Canadian Sport Tourism Alliance

Alliance canadienne du tourisme sportif

2012 World Jr. A Challenge

Yarmouth, Nova Scotia

Economic Impact Assessment

December 2012

The following analysis provides the economic impact of the 2012 World Junior A Hockey Challenge, hosted at the Mariners Centre in Yarmouth, Nova Scotia from November 5 to November 11, 2012 as generated by the Sport Tourism Economic Assessment Model – Professional Version.

Economic Impact Assessment Funding Partner

The Canadian Sport Tourism Alliance wishes to acknowledge the financial support of Events Nova Scotia in the completion of this study.

About Events Nova Scotia:

Events Nova Scotia is enhancing Nova Scotia's ability to successfully bid for and host major events in the sporting, culture and entertainment sectors. Through a coordinated approach, Events Nova Scotia has a mandate to identify and attract new major events to the province of Nova Scotia.

Events Nova Scotia will focus on attracting new events in the sporting, cultural and entertainment sectors.

Along with attracting new events to the province Events Nova Scotia is also working to establish standards and baseline measures to consistently evaluate the economic return generated by major events, facilitate the sharing of industry best practices to bid for and host major events and market the province as a major event destination.

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1.0 Background

The World Junior A Challenge was hosted in Yarmouth, Nova Scotia from November 5-11, 2012, and showcases the top Junior A level players. Sponsored by Hockey Canada, the Canadian Junior Hockey League, and the International Ice Hockey Federation, the tournament features six teams per year, with the 2012 edition including Canada East, Canada West, the United States, Russia, Switzerland and the Czech Republic. The tournament featured a total of 13 games, with the all Canadian semi setting up the championship game between Canada West and the United States. With the top level hockey featured at the tournament, the games attracted thousands of spectators from both Yarmouth and further away which generated a significant economic impact, which is the subject of this report.

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

[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 2012 World Junior A Challenge was collected through the administration of a face-to-face intercept survey. The survey captured essential information to determine the origin of spectators attending the event and the expenditures of out-of-town visitors to the Yarmouth region. The survey was conducted using iPod Touch PDAs running Survey Analytics' Survey Pocket software.[2]

Survey Results

A total of 568 visitor parties were approached during the event with 548 parties agreeing to participate (a rejection rate of 4%). Of this group, 45 parties had been previously surveyed (8%), yielding a total of 503 valid surveys. The overall sample of valid surveys found that around two-thirds of those intercepted (62%) were from the Yarmouth while the remaining 38% (187 visitor parties representing 412 visitors) were from outside of the region.[3]

Respondents to the survey were asked as to the average number of games that they attended the World Junior A Challenge. Event attendees were divided into 3 categories; spectators from Yarmouth, spectators from other parts of Atlantic Canada and other spectators from Canada and abroad. The average local resident attended 7.5 games, falling to 5.6 games for regional spectators and 8.7 games for long-haul spectators, as shown in Table 2.1. Combining this information with the survey results and the overall attendance at the event finds that the World Junior A Challenge attracted 1,013 out-of-town spectators to Yarmouth.

Table 2.1 Attendance Calculations

Origin	Origin Share	Attendance by Origin	Number of Days Attended	Individuals by Origin
Yarmouth	62.6%	10,958	7.5	1,467
Sameday	16.8%	2,948	4.9	602
Overnight Atlantic	4.6%	798	9.0	89
Overnight Canada	12.9%	2,254	8.9	253
Overnight Other	3.2%	555	8.2	68
Total	**100.0%**	**17,512**	**7.1**	**2,480**
Total Visitors	*37.4%*	*6,554*	*6.5*	*1,013*

[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 412 visitors representing 1,013 visitors gives a statistically significant confidence interval of +/- 3.7%, 19 times in 20.

Visitor Spending

Out-of-town visitors were asked about their expenditures while in Yarmouth. For the analysis, spectators were divided into four categories: those who made day trips to Yarmouth; overnight visitors from Nova Scotia and other parts of Atlantic Canada, overnight visitors from other parts of Canada (excluding Atlantic) and overnight visitors from the U.S. and overseas.

Table 2.2 Visitor Spending per Person

	Sameday	Overnight – Atlantic	Overnight – Canada	Overnight – Int'l	Average
Accommodation	$0.00	$245.74	$320.58	$231.09	$180.29
Restaurants	$31.38	$100.34	$217.53	$115.87	$116.44
Grocery / Other F&B	$14.72	$51.22	$36.69	$23.53	$26.71
Recreation & Entertainment	$0.63	$8.77	$15.06	$6.11	$6.18
Shopping	$18.33	$39.91	$63.39	$11.50	$37.29
Vehicle Expenses	$18.62	$51.93	$42.93	$28.34	$31.32
Other Transport Spending	$0.00	$0.00	$1.31	$0.00	$0.45
Total	**$83.68**	**$497.91**	**$697.48**	**$416.44**	**$398.69**

Combining the attendance estimates of Table 2.1 with the average spending per person from Table 2.2 shows that visitors to the World Junior A Challenge spent $300,000 in Yarmouth.

Table 2.3 Aggregate Visitor Spending

	Sameday	Overnight Atlantic	Overnight Canada	Overnight Int'l	Total
Visitors	*602*	*89*	*253*	*68*	*1,013*
Accommodation	$0	$21,888	$81,259	$15,660	$118,808
Restaurants	$18,898	$8,937	$55,139	$7,852	$90,826
Grocery / Other F&B	$8,866	$4,562	$9,301	$1,594	$24,324
Recreation & Entertainment	$380	$781	$3,817	$414	$5,392
Shopping	$11,040	$3,554	$16,069	$779	$31,442
Vehicle Expenses	$11,215	$4,625	$10,882	$1,921	$28,643
Other Transport Spending	$0	$0	$331	$0	$331
Total	**$50,399**	**$44,349**	**$176,798**	**$28,220**	**$299,766**

Typically the final step in the analysis is to incorporate the attribution factor, or the importance of the World Junior A Challenge in travellers' decision to visit Yarmouth. However, the survey found that the attribution was 96%, i.e. almost all respondents said that the event was the only reason for travelling to Yarmouth, thus the attribution factor has not been applied.

3.0 Operational & Capital Expenditures

An analysis was also made of the operational expenditures made by the event organizers in hosting the 2012 World Junior A Challenge. The total budget for the event which was spent in Yarmouth reached $498,600.

While not included as a direct expenditure in the budget, the 2012 World Junior A Challenge was supported by 100 volunteers, and the success of the event was due in a large part to the efforts of this group.

Yarmouth hosting the World Jr. A Challenge also allowed for a number of capital upgrades to existing facilities including a $900,000 Mariners Centre Extension (dressing rooms, board rooms and heated storage), a $51,200 skybox addition in the arena and $28,529 for improved lighting.

4.0 Economic Impact Results

The spending of spectators at the event, in combination with the capital and operation expenditures made by the event organizers in producing the 2012 World Junior A Challenge reached $1.7 million, generating an estimated net economic activity (GDP) of $1.8 million in the Province of Nova Scotia, of which $726,000 occurred in Yarmouth. These expenditures supported $1.2 million in wages and salaries in the Province and an estimated 36 jobs, of which 27 jobs and $726,000 in wages and salaries was in Yarmouth.[4] The total economic activity (industry output) generated by the event was $4.0 million in the Province, with $2.6 million occurring in Yarmouth.

The total tax revenues supported by the 2012 World Junior A Challenge reached $610,000. Of this total, $289,000 was attributable to the federal government while provincial tax revenues reached $266,000 and municipal taxes were $55,500, of which $36,000 was in Yarmouth.

[4] Jobs reported in this study refers to the number of jobs, vs. full time equivalent (FTE: two people working half time would represent two jobs, or one FTE).

Table 4.1 Total Economic Impact

	Total Nova Scotia	Local Area Yarmouth	Rest of Nova Scotia
Initial Expenditure	$1,742,305	$1,742,305	$0
Gross Domestic Product			
Direct Impact	$503,183	$503,183	$0
Indirect Impact	$808,819	$321,170	$487,649
Induced Impact	$449,945	$179,719	$270,226
Total Impact	$1,761,946	$1,004,071	$757,875
Industry Output			
Direct & Indirect	$3,011,800	$2,240,957	$770,842
Induced Impact	$948,217	$378,666	$569,551
Total Impact	$3,960,016	$2,619,623	$1,340,393
Wages & Salaries			
Direct Impact	$401,181	$401,181	$0
Indirect Impact	$484,517	$215,121	$269,396
Induced Impact	$273,427	$109,330	$164,097
Total Impact	$1,159,124	$725,632	$433,493
Employment (Full-year jobs)			
Direct Impact[5]	14.0	14.0	-
Indirect Impact	14.1	7.4	6.7
Induced Impact	8.2	5.3	2.8
Total Impact	36.3	26.8	9.5
Taxes (Total)			
Federal	$288,620	$174,166	$114,454
Provincial	$265,873	$161,741	$104,132
Municipal	$55,512	$36,004	$19,508
Total	$610,005	$371,912	$238,094

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

Appendix 1: Economic Impact Methodology – STEAM

Background

Briefly, the purpose of STEAM 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 measures the direct, indirect & induced effects for each of these elements.

Technical Description of the Impact Methodology used by STEAM

STEAM 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

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.