2014 M&M Meat Shops Canadian Junior Curling Championships
Liverpool, Nova Scotia
Economic Impact Assessment

June 2014

The following analysis provides the economic impact of the 2014 M&M Meat Shop Canadian Junior Curling Championships hosted in Liverpool Nova Scotia from January 18-26 2014 as generated by the Sport Tourism Economic Assessment Model – Professional Version.

Economic Impact Assessment Funding Partner

1.0 Background

The 2014 edition of the M&M Meat Shops Canadian Junior Curling Championships was hosted in Liverpool, Nova Scotia from January 18-26, 2014, with competition split between two venues; the Liverpool Curling Club and Queens Place Emera Centre. TSN provided live national coverage of the men's and women's championship games and 2014 marked the 9th year of title sponsorship by M&M Meat Shops. Team Manitoba successfully defended the men's title against a strong challenge from team New Brunswick. On the women's side team Alberta scored a narrow 7-6 victory over team British Columbia. Both winning teams moved on to represent Canada at the World Junior Curling Championships in Films, Switzerland. The hosting of the Canadian Junior Curling championships attracted hundreds of athletes, parents and other spectators to Liverpool, thus delivering a significant economic impact for the region, which is the subject of this report.

In measuring the economic impact of the 2014 Canadian Junior Curling Championships spectators watching the event were surveyed as to their origin, length of stay, and spending in Liverpool, with the survey methodology and results being the subject of the next section. The event organizers also invested significantly in hosting the Canadian Junior Curling Championships, as noted in Section 3. Finally, section 4 reports the STEAM PRO[1] results from the combined expenditures of visitors to Liverpool and the event organizers' operational expenditures. The appendices include more details about STEAM PRO, the economic impact assessment model used and a glossary of terms.

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[1]The Canadian Sport Tourism Alliance's (CSTA's) **Sport Tourism Economic Assessment Model**, Professional version (STEAM PRO) was used to generate the economic impact estimates detailed in this report. STEAM PRO, which was developed in 2006, is a model that has been designed to incorporate the results of primary data collected from event visitors and the budget / capital expenditures of event organizers and others to prepare economic impact assessments. The model is based on the Canadian Tourism Research Institute's (CTRI - a branch of The Conference Board of Canada) TEAM model, which is the most widely used tourism economic impact model in Canada. The results of STEAM PRO are fully consistent with the CSTA's STEAM model. A more detailed description of STEAM PRO is contained within Appendix 1.

2.0 Methodology/ Survey Results

Information regarding the composition and spending of spectators at the Canadian Junior Curling Championships was collected through the administration of a face-to-face intercept survey. The survey captured essential information to determine the origin of spectators watching the tournament and the spending of visitors while they were in Liverpool. The survey was conducted using iPod Touch PDAs running Survey Analytics' Survey Pocket software.[2]

Survey Results

A total of 170 visitor parties were approached during the event with 142 parties agreeing to participate (a rejection rate of 16%). Of this group, an additional 16 parties had been previously surveyed (9%), yielding a total of 126 valid surveys. The overall sample of valid surveys found that less than half of the respondents were from Liverpool (28%), 12% were from other parts of Nova Scotia and 45% were out of province visitors.[3] Among the out of town visitors 13% were making day trips to Liverpool while 87% spent one or more nights in the community.

The average respondent attended the Canadian Junior Curling Championships for 7.3 nights, ranging from 3.9 nights for residents from other parts of Nova Scotia, 6.8 nights for residents from other Atlantic provinces and 8.3 nights for residents of other parts of Canada. The average number of draws also followed a similar pattern, with the number of draws attended varying from 6 to 16 draws per person.

Ticketing information was used to calculate the total attendance at the 2014 Canadian Junior Curling Championships. In addition to the participants (116) a total of 236 full event passes were sold. There were also 385 one day passes sold over the course of the championship. With the typical one day pass user attending 2.8 draws, this suggests there were 138 day pass users. The next step was to break out the origin of attendees based on the types of tickets they used to enter the championships, illustrated in Table 2.1 In total the survey results suggest there were 374 spectators at the Canadian Junior Curling Championships of which 247 people came from outside of Liverpool and 185 were from outside the province of Nova Scotia.

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[2]The survey and methodology were prepared in consultation with the "Guidelines for Measuring Tourism Economic Impact At Gated Festivals and Events", available at:
 http://www.tourism.gov.on.ca/english/tourdiv/research/resources.htm
[3] The sample size of 446 visitors representing 3,371 visitors gives a statistically significant confidence interval of +/- 4.3%, 19 times in 20.

Table 2.1 Attendance Calculations

Ticket type	Full Event Pass				Day Pass			Total
Origin	Tickets sold	Ticket Share	Spectators	Origin	Tickets sold	Ticket Share	Spectators	Spectators
Liverpool up to 40km	11	17%	39	Liverpool up to 40km	17	63%	87	126
Other Nova Scotia	6	9%	21	Other Nova Scotia	8	30%	41	62
Other Atlantic	6	9%	21	Other Atlantic	2	7%	10	31
Other Canada	43	65%	154	Other Canada	0	0%	0	154
Total	**66**	**100%**	**236**	**Total**	**27**	**100%**	**138**	**374**
Visitors	*55*	*83%*	*196*	*Visitors*	*10*	*37%*	*51*	*247*
Out of Province	*49*	*74%*	*175*	*Out of Province*	*2*	*7%*	*10*	*185*

The origin of survey respondents varied widely with the role of the respondent; general spectators were largely local residents and other Nova Scotia residents while participant relatives were predominantly from outside of the province (Table 2.2).

Table 2.2 Spectator Origin by Role

	Role	
Origin	General Spectator	Family Member
Liverpool up to 40km	67%	0%
Other NS	26%	4%
Other Atlantic	3%	13%
Other Canada	3%	83%
Total	100%	100%

Visitors to Liverpool were asked about their accommodation use during the championships. More than three quarters of out of town respondents (77%) were using commercial accommodations while an additional 13% of respondents made day trips only.

Out of province visitors were asked if they visited a tourism website either before or during their trip which was the case for 58% of respondents. Just under half of out of province spectators (48%) spent a night in a Nova Scotia community other than Liverpool, with the average length of stay being 1.6 nights.

Visitor Spending

Out-of-town visitors were asked about their expenditures while in Liverpool. For the analysis, spectators were divided into two categories: 'general' spectators and participant family members. The general spectators spent $698 per person, rising to $892 per person for participant family members. The spending per party quite a bit higher for family members as their length of stay was more than twice that of general spectators. However, as the average family member party size was larger some expenditures, particularly accommodation, was spread across more people.

Table 2.3 Visitor Spending per Person

	General Spectator	Family Member	Average
Party Size	*2.39*	*5.21*	*3.78*
Accommodation	$475.26	$383.64	$429.45
Food & Beverage	$101.00	$243.02	$172.01
Recreation & Entertainment	$38.27	$59.31	$48.79
Event Merchandise	$13.05	$70.24	$41.64
Shopping	$18.95	$59.96	$39.45
Vehicle Expenses	$51.93	$75.47	$63.70
Total	$698.46	$891.62	$795.04

Combining the attendance estimates with the average spending per person from Table 2.3 shows that visitors to the 2014 Canadian Junior Curling Championships spent $297,000 in Liverpool. Of this total, $182,000 was spent by visitors from outside of the province.

Table 2.4 Aggregate Visitor Spending

	General Spectator	Family Member	Total
Visitors	*187*	*187*	*374*
Accommodation	$88,854	$71,756	$160,609
Food & Beverage	$18,883	$45,455	$64,338
Recreation & Entertainment	$7,155	$11,092	$18,248
Event Merchandise	$2,439	$13,137	$15,576
Shopping	$3,543	$11,215	$14,757
Vehicle Expenses	$9,709	$14,115	$23,825
Total	**$130,583**	**$166,769**	**$297,353**

Typically the final step of the analysis is to incorporate the attribution factor, or the importance of the event in the respondents decision to travel to the host community. In the case of the Canadian Junior Curling Championships, the average attribution level was 9.7 (on a scale of 1-10), thus all of the visitor spending has been attributed to the event.

3.0 Operational Expenditures

An analysis was also made of the operational expenditures made by the event organizers in hosting the 2014 Canadian Junior Curling Championships. The total budget for the event that was spent in Liverpool was $67,600. In addition, as a result of hosting the event $44,470 was spent on capital upgrades including accessibility improvements, lighting upgrades, replacing the ceiling of the ice shed and other event infrastructure works. .

While not included as a direct expenditure in the budget, the 2014 Canadian Junior Curling Championships were supported by a considerable number of volunteers whose time and effort greatly contributed to the success of the event.

4.0 Economic Impact Results

The spending of spectators and participants attending the 2014 Canadian Junior Curling Championships, in combination with the expenditures made by the event organizers in producing the event reached $548,000, generating an estimated net economic activity (GDP) of $577,000 in the Province of Nova Scotia, of which $287,000 occurred in Liverpool. These expenditures supported $375,000 in wages and salaries in the Province and an estimated 10.9 jobs, of which 7.7 jobs and $217,000 in wages and salaries was in Liverpool.[4] The total economic activity (industry output) generated by the event was $1.2 million in the Province, with $708,000 occurring in Liverpool.

The total tax revenues supported by the 2014 Canadian Junior Curling Championships reached $252,000. Of this total, $106,000 was attributable to the federal government while provincial tax revenues reached $114,000 and municipal taxes were $31,000, of which $23,900 was in Liverpool.

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[4] Jobs reported in this study refers to the number of jobs not. Full-time equivalent (i.e. if a typical occupation featured 20 hours of employment and the event supported 40 hours of work, it would support 2jobs or 1 FTE).

Table 4.1 Total Economic Impact

		Total Nova Scotia		Local Area Liverpool		Rest of Nova Scotia
Initial Expenditure		$548,364		$548,364		$0
Gross Domestic Product						
Direct Impact		$206,817		$206,817		$0
Indirect Impact		$220,161		$37,381		$182,779
Induced Impact		$150,153		$42,849		$107,304
Total Impact		$577,131		$287,048		$290,084
Industry Output						
Direct & Indirect		$920,017		$616,461		$303,557
Induced Impact		$319,486		$91,230		$228,256
Total Impact		$1,239,504		$707,691		$531,813
Wages & Salaries						
Direct Impact		$152,766		$152,766		$0
Indirect Impact		$130,150		$36,026		$94,124
Induced Impact		$91,699		$27,780		$63,919
Total Impact		$374,615		$216,571		$158,043
Employment (Full-year jobs)						
Direct Impact[5]		5.7		5.7		-
Indirect Impact		3.1		0.9		2.2
Induced Impact		2.2		1.2		1.1
Total Impact		10.9		7.7		3.3
Taxes (Total)						
Federal		$106,685		$63,137		$43,548
Provincial		$113,990		$74,675		$39,314
Municipal		$31,002		$23,887		$7,115
Total		$251,676		$161,699		$89,977

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[5] Direct employment impact is generally extra shifts or overtime for existing workers rather than new employment.

Appendix 1: Economic Impact Methodology – STEAM PRO

Background

Briefly, the purpose of STEAM PRO is to calculate both the provincial and regional economic impacts of sport tourism. The economic impacts are calculated on the basis of capital and operating expenditures on goods, services and employee salaries, and on the basis of tourist spending within a designated tourism sector. The elements used to measure the economic impacts are Gross Domestic Product (GDP), Employment, Taxes, Industry Output and Imports. STEAM PRO measures the direct, indirect & induced effects for each of these elements.

Technical Description of the Impact Methodology used by STEAM PRO

STEAM PRO and many other impact studies are based on input-output techniques. Input-output models involve the use of coefficients that are based on economic or business linkages. These linkages trace how tourist expenditures or business operations filter through the economy. In turn, the coefficients applied are then used to quantify how tourism related activity in a particular region generates employment, taxes, income, etc. The input-output approach indicates not only the direct and indirect impact of tourism, but can also indicate the induced effect resulting from the re-spending of wages and salaries generated.

All impacts generated by the model are given at the direct impact stage (i.e. the "front line" businesses impacted by tourism expenditures), indirect impact stage (i.e. those industries which supply commodities and/or services to the "front line" businesses) and the induced impact stage (induced consumption attributable to the wages and salaries generated from both the direct and indirect impact). In this sense, the model is closed with respect to wages. Imports are also determined within the model, so the model is closed with respect to imports. Exports are not endogenized (i.e. additional exports are not assumed with the induced impact) which consequently generates more conservative impacts. Another assumption of the model, which leads to more conservative impacts, is that not all commodities and/or services purchased are assumed to have at least one stage of production within the province. This assumption is crucial for souvenirs, gasoline and other commodities.

Taxes and employment are key economic considerations. However, as these concepts fall outside of the System of National Account Provincial input/output tables, their impacts must be calculated separately. Current tax and employment data for each region is used to econometrically estimate a series of coefficients and rates. These coefficients and/or rates are then applied to measures determined within the input-output framework of the model, yielding the final tax and employment figures.

Regional (Sub-Provincial) Impact Methodology

The method used to simulate intraprovincial commodity flows and ultimately regional impacts follows directly from regional economic principles. The principle is referred to as the "gravity model". Basically the "gravity model" states that the required commodity (& service) inputs will be "recruited" in a manner that takes into consideration economies of scale (i.e. production costs), transportation costs and the availability of specific industries. Economies of scale (i.e. lower production costs) are positively correlated with input demand while greater transportation costs are negatively correlated with input demand. Fulfilling that demand from other provincial regions is contingent on the fact that the specific industry does actually exist. An advantage of using the "gravity model" to simulate intraprovincial commodity flows is that as the industrial composition of the labour force changes, or as new industries appear for the first time in specific regions, the share of production between the various sub-provincial regions also changes.

By following this principle of the gravity model, all sub-provincial regions of a province are assigned a coefficient for their relative economies of scale in each industry (using the latest industry labour force measures) as well as a coefficient to represent the transportation cost involved to get each industry's output to the designated market. One variation on the "gravity model" principle involves the estimation of "relative trade distances" by incorporating different "weights" for different modes of transport. Once these coefficients are generated for all regions and over all industries, a measure of sensitivity (mostly relative to price, but in the case of service industries also to a "local preference criteria") is then applied to all commodities. Another variation on the strict "gravity model" approach is that the measure of sensitivity is adjusted by varying the distance exponent (which in the basic "gravity model" is 2) based on the commodity or service required. The variation in distance exponents revolve, principally, around two research hypotheses: (1) the greater the proportion of total shipments from the largest producer (or shipper), the lower the exponent, and (2) the greater the proportion of total flow which is local (intraregional), the higher the exponent.

Appendix 2: Glossary of Terms Used by STEAM PRO

Initial Expenditure - This figure indicates the amount of initial expenditures or revenue used in the analysis. This heading indicates not only the total magnitude of the spending but also the region in which it was spent (thus establishing the "impact" region).

Direct Impact - Relates ONLY to the impact on "front-line" businesses. These are businesses that initially receive the operating revenue or tourist expenditures for the project under analysis. From a business perspective, this impact is limited only to that particular business or group of businesses involved. From a tourist spending perspective, this can include all businesses such as hotels, restaurants, retail stores, transportation carriers, attraction facilities and so forth.

Indirect Impact - Refers to the impacts resulting from all intermediate rounds of production in the supply of goods and services to industry sectors identified in the direct impact phase. An example of this would be the supply and production of bed sheets to a hotel.

Induced Impact - These impacts are generated as a result of spending by employees (in the form of consumer spending) and businesses (in the form of investment) that benefited either directly or indirectly from the initial expenditures under analysis. An example of induced consumer spending would be the impacts generated by hotel employees on typical consumer items such as groceries, shoes, cameras, etc. An example of induced business investment would be the impacts generated by the spending of retained earnings, attributable to the expenditures under analysis, on machinery and equipment.

Gross Domestic Product (GDP) - This figure represents the total value of production of goods and services in the economy resulting from the initial expenditure under analysis (valued at market prices).

NOTE: The multiplier (A), Total/Initial, represents the total (direct, indirect and induced) impact on GDP for every dollar of direct GDP. This is a measure of the level of spin-off activity generated as a result of a particular project. For instance if this multiplier is 1.5 then this implies that for every dollar of GDP directly generated by "front-line" tourism businesses an additional $0.50 of GDP is generated in spin-off activity (e.g. suppliers).

The multiplier (B), Total/$ Expenditure, represent the total (direct, indirect and induced) impact on GDP for every dollar of expenditure (or revenue from a business perspective). This is a measure of how effective project related expenditures translate into GDP for the province (or region). Depending upon the level of expenditures, this multiplier ultimately determines the overall level of net economic activity associated with the project. To take an example, if this

multiplier is 1.0, this means that for every dollar of expenditure, one dollar of total GDP is generated. The magnitude of this multiplier is influenced by the level of withdrawals, or imports, necessary to sustain both production and final demand requirements. The less capable a region or province is at fulfilling all necessary production and final demand requirements, all things being equal, the lower the eventual economic impact will be.

GDP (at factor cost) - This figure represents the total value of production of goods and services produced by industries resulting from the factors of production. The distinction to GDP (at market prices) is that GDP (at factor cost) is less by the amount of indirect taxes plus subsidies.

Wages & Salaries - This figure represents the amount of wages and salaries generated by the initial expenditure. This information is broken down by the direct, indirect and induced impacts.

Employment - Depending upon the selection of employment units (person-years or equivalent full-year jobs) these figures represent the employment generated by the initial expenditure. These figures distinguish between the direct, indirect and induced impact. "Equivalent Full-Year Jobs", if selected, include both part-time and full-time work in ratios consistent with the specific industries.

NOTE: The multiplier (B) is analogous to Multiplier (B) described earlier with the exception being that employment values are represented per $1,000,000 of spending rather than per dollar of spending. This is done to alleviate the problem of comparing very small numbers that would be generated using the traditional notion of a multiplier (i.e. employment per dollar of initial expenditure).

Industry Output - These figures represent the direct & indirect and total impact (including induced impacts) on industry output generated by the initial tourism expenditure. It should be noted that the industry output measure represents the **sum** total of all economic activity that has taken place and consequently involve double counting on the part of the intermediate production phase. Since the Gross Domestic Product (GDP) figure includes only the **net** total of all economic activity (i.e. considers only the value added), the industry output measure will always exceed or at least equal the value of GDP.

Taxes - These figures represent the amount of taxes contributed to municipal, provincial and federal levels of government relating to the project under analysis. This information is broken down by the direct, indirect and induced impacts.

Imports - These figures indicate the direct, indirect and induced final demand and intermediate production requirements for imports both outside the province and internationally.