THE EASTERN STATES EXPOSITION: AN EXPLORATION OF BIG E TOURIST EXPENDITURES

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Abstract: The purpose of this paper is to prepare a visitor economic expenditure study for the 1999 Eastern States Exposition, better known as the Big E. The study was executed as part of a class project in Recreation Geography offered the Fall 1999 semester at Westfield State College. The students undertook an economic expenditure study at the Big E by studying tourism economics, executing the visitor exit surveys, and evaluating the responses.

Introduction

The Big E is one of the largest tourism events hosted in the New England region. In 1999, over 1.15 million visitors attended the fair, a slight decline from the past two years. Previous research by Market Street Research, Inc. (1998) found an average per person expenditure of approximately $113 at the fair, excluding admission and parking. Yet, while totals of visitor expenditures are known, any disaggregated, i.e., lodging, transportation, food, drink, vendors, amusement, etc. expenses are unknown.

Recreation and tourism economic impacts have been widely debated over the past 75 years. In fact, Recreation Geography evolved from the field of Economic Geography. The early research of Freeman (1929), McMurry (1930) and Brown (1935) first postulated the relative importance of leisure and attempted to quantify the importance in economic terms.

Yet today, there remains considerable debate on the economic analysis of tourism events, especially in the use of economic multipliers, cost-benefit analysis, and regional impact of tourism (Hall and Page 1999). The economic impacts of tourism can be defined in terms of primary and secondary impacts. Primary impacts are the direct expenditures of tourists for food, travel and lodging. Secondary economic impacts may be indirect or induced. Indirect impacts include expenditures incurred by businesses supporting tourist visits, e.g., a hotel buys cleaning supplies. Induced tourist impacts occur when the employee of the hotel can buy a new stereo from the salary.

Given the estimated 1998 tourist expenditures of $113 per person (excluding outliers) and the attendance of 1.25 million in 1998, one could expect as much as $141.25 million in expenditures! This paper seeks to further define per capita expenditures from an expenditure survey administered at fair exits. A limitation in this study must be stated at this point; that is, for the true economic impact to occur, only new money entering the economy from visitors outside the community can count. It is quite difficult to define the community, especially near political boundaries. Therefore, tourist expenditures from visitors residing sixty miles or more from West Springfield will be summarized as well.

Implementation Plan

Stage One, or the survey creation stage, occurred during the summer months by consulting with the Eastern States Exposition staff. The marketing staff had some tourism expenditure data at the aggregate (or total) level, and yet lacked any knowledge of precisely what type of expenditures occur during the event. Therefore, the lead author designed a survey instrument to collect the socio-economic and demographic data needed. The instrument was pretested on 18 September 1999 and was found to be appropriate for the study. Minor adjustments in the instructions for the survey teams were made at this time. A copy of the survey instrument is found in Appendix A.

Stage Two took place during the first two weeks of the 1999-2000 academic year. In this stage, students enrolled in GARP0218 Recreation Geography were introduced to the economics of tourism and were organized to execute the survey. Thirteen of the twenty-five students were Business Management majors, seven were Regional Planning majors, and the remaining were studying a variety of disciplines. The students were trained in basic surveying techniques with readings from a world recognized tourism planning and management manual (TRRU, 1983). The students practiced administering the survey until they attended the fair.

During the event, students were posted at several exits of The Big E to solicit responses to a tourism economic impact survey. The survey teams were provided with a Big E cap, a nametag, and a letter of authorization. At all times a site supervisor was present to deal with questions and problems. A total of 406 visitors were surveyed during the fair with an overall response rate of 39%. Details of times and survey numbers were summarized and checked by the site supervisor.

Stage Three involved the tabulation and interpretation of the data. The survey teams assisted in the data entry, additional research in tourism economics, and prepared maps and graphics for subsequent presentation. Specifically, the data were entered in a Microsoft Access™ Database and later exported to an Excel™ Spreadsheet that served as the data file for statistical analysis in SPSS for Windows™. This process of multiple software insures very accurate data encoding and analyses.

Results

In this section of the paper, details describing the data collection process and a summary of key findings are discussed. In addition, some interpretation and explanation will be provided. While the data were checked in the field, during encoding, and in the analysis stage, some "missing"

values, or otherwise incomplete responses remained in the sample. The interpretation is the responsibility of the lead author and not the other members of the survey team.

Sampling

Seven survey dates were assigned during the Big E event. The first date, Saturday 18 September 1999, permitted the pretesting of the survey instrument and as a result, additional instructions were provided to the survey teams. The six remaining survey dates were Friday the 24th, Saturday the 25th, Sunday the 26th, Tuesday the 28th, Saturday the 2nd of October and the last day on Sunday the 3rd. The survey team had one rain date (Tuesday 21 September) which forced a move to the following Tuesday the 28th. This schedule was not randomly selected, since obviously only two weekdays were sampled. At best, the sampling schedule would be called a convenience sample, since the dates and times were selected to accommodate the survey teams and to maximize success in data collection during times when the greatest number of visitors were expected to be leaving the grounds. However, the over-sampling on the weekends, when the attendance at the fair is the greatest, allowed the survey teams to get a very high response rate.

Survey teams of three to five students were positioned at various exit gates in the late afternoon and early evening to collect the data. The late afternoon was appropriate to insure a higher number of exit interviews. This meant however, that morning and late evening visitors were not sampled.

The survey teams had to approach 1036 parties to obtain 406 surveys, yielding a 39% response rate. Gate 1B, where visitors awaited their return home by bus, provided an excellent opportunity to collect data and thus had the highest number of surveys (37.2%). Two other gates (5 and 9A) provided over 20% of our sample each. The other gates had higher rates of refusals and therefore had a lower number of completed surveys. A summary of survey dates and the resulting surveys obtained are shown in Table 1.

Table 1. GATE by DATE Crosstabulation

Survey Counts (percentage)

		DATE / daily attendance							Total
		18-SEP-99 102,046	24-SEP-99 75,956	25-SEP-99 130,524	26-SEP-99 107,929	28-SEP-99 50,929	02-OCT-99 135,506	03-OCT-99 84,774	
GATE	1B	5	27	20	45	13	19	22	151 (37.2%)
	4		15		3		16		34 (8.4%)
	5		38	28	9		10	3	88 (21.7%)
	7		3		12	18			33 (8.1%)
	9A			19	11	36	16	18	100 (24.6%)
Sum		5 (1.2%)	83 (20.4%)	67 (16.5%)	80 (19.7%)	67 (16.5%)	61 (15%)	43 (10.6%)	406

Visitor Characteristics

The first question in the survey identified the number of people in the party. Most attendees to the Big E are couples or pairs, followed closely by groups of three or four. Table 2 summarizes the distribution of party size. While some parties were larger, about 88% of the sample had four or less people in them.

Table 2. Part Size

		Frequency	Percent	Cumulative Percent
Size Of Party	1.00	14	3.4	3.4
	2.00	197	48.5	52.0
	3.00	81	20.0	71.9
	4.00	66	16.3	88.2
	5.00	23	5.7	93.8
	6.00	13	3.2	97.0
	7.00	4	1.0	98.0
	8.00	2	.5	98.5
	9.00	2	.5	99.0
	12.00	2	.5	99.5
	15.00	1	.2	99.8
	47.00	1	.2	100.0
	Total	406	100.0	

After determining the party size, the surveyor asked about the attendee's home residence. This information included hometown and zip code for analysis about the market served by the Big E. Our sample came from all of the northeastern states and one group from North Carolina. As shown in Table 3, Massachusetts' attendance was the highest with well over 200 groups (53.7%).

Table 3. Big E Visitors by Home State.

		Frequency	Percent	Cumulative Percent
State	CT	122	30.0	30.6
	MA	218	53.7	85.2
	ME	4	1.0	86.2
	NC	1	.2	86.5
	NH	6	1.5	88.0
	NJ	3	.7	88.7
	NY	21	5.2	94.0
	RI	15	3.7	97.7
	VT	9	2.2	100.0
	Total	399	98.3	
Missing	99	7	1.7	
Total		406	100.0	

The map found in Figure 1 illustrates the spatial distribution of attendees by home zip code and shows a wide coverage for the event. Since 85.2% of our sample live in Massachusetts or Connecticut, only those home communities are shown. One hundred and twenty eight (31.5%) of the respondents indicated they lived within twenty miles of The Big E, one hundred parties (24.6%) lived between twenty-one and sixty miles and the majority, 168 (41.4%) lived sixty-one miles or more away. Since we had the home zip code, travel distance was calculated to West Springfield using the web site Mapblast (http://www.mapblast.com). Average travel distance to the Big E was fifty-seven miles.

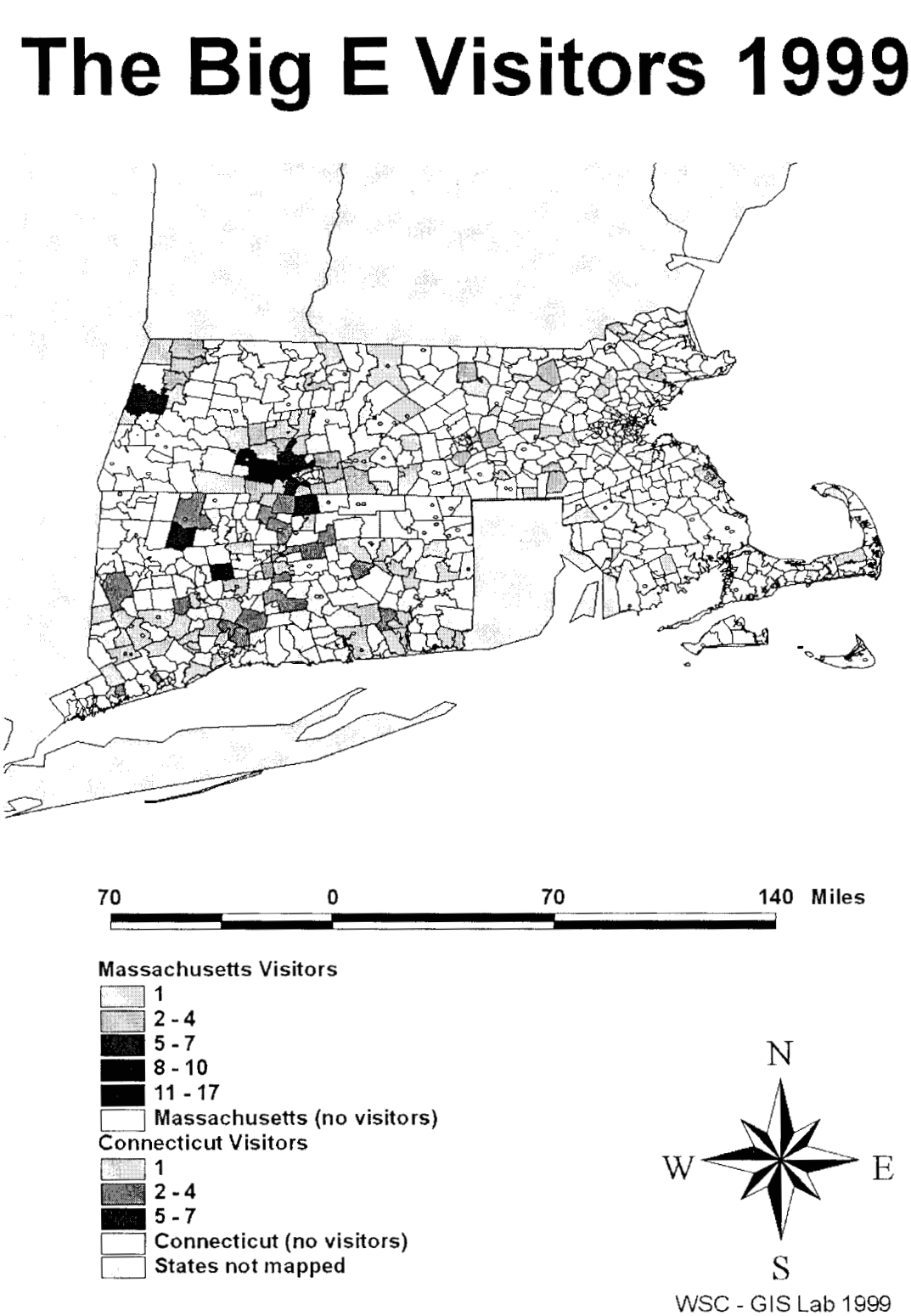

Figure 1. Map of Big E visitors from Massachusetts or Connecticut home zip codes.

Day Trip vs. Overnight

The majority of the visitors attended the Big E as part of a day trip (n=388, 95.6%). However, ten groups did stay in a local hotel, with an average per night room cost of $102.70. Five parties stayed for one night, one party stayed for two nights, and four parties stayed in the area for three nights. Eight parties stayed overnight in the local area with family or friends. Table 4 summarizes this trip behavior. Twelve of the parties who were staying overnight in the area exited the Big E at Gate 1B for a ride on the bus, while the other groups left from one of the other gates to presumably drive a car.

Table 4. Day Trip vs. Hotel vs. Staying with Family/Friends

		Frequency	Percent	Cumulative Percent
DAYTRIP?	DAY	388	95.6	95.6
	HOTEL	10	2.5	98.0
	OTHER	8	2.0	100.0
Total		406	100.0	

Big E Parking

Parking is always an issue for Big E visitors. Visitors typically have the choice to park and ride on the PVTA busses (n=107, 26.4%), drive their own car and park in the Big E's public lot (n=102, 25.1%), or park in a private lot along or near Memorial Avenue (n=183, 45.1%). While the public lot had a fee of $5, the private parking opportunities varied temporally and spatially. The average cost of parking was $4.15. Since many of the visitors to the Big E take the bus and may have had the parking fee included in the bus and entrance ticket, the average parking fee is lowered artificially. For the 180 parties (44.3%) paying to park in private lots, the average cost was $6.12.

Visitor Expenditures

The next four questions sought to get better estimates on group expenditures. An average group spent $34.09 on food, snacks and non-alcoholic beverages, and another $5.84 on beer or wine. On average, amusement rides cost the groups $4.85, and craft purchases amounted to an average of $31.22. Please note that 72.4 % of the sample did not spend any money on amusement rides; thus the Midway expenses are quite low. The distribution of purchases with maximums and minimums are summarized in Table 5. Be reminded that these represent group purchases.

Table 5. Descriptive Statistics of Group Purchases

	N	Minimum	Maximum	Sum	Mean	Std. Deviation
FOOD	404	$.00 (3.0%)	$300.00	$13,771.00	$34.0866	$36.3064
ALCOHOL	402	$.00 (67.7%)	$140.00	$2,349.00	$5.8433	$14.1801
AMUSEMENTS	404	$.00 (72.4%)	$90.00	$1,961.00	$4.8540	$10.3019
CRAFTS	405	$.00 (52.0%)	$500.00	$12,643.00	$31.2173	$68.8920

The survey teams asked the groups about additional purchases. Most common purchases included items for the home and garden, clothing, and food. The more expensive purchases included one gazebo, one piano, one dining room table and two hot tubs. For these extra purchases, one finds a range of $0.00 to $7,000.00, with an average of $83.14 per group.

Total group expenditures, including hotel (if appropriate), parking, and purchases, averaged $169.43 while the per capita expenses were $69.02. Since the greatest attendance comes from the local states of Massachusetts and Connecticut, most money spent at the Big E is from those two states. To see what kinds of expenditures occur from residents of different states, see the crosstabulation found in Table 6. The disproportionate number of larger spenders from states other than Massachusetts and Connecticut seems to suggest that parties traveling greater distances are willing to spend more at the fair. Other interesting facts observed looking at the detailed Table 6 is that the sole $00.00 spender came from Massachusetts. Over 60% of the attendees spent less than $100 per group, with Massachusetts leading the pack.

Table 6. State by Group Expenditures Crosstabulation

			Group Expenditures				Total
			0	1 to 99 dollars	100 to 499 dollars	500 dollars and above	
STATE	CT	Count		71	40	11	122
		% within STATE		58.2%	32.8%	9.0%	100.0%
		% within Group		29.1%	33.6%	31.4%	30.6%
		% of Total		17.8%	10.0%	2.8%	30.6%
	MA	Count	1	138	62	17	218
		% within STATE	.5%	63.3%	28.4%	7.8%	100.0%
		% within Group	100.0%	56.6%	52.1%	48.6%	54.6%
		% of Total	.3%	34.6%	15.5%	4.3%	54.6%
	ME	Count		3	1		4
		% within STATE		75.0%	25.0%		100.0%
		% within Group		1.2%	.8%		1.0%
		% of Total		.8%	.3%		1.0%
	NC	Count			1		1
		% within STATE			100.0%		100.0%
		% within Group			.8%		.3%
		% of Total			.3%		.3%
	NH	Count		5		1	6
		% within STATE		83.3%		16.7%	100.0%
		% within Group		2.0%		2.9%	1.5%
		% of Total		1.3%		.3%	1.5%
	NJ	Count		2	1		3
		% within STATE		66.7%	33.3%		100.0%
		% within Group		.8%	.8%		.8%
		% of Total		.5%	.3%		.8%
	NY	Count		8	10	3	21
		% within STATE		38.1%	47.6%	14.3%	100.0%
		% within Group		3.3%	8.4%	8.6%	5.3%
		% of Total		2.0%	2.5%	.8%	5.3%
	RI	Count		12	3		15
		% within STATE		80.0%	20.0%		100.0%
		% within Group		4.9%	2.5%		3.8%
		% of Total		3.0%	.8%		3.8%
	VT	Count		5	1	3	9
		% within STATE		55.6%	11.1%	33.3%	100.0%
		% within Group		2.0%	.8%	8.6%	2.3%
		% of Total		1.3%	.3%	.8%	2.3%
Total		Count	1	244	119	35	399
		% within STATE	.3%	61.2%	29.8%	8.8%	100.0%
		% within Group Expenditures	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	.3%	61.2%	29.8%	8.8%	100.0%

Likewise, as Table 7 illustrates, the majority of local residents (within twenty miles) spent less than $100. While one might surmise a larger proportion of major expenditures from the table for those visitors who travel the greater distance, this is not a significant relationship. Note: a gamma statistic of 0.090, significant at 0.249 level suggests that there is a poor relationship between travel distance (HOWFAR) and expenditures (Group Totals).

The next question sought to identify purchases with local Memorial Avenue merchants, and the survey indicates on average a $1.46 expenditure (excluding parking). One

party indicated they were planning to eat dinner along Memorial Avenue and estimated a $50 meal.

Table 7. HOWFAR * Group Totals Crosstabulation

			Group Totals				Total
			$0	1 to 99 dollars	100 to 499 dollars	500 dollars and above	
HOW FAR	0 to 20 Miles	Count	1	84	32	11	128
		% within HOWFAR	.8%	65.6%	25.0%	8.6%	100.0%
		% within Group Totals	100.0%	34.9%	27.1%	30.6%	32.3%
		% of Total	.3%	21.2%	8.1%	2.8%	32.3%
	21 to 60 Miles	Count		57	35	8	100
		% within HOWFAR		57.0%	35.0%	8.0%	100.0%
		% within Group Totals		23.7%	29.7%	22.2%	25.3%
		% of Total		14.4%	8.8%	2.0%	25.3%
	61 miles or more	Count		100	51	17	168
		% within HOWFAR		59.5%	30.4%	10.1%	100.0%
		% within Group Totals		41.5%	43.2%	47.2%	42.4%
		% of Total		25.3%	12.9%	4.3%	42.4%
Total		Count	1	241	118	36	396
		% within HOWFAR	.3%	60.9%	29.8%	9.1%	100.0%
		% within Group Totals	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	.3%	60.9%	29.8%	9.1%	100.0%

Projected Expenditures

The next step in the analysis involves the projection of expenditures found in our survey to the total visitor population and to estimate the regional economic impact of the Big E. As indicated above, the average per person total expenditure was $69.02. Given the 1999 total attendance of 1,146,079 one could estimate a total expenditure of $79,102,372.58.

Reviewing the results found in Table 8 we see an average group expenditure of $34.08 for food, $5.84 for alcohol, $4.85 for amusements and $31.21 for crafts. If we investigate per-person expenses, we get $11.69 for food, $1.84 for beer or wine, $1.52 for midway rides, and $11.59 for crafts. Projecting these per-person expenses against the total 1999 attendance yields $13,406,373.71 for food and non-alcoholic beverages, $2,113,484.28 for beer or wine, $1,750,521.06 for amusement rides and $13,284,660.12 for crafts.

Table 8. Descriptive Statistics of Group and Individual Purchases

	Mean Group Expenditures	Mean Per-Person Expenditures	Minimum	Maximum
FOOD	$34.0866	$11.6976	$.00	$150.00
ALCOHOL	$5.8433	$1.8441	$.00	$50.00
AMUSEMENTS	$4.8540	$1.5274	$.00	$22.50
CRAFTS	$31.2173	$11.5914	$.00	$250.00

The final step in assessing the economic impact is to eliminate local residents from the sample. Since local residents are expected to spend money in the local region anyway, they really do not add to the economy like non-residents do (Crompton 1999). For this argument, Big E staff requested information on travel distance to the Big E. Therefore only those visitors living 60 miles or more will be counted in this step.

Table 7 shows that 168 (42.2%) of the parties surveyed live 60 miles or more from the Big E. Nearly 60% of those groups spent less than $100, about 30% spent between $100 and $499 and just over 10% spent greater than $500. For these outside contributors to the local economy we find an average group expenditure of $166.99 and a per-person expenditure of $65.23. These figures are slightly less than all attendees to the Big E. Since 42.4% of our sample reside outside the 60 mile area, our new projected economic impact would be 42.4% live outside of 60 miles * 1,146,079 total attendance = 485,937 attendees * $65.23 per-person expenditures yields $31,697,670.51 total regional economic impact by visitors!

Miscellaneous Questions

Concluding questions sought information about visitor expectations by asking, "Is there something you expected to find at the Big E, but didn't?" A majority of the parties replied no (n=336), however those who did, commented on the lack of certain ethnic foods and drinks (e.g., German beer garden), other foods like roasted peanuts, chocolate, "blooming onion", and the circus (note: obviously this party did not exit gate 7!) The most common answer was that groups did not see the unexpected, that is, they knew what to expect but had hoped to see something new!

Asked if they had attended another State Fair, most indicated they had attended fairs, but not the larger State Fairs. Most common fairs attended prior to the Big E included the New York State Fair and miscellaneous State Fairs across the country. Many visitors had visited local or county fairs, with the Tri-County Fair and Topsfield being the most popular. Dates of attendance were widely distributed and indicate that parties tend to visit only one fair a year.

A final thank you ended the survey and the surveyor recorded the date, time, gate, and current weather conditions.

Discussion

First of all, it must be stated that given the academic schedules of the student surveyors, data collection occurred primarily on weekends and shortly before dusk. Thus, no data is available for parties attending the fair on most of the weekdays and leaving the grounds in the morning or late night. One could suggest, however, that most day trip visitors would spend the "day" at the fair and leave at suppertime anyway.

Gate 7 had the fewest surveys with thirty-three. A very high refusal rate occurred here and might be explained by the parties leaving the circus arena (often with screaming children!). Yet despite this, the overall response rate of 39% is quite good. Most parties, seeing that the survey (Appendix A) was only one page, cooperated. Since the survey team identified themselves as Westfield State College students, many of the groups immediately related to the college students and were willing to answer the questions.

We found expenditures to be quite lower than previous market research. The are several possible reasons for this. First, consider the over-sampling at Gate 1B where most of the visitors awaited a bus to return home or to the hotel. Not wishing to carry bulky items on the bus may reduce the expenditures of many of the groups. Since the survey did not collect demographic characteristics of the bus riders, these details (age, income, family size etc.) could be incorporated in future studies.

However, since the surveys asked for expenditures in broken down categories (e.g., hotel, parking, food, drink, craft, miscellaneous etc.), one could better calculate total expenditures rather than asking for a single total expense. Therefore the data collected should be fairly representative of group (and per capita) expenses at the fair.

Determining travel distance was a problem for some of the surveys, but easily corrected and checked in the post processing stage. For example, for incomplete responses to travel zones (many could not determine if they lived nineteen or twenty-one miles away) the data encoding calculated average travel distance from zip code to zip code. Given that someone estimated travel to Adams was less than sixty miles meant an underestimation of travel distance. Often people know the time of travel but will under or overestimate travel distance.

The experience overall was very positive and an eye-opening one for the students. Most of the students had only attended a fair as a visitor. This experience permitted them to experience the fair through the eyes of other attendees. And while many of the survey teams experienced a high level of survey rejection from the fair visitors, this behind the scene opportunity was educational.

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International Festival & Events Association. http://www.ifea.com/
Mapblast. http://www.mapblast.com
Massachusetts Office of Travel & Tourism. http://mass-vacation.com/
Massachusetts Institute for Social and Economic Research http://www.umass.edu/miser/index.html
Recreational, Tourism and Sport Specialty Group of the Association of American Geographers. http://www.for.nau.edu/geography/rts/
Statistical Abstract of the United States. Section 7. Parks, Recreation, and Travel http://www.census.gov/prod/3/98pubs/98statab/cc98stab.htm

Appendix A

Hi, I am a student from Westfield State College and am conducting a survey for the Big E on tourist expenditures. Would you mind if I ask you a few questions? (Seek one adult from group.)

1. How many in your party? _____
2. What is your hometown and zip code? _____
   How far is that? ___ <= 20 miles, ___21 to 60 miles, ____ 60+ miles
3. Is your visit to the Big E a day trip, or are you staying overnight?
   Drive __ Staying local with family/friend? ___
   Hotel? ____, If so, which one and how much per night? _____ $ ____
   How many nights? _____
4. Where did you park? _____. How much? $ _____

Now I want to ask about your Big E purchases. How much did your party....

5. Spend on food/snacks and non-alcoholic drinks? $ _____
6. Spend on beer or wine? $ _____
7. Spend on amusement rides? $ _____
8. Spend on crafts? $ _____
9. Any other purchases, list and price?
   _____ $ ____ _____ $ ____
   _____ $ ____ _____ $ ____
   _____ $ ____ _____ $ ____
10. How much have you spent with local merchants along Memorial Ave. (gas, restaurants etc.)? _____

Only a couple more questions...

11. Is there something you expected to find at the Big E, but didn't?
    _____
12. Have you ever been to another State Fair before? Yes / No
    If yes, where and when? _____
    _____
    If yes, how would you compare The Big E to these other fairs?
    Better _____ Same _____ Worse _____

That's it! Any questions/comments for me? Thanks for the help on the survey!

Gate # _____ *Date* _____
Time _____ *Weather* _____ *Interviewer* _____