

Economic Impact Analysis of the 2002 North American Indigenous Games

Winnipeg, Manitoba

PREPARED BY

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FOR

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Executive Summary

The following analysis provides an estimate of the economic impact of the 2002 North American Indigenous Games held in Winnipeg, Manitoba, specifically as it relates to the level of spending attributable to event participants and spectators. Additionally, utilizing the recently developed Sport Tourism Economic Assessment Model (STEAM), the study estimates the economic impact of both the visitors to the Games, as well as the Games' operating expenditure.

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Introduction

Background – NAIG

The North American Indigenous Games (NAIG) is the pre-eminent sporting event for indigenous peoples on the North American continent. The 2002 event (July 25 – August 4) attracted more than 6,500 athletes and performers and over 2,500 spectators. In addition to the athletic competition, the event has a rich cultural component and facilitates the social interaction between indigenous athletes and performers who reside across North America. The event also provided a substantial stimulus to the city's economy as a result of the spending of participants and spectators at the games, as well as the spending of the games' organizing committee.

Background – STEAM

The Sport Tourism Economic Assessment Model (STEAM), developed by the Canadian Sport Tourism Alliance (CSTA) in partnership with the Conference Board of Canada's Canadian Tourism Research Institute (CTRI) is designed to provide a standardized methodology by which to measure the economic impact of a sporting event on a community. The objective of STEAM is to provide event organizers with a reputable and cost-efficient method by which to analyze the projected economic impact of their event on a community. Key parameters, such as: the location of the event, the age profile, and the relative proportion of local / intra-provincial / inter-provincial visitors are used to create an estimate of the spending patterns of visitors. These are then combined with estimates of the operating and capital expenditure budget found in an event's business plan and entered into a modified version of CTRI's Tourism Economic Assessment Model (TEAM), the predominant model used to estimate economic impacts of events in Canada.

As part of the calibration of STEAM, the CSTA has begun a program of primary data collection in order to enhance the knowledge of sporting event visitor expenditure profiles. The 2002 NAIG was the first occasion where data collection took place, with over 1,200 surveys of athletes, coaches, cultural performers, spectators, and VIPs.

Visitor demographics as identified by the survey, in combination with the operational expenditures of the organizing committee, have been entered into STEAM to provide the following detail as to the economic impact of the 2002 NAIG on the city of Winnipeg and surrounding environs.

Visitors

The 2002 NAIG was a participant-oriented event; consequently the majority of visitors were either engaged in sporting or cultural activities. There were a total of 6,757 registered participants at NAIG, 17.1% from the province of Manitoba, 52.5% from the rest of Canada, and 30.4% from the United States. The number of spectators was more difficult to ascertain, as with the exception of the opening ceremonies, tickets were not required. However, as the survey sample reflected the overall composition of the event, it is estimated that there were a total of 2,678 spectators. Finally, the survey results suggest that there were 189 people who fell into the Media/VIP category.

Estimated out-of-pocket expenditures of the various categories are reported in Table 1 below. Again, reflecting the participant focus of the event, visitors from this category were estimated to spend \$3.179 million in the Winnipeg community. Spectators and Media/VIP were estimated to spend \$1.251 million and \$0.157 million, respectively.

Participant Expenditures	\$ 3.179 million
Spectator Expenditures	\$ 1.251 million
Media/VIP Expenditures	\$ 0.157 million
Total Expenditure	\$ 4.587 million

Operations

NAIG organizers had a budget of \$ 7.319 million, obtained from both government and corporate sources. However, as parts of the operational funds were used for participant food and accommodation expenses, these items were removed from the operational budget in order to avoid double counting. Consequently, the operational budget as utilized for analyzing NAIG in STEAM was adjusted to \$5.520 million.

Economic Impact

Total Impact

The combined expenditure of visitors and operations was \$8.143 million, and these expenditures generated a total of \$25.949 million in economic activity for the province, \$16.614 million of which was in the city of Winnipeg (Table 2). We estimate the Games provided the equivalent of 172 full-year jobs for residents of Winnipeg as well as an additional 48 full-year jobs for residents in other parts of Manitoba. These jobs generated \$4.720 million in wages and salaries in Winnipeg and an additional \$1.767 million in other parts of Manitoba.

The total level of taxes supported by the 2002 NAIG is estimated at \$3.744 million. Of that, \$1.809 million was allocated to the federal government,

\$1.619 million to the provincial government and \$0.315 million to municipal governments across Manitoba. The level of municipal taxes supported within Winnipeg is estimated to be \$0.214 million.

TABLE 2: ECONOMIC IMPACT OF 2002 NAIG - TOTAL

Impact of total attributed spending	Total Manitoba	City of Winnipeg
Total Economic Activity Generated (Industry Output)	\$25.949M	\$16.614 M
Employment (Full-year jobs)	220.6	172.7
Wages and Salaries	\$6.487 M	\$4.472 M
Taxes (All levels of government shown for Total Manitoba – Municipal taxes accruing to Winnipeg shown for City of Winnipeg)	\$3.744 M	\$0.214 M

Visitor Impact

The visitor spending (Table 3) attributed to those attending the 2002 NAIG was \$4.587 million. This spending generated \$14.595 million in economic activity for the province, of which \$9.254 million was generated within Winnipeg. The visitor spending is estimated to have supported a total of 126 full-year jobs within the province, 100 within Winnipeg. The corresponding wages and salaries generated by this employment were estimated to be \$3.467 million within the province, of which \$2.502 million is attributable to citizens of Winnipeg. Visitor spending also supported a total of \$2.142 million in tax collection for all levels of government, including an estimated \$117,000 in municipal taxes for the City of Winnipeg.

TABLE 3: ECONOMIC IMPACT OF 2002 NAIG – VISITOR

Impact of total attributed spending	Total Manitoba	City of Winnipeg
Total Economic Activity Generated (Industry Output)	\$14.595 M	\$9.254M
Employment (Full-year jobs)	126	100
Wages and Salaries	\$3.467 M	\$2.502 M
Taxes (All levels of government shown for Total Manitoba – Municipal taxes accruing to Winnipeg shown for City of Winnipeg)	\$2.142 M	\$0.117 M

Operational Impacts

The Games' organizing committee, excluding expenditures on athletes' accommodation or food services, generated a total of \$11.491 million in economic activity within Manitoba, \$7.391 million within the Winnipeg area. We estimate the operations (Table 4) of the Games supported 93 full-year jobs throughout Manitoba, 72 within Winnipeg. These jobs resulted in \$3.000 million in wages and salaries within the province and \$2.205 million in the Winnipeg area. The level of taxes supported by the operating expenditures is estimated at \$1.655 million. Of this, we estimate \$99,000 were municipal taxes within the city of Winnipeg.

TABLE 4: ECONOMIC IMPACT OF 2002 NAIG- OPERATIONS

Impact of total attributed spending	Total Manitoba	City of Winnipeg
Total Economic Activity Generated (Industry Output)	\$11.491 M	\$7.391 M
Employment (Full-year jobs)	93.2	72.0
Wages and Salaries	\$3.000 M	\$2.205 M
Taxes (All levels of government shown for Total Manitoba – Municipal taxes accruing to Winnipeg shown for City of Winnipeg)	\$1.655 M	\$0.100 M

Appendix A: 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

The approach we have implemented in both STEAM and other impact studies have been 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 impacts and as such must involve the use of both input-output and econometric techniques. As the data embodied in the provincial input-output tables are from 1996 (which is the latest currently available), taxes and employment must incorporate current coefficients and/or rates. These coefficients and/or rates are then applied to measures determined within the input-output framework of the model. Determining the level of taxes and employment outside the input-output framework of the model allows rates and/or coefficients to be selectively changed for updating or in order to conduct a scenario analysis.

Regional (Sub-Provincial) Impact Methodology

The method used to simulate intraprovincial commodity flows and ultimately regional impacts follows directly from regional economics 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 change.

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 2 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 B: 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) who 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.