



Where ideas take root.

Antigonish Minor Hockey Association Novice Spring Challenge - 2011

Economic Impact Assessment

The following report presents the economic impact of the Antigonish Minor Hockey Association's Novice Spring Challenge hosted in Antigonish, Nova Scotia on the weekend of March 18th – 20th, 2011, as generated by the Sport Tourism Economic Assessment Model.

History of the Organization

If we were to sum up in one word what we're about, it would be this: **Antigonish**. Everything we do is about empowering the town and county of Antigonish to be a thriving place to do business, a great place to live and a community of growth. We believe that it's the combination of economic and community development that makes for a strong, sustainable future.

The Antigonish Regional Development Authority (ARDA) was established in 1996 and is one of 12 regional development authorities across Nova Scotia. We receive core funding from all levels of government and are proud to partner with them on key initiatives of community investment. Our partners include:

Municipality of the County of Antigonish
Town of Antigonish
Atlantic Canada Opportunities Agency
Nova Scotia Economic and Rural Development & Tourism



Economic and Rural Development



**Atlantic Canada
Opportunities
Agency**

**Agence de
promotion économique
du Canada atlantique**



Canada

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1.0 Background

Antigonish has always been known for its strong history rooted within the hockey community. Year after year, successful hockey tournaments are held that draw hockey enthusiasts to Antigonish. It is events such as these that bring together families, allowing participants to build upon their talents, building overall confidence and gaining a stronger sense of community.

The Antigonish Arena and the Keating Millennium Centre played host to 48 games throughout the Novice Spring Challenge. Players that attended the Challenge were either 8 or 9 years old. Between the three ice surfaces, the Antigonish Minor Hockey Association's Novice Spring Challenge attracted 320 participants and 667 spectators (totalling 987), representing 22 Novice teams throughout the province. These teams included: Port Hawkesbury, Port Hood, Brookfield Elks, TASA Wolves (Halifax), Halifax Hawks 5, Halifax Hawks 3 (Intermediate and Advanced), Bedford Blues 1, Cole Harbour Blue Flames, East Hants Penguins (Intermediate and Advanced), Acadia Kings (Intermediate and Advanced), Truro Predators, Truro Bearcats, Cole Harbour Wings, West Hants, TASA Snipers, Halifax Hawks 1, Sackville Coyotes, Sackville Warriors, and the Bedford Blues. The average overnight length of stay for the challenge was 1 night.

2.0 Economic Impact Results

As a result of hosting the Novice Spring Challenge, the collective spending of the 987 spectators and participants, plus the operational expenditures of the events organizers (\$15,364), totalled \$86,988. This \$86,988 then generated an estimated \$189,245 in economic activity for the Province of NS, of which approximately \$133,357 occurred in Antigonish. This spending supported approximately \$57,068 in wages and salaries for the province of NS through the support of 1.9 jobs, of which 1.5 were in Antigonish¹. The total net economic activity (GDP) produced by the spring challenge was \$91,506 for the province of NS, with \$61,353 of that amount occurring within Antigonish.

Both the province of NS and the municipalities of Antigonish will see the benefits of the significant tax revenues supported by the Novice Spring Challenge, which totalled \$36,765. The weekend long event supported tax revenues for all three governmental levels: Federal government tax in the amount of \$16,561, provincial government tax in the amount of \$16,031 and municipal government tax in the amount of \$4,173.

¹ Jobs accounted for throughout this study pertain to the number of jobs, vs. full time equivalent (FTE: two people working half time would represent two jobs or one FTE).

Table 2.1 Total Economic Impact

	Total Nova Scotia	Local Area Antigonish	Rest of Nova Scotia
Initial Expenditure	\$86,988	\$86,988	\$0
Gross Domestic Product			
Direct Impact	\$31,875	\$31,875	\$0
Indirect Impact	\$36,485	\$19,690	\$16,795
Induced Impact	\$23,146	\$9,787	\$13,358
Total Impact	\$91,506	\$61,353	\$30,153
Industry Output			
Direct & Indirect	\$140,022	\$112,550	\$27,472
Induced Impact	\$49,223	\$20,806	\$28,417
Total Impact	\$189,245	\$133,357	\$55,889
Wages & Salaries			
Direct Impact	\$22,853	\$22,853	\$0
Indirect Impact	\$20,101	\$10,573	\$9,529
Induced Impact	\$14,113	\$6,107	\$8,006
Total Impact	\$57,068	\$39,533	\$17,535
Employment (Full-year jobs)			
Direct Impact	1.0	1.0	-
Indirect Impact	0.5	0.3	0.2
Induced Impact	0.4	0.2	0.2
Total Impact	1.9	1.5	0.4
Total Taxes			
Federal	\$16,561	\$11,647	\$4,914
Provincial	\$16,031	\$11,775	\$4,256
Municipal	\$4,173	\$3,393	\$780
Total	\$36,765	\$26,815	\$9,950

Appendix 1: Economic Impact Methodology – Sport Tourism Economic Assessment Model²

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. Additional exports are not assumed with the induced impact. 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.

² The "Economic Impact Methodology of STEAM" has been quoted in its entirety from the Canadian Sport Tourism Alliance's STEAM User's Guide. The guide can be found at: http://www.canadiansporttourism.com/app/DocRepository/1/Products/STEAM_Users_Guide_2.pdf

Regional (Sub-Provincial) Impact Methodology

The method used to simulate interprovincial 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 interprovincial 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 (intra-regional), the higher the exponent.

Appendix 2: Glossary of Terms Used by STEAM³

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.

³ The "Glossary of Terms Used by STEAM" has been quoted in its entirety from the Canadian Sport Tourism Alliance's STEAM User's Guide. The guide can be found at: http://www.canadiansporttourism.com/app/DocRepository/1/Products/STEAM_Users_Guide_2.pdf

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.

Disclaimer: *The results of this economic impact analysis are intended to act as a guide and are not considered definitive of the actual events. All projections should be considered an event’s potential economic impact. The projections are based on standardized spending estimates that may or may not reflect that of the highlighted event’s attendees. In addition, the projections are based on the organizer’s data regarding attendance, composition and characteristics. These forecasts are subject to uncertainty and evolving future events, therefore actual results may vary from forecasted results. Additionally, these forecasts only recognize the economic benefits of the event, and do not consider any displacement or substitution costs that may occur as a result of hosting the event.*