activity or special event.  Some may also argue that special events, especially if held only periodically are not easily replaced by other activities and do actually generate new or unique purchases.

The concept of the assessment of VFR (visiting friends and relatives) markets was usually not employed in the typical economic impact assessment even though it has been measured in other tourism studies (for a typology example see Moscardo et al., 2000). However, it does have some effects on the visitors' economic expenditures. In the WIAS study the effect of the VFR market was more fully examined to determine the size of this market, their relative expenditure patterns and overall group size.   Local and regional groups with visiting friends and relatives spent money more like the non-local groups, and the expenditures of these local and regional groups were much significantly higher; however, the individual average expenditures were lower for the regional and local VFR groups than their comparable groups.  The overall number of groups comprised about 12-13% of the local or regional market groups.  Therefore, the local and regional groups with visiting friends and relatives could bring "new money" into the local area and make economic contributions to the local economy.  Furthermore, while the group sizes and expenditures were large and some of this may be accounted by the group size difference.  Nevertheless, it may not be appropriate to exclude all locals as some VFR markets act more like non-locals and spend at a level overall closer to non-locals but much save on individual expenses since they are visiting friends and relatives thus saving on some lodging and meal costs.  The estimates of the size of these markets in the context of WIAS study found that 12-13% of the overall market could have visiting friends and relatives during the course of the special event in the local and regional markets.

There are some limitations of this study, as well as some recommendations for the future research. The estimates of the attendance numbers were primarily based on the organizers' estimations, and they may have varied from the real numbers. To reduce the level of such estimations and promote the accuracy of the results, it is important to improve process of the registrations and the attendance records. Furthermore, the study did not consider the cost aspect of the economic impact in the assessment process, and in the future research, such negative economic impact could be included and the full economic impact could be assessed in the analysis.  The also did not measure the economic impact and significance of the vendors, corporate sponsors, and participants had on the local economy. The study also used a modified Input-Output model, and the specific changes of sales, personal income and employment were not examined.  However, it was less of a concern in the events with a shorter time period, but when and if the time frames for these events are extended, the full I-O model could be applied.  Only the direct and indirect measures were estimated.  It may be appropriate in the larger scale studies to apply statistical modeling that measures these other dimensions of induced and indirect impacts in other sectors of the economy.  Furthermore, these case studies did not differentiate the extended stay markets within the non-locals, nor did it measure the impact of vendors or entertainers/participants at these events as different markets with different impacts.

## 5.0  Citations

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