

Major Events Quantitative Assessment Study

Prepared for

METRO VANCOUVER DESTINATION MANAGEMENT COUNCIL

Major Events Subcommittee

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Mansfield Consulting Inc.
www.mansfieldconsulting.ca

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EXECUTIVE SUMMARY

Study Goals

The Major Events Subcommittee of the Metro Vancouver Destination Management Council engaged Mansfield Consulting Inc. to carry out a Major Events Quantitative Assessment Study. The two main goals of the study were:

- To carry out a review of the value of hosting past major events across the Metro Vancouver Region within four categories of event benefits: economic impacts, social and community benefits, destination marketing benefits, and environmental benefits.
- To develop a recommended approach to define, measure, and report consistently on major events across the region.

Data Availability

A principal challenge encountered during the study was the lack of available data from past events hosted in Metro Vancouver. As a result, the review of past events held in Metro Vancouver was augmented with a wider review that included past events held elsewhere in Canada and Internationally.

Types of Impacts and Benefits Created by Major Events

Although there are many types of impacts and benefits that have been attributed to major events, they can be placed into four core categories:

- *Economic Impacts.* Economic impacts include the creation of jobs, gross domestic product (GDP), and government tax revenues, as well as local economic development and the showcasing of local businesses. Economic impacts consist of two subcategories: near-term impacts - those that occur at or around the time of the event, and long-term impacts - those that occur in the years leading up to or after the event.
- *Social and Community Benefits.* Social and Community benefits include increased participation in arts, culture and sports activities, promotion of civic, regional, and national pride, area revitalization, and the advancement of community social diversity objectives. In Canada, there is also strong interest using major events as a means to advance reconciliation with Indigenous communities.
- *Destination Marketing Benefits.* Destination Marketing benefits include the attraction of out-of-town visitors and increased media exposure.
- *Environmental Benefits.* Environmental benefits include raised awareness of environmental objectives, acceleration of the adoption of low-carbon innovations, and the implementation of new environmental standards.

Reporting Practices for Past BC, Canadian, and International Major Events

The following are our key conclusions regarding the reporting practices for impacts and benefits by past major events held in BC, Canada and Internationally:

- The reporting focus for virtually all past major events has been economic impacts. The only notable exceptions are large international multi-sports events, such as the Summer and Winter Olympic and Paralympic Games, which also report on measures of social and community benefits, destination marketing benefits, and environmental benefits.

- In reporting on economic impacts, most past major events assessed only near-term economic impacts. Very few past major events reported on or even discussed long-term impacts.
- Near-term economic impacts reported by past events have been estimated using a wide variety of economic impact models and approaches. Because of these methodological differences, it is difficult to compare economic impact estimates reported by different events or to use estimates from past events as a basis for projecting the economic impacts of future events.
- Near-term economic impacts reported by past events frequently combine economic impacts arising from event infrastructure spending and event operational spending with those arising from visitor spending. This practice limits the usefulness of past studies for tourism organizations.

Review of Past Events Held in Metro Vancouver

*Near-term Economic Impacts.*¹ Due to the lack of published reports, our review of past events held in Metro Vancouver was limited to eight events that occurred over the years 2010 to 2019.² Table A summarizes the published information on near-term economic impacts for the eight events.

Table A. Published Near-Term Economic Impacts of Past Events in Metro Vancouver³

Event	Total GDP (millions)	Total Employment	Total Tax Revenues (millions) ⁴
2010 Winter Games (Vancouver)	\$2,070 to \$2,560	38,530 to 51,510	\$459.0 to \$570.0
2015 FIFA Women's World Cup (Vancouver)	\$59.0	850	\$26.9
2019 IIHF World Junior Championships (Vancouver and Victoria)	\$23.4	221	\$6.8
2018 Grand Prix of Figure Skating Final (Vancouver)	not available	not available	not available
2014 BC Summer Games (Nanaimo)	not available	not available	\$0.4
2018 World Mixed Curling Championship (Kelowna)	\$0.7	7	\$0.2
2014 BC Winter Games (Mission)	not available	not available	\$0.4
2013 Canadian Collegiate Athletic Association Women's Soccer National Championship (Surrey)	\$0.5	7	\$0.2
Average (including 2010 Winter Games)	\$430.7 to \$528.7	7,923 to 10,519	\$70.6 to \$86.4
Average (not including 2010 Winter Games)	\$20.9	271	\$5.8

As displayed in Table A, there was a wide range of published near-term economic impacts for these events, with few of the events providing a complete set of economic impact measures. As well, the near-term economic impacts for the different events were estimated using different economic impact models (four in total), which further hindered the comparability of the published results.

To provide additional insight into the near-term economic impacts that arose from visitor spending at these events, and to mitigate the effect of the different methodologies used, we followed a two-step approach developed specifically for this study. The first step in the approach involved identifying visitor spending from each event and converting it into current dollars (2022 CAD).

Table B summarizes the resulting estimated visitor spending for the eight events, both at the time of the event and converted into 2022 CAD. Also shown in Table B is the ratio of visitor spending to event cost,

¹ The goal of economic impact analysis is to quantify the economic contributions that an industry, business, or project makes to a region. In general, economic impacts are viewed as consisting of well-established, quantitative measures of economic activity. The most common of these measures include Gross Domestic Product (GDP), employment, and government tax revenues. Economic impacts are described in detail in Section 6.

² To increase the sample size, reports from two events held elsewhere in BC were also included in the sample.

³ The impacts displayed in the table are BC impacts only. Impacts created in other parts of Canada are excluded.

⁴ Includes federal, provincial, and municipal tax revenues.

i.e., the estimated visitor spending divided by the total of infrastructure spending and operational spending. The ratio of visitor spending to event cost is a measure of the “tourism return” from an event, as it represents the amount of tourism revenue generated per dollar of event hosting cost.

Table B. Visitor Spending for Past Events in Metro Vancouver

Event	Visitor Spending at Time of Event (millions)	Visitor Spending (Est. 2022 CAD millions)	Ratio of Visitor Spending to Event Cost
2010 Winter Games (Vancouver)	\$228.0	\$293.2	0.07
2015 FIFA Women's World Cup (Vancouver)	\$27.9	\$33.0	1.11
2019 IIHF World Junior Championships (Vancouver and Victoria)	\$18.4	\$20.2	2.13
2018 Grand Prix of Figure Skating Final (Vancouver)	\$1.9	\$2.2	not available
2014 BC Summer Games (Nanaimo)	\$0.7	\$0.9	0.58
2018 World Mixed Curling Championship (Kelowna)	\$0.6	\$0.7	5.25
2014 BC Winter Games (Mission)	\$0.5	\$0.6	0.52
2013 Canadian Collegiate Athletic Association Women's Soccer National Championship (Surrey)	\$0.2	\$0.3	1.08
Average (including 2010 Winter Games)	\$34.8	\$43.9	1.53
Average (not including 2010 Winter Games)	\$7.2	\$8.3	1.78

As displayed in Table B, when expressed in 2022 CAD, visitor spending at the eight events averaged \$43.9 million (or \$8.3 million if the 2010 Winter Games are excluded). For three of the events, the ratio of visitor spending to event cost was less than 1.00, which indicates those events generated less in tourism revenue than the cost of event hosting. For four of the events, the ratio of visitor spending to event cost was greater than 1.00, which indicates those events generated more in tourism revenue than the cost of event hosting.

The second step in the approach involved estimating the economic impacts arising from the converted dollar spending using an economic impact model that was also developed specifically for this study. Table C summarizes the estimated economic impacts arising from visitor spending for the eight events.

Table C. Estimated Economic Impacts from Visitor Spending for Past Events in Metro Vancouver

Event	Total GDP (Est. 2022 CAD millions)	Total Employment ⁵	Total Tax Revenues (Est. 2022 CAD millions) ⁶
2010 Winter Games (Vancouver)	\$257.6	4,047	\$82.9
2015 FIFA Women's World Cup (Vancouver)	\$29.0	456	\$9.3
2019 IIHF World Junior Championships (Vancouver and Victoria)	\$17.9	280	\$5.9
2018 Grand Prix of Figure Skating Final (Vancouver)	\$1.9	30	\$0.6
2014 BC Summer Games (Nanaimo)	\$0.8	12	\$0.2
2018 World Mixed Curling Championship (Kelowna)	\$0.6	8	\$0.2
2014 BC Winter Games (Mission)	\$0.6	9	\$0.2
2013 Canadian Collegiate Athletic Association Women's Soccer National Championship (Surrey)	\$0.2	4	\$0.1
Average (including 2010 Winter Games)	\$38.6	606	\$12.4
Average (not including 2010 Winter Games)	\$7.3	114	\$2.4

⁵ Employment is reported in full year jobs.

⁶ Includes federal, provincial, and municipal tax revenues.

As displayed in Table C, when expressed in 2022 CAD, visitor spending at the eight events created an average of \$38.6 million in total GDP, 606 total jobs, and \$12.4 million in total government tax revenues (\$7.3 million in total GDP, 114 total jobs, and \$2.4 million in total government tax revenues if the 2010 Winter Games are excluded).

Long-Term Economic Impacts. Of the eight events reviewed, long-term economic impacts were reported for only the 2010 Winter Games.⁷ Long-term economic impacts from the 2010 Winter Games included the fostering of business expertise through the operations of the 2010 Commerce Centre, as well as the enablement of future event hosting at sport facilities constructed for the 2010 Winter Games.

Social and Community Benefits. Of the eight events reviewed, social and community benefits were reported for only the 2010 Winter Games. Social and community benefits from the 2010 Winter Games included increased participation in sports activities, performances by arts and cultural organizations, and the creation of legacy sports and cultural infrastructure. Most notably, the 2010 Winter Games resulted in the participation of First Nations as full partners in the Olympic and Paralympic Games and the showcasing of Indigenous culture and art in the torch relays, ceremonies, and medal designs.

Destination Marketing Benefits. Of the eight events reviewed, destination marketing benefits were reported for only the 2010 Winter Games. Destination marketing benefits from the 2010 Winter Games included an estimated \$250 million in equivalent ad value exposure through earned media.⁸

Environmental Benefits. Of the eight events reviewed, environmental benefits were reported for only the 2010 Winter Games. Environmental benefits from the 2020 Winter Games included the offset of the 2010 Winter Games direct carbon footprint through a first-ever carbon offset sponsorship.

Recommended Classification System for Events

It would be helpful to classify events in terms of their overall complexity and in terms of their ability to increase tourism. Complexity-based classification provides information on the overall scope and community effort required with hosting an event, while tourism-based classification provides information that is most useful for tourism planning and event marketing. Table D summarizes the recommended classification system.

⁷ The 2010 Winter Games was perhaps the most thoroughly documented and assessed Olympic and Paralympic games ever held. Major reports on its impacts and benefits included the PwC LLP series of seven reports for the federal and provincial governments, a series of Olympic Games Impact reports for the IOC, the VANOC sustainability reports, and various other special reports by federal, provincial, and municipal agencies.

⁸ VANOC End of Games Report.

Table D. Complexity-based and Tourism-based Classification

Complexity Category	Description
Mega	International events and competitions that attract a large number of domestic and international visitors, have a large mediated reach, come with large public investment, and have large impacts on the built environment and the population.
Major	International competitions and national events and competitions that attract a substantial number of visitors, provide broad mediated reach, require public investment, and impact the built environment and the population.
Significant	National and province-wide events that attract primarily domestic visitors, provide some mediated reach, require some public investment, and may impact the built environment and the population.
Standard	Regional and local events that attract primarily BC visitors, provide a mediated reach, require limited public investment, and are unlikely to impact the built environment and the population.
Tourism Category	Description
Super	Event generates over \$100 million in visitor spending (in 2022 CAD)
Large	Event generates between \$10 and \$100 million in visitor spending (in 2022 CAD)
Medium	Event generates between \$1 and \$10 million in visitor spending (in 2022 CAD)
Modest	Event generates between \$0.5 and \$1 million in visitor spending (in 2022 CAD)
Small	Event generates under \$0.5 million in visitor spending (in 2022 CAD)

To provide benchmarks on the near-term economic impacts from visitor spending that might be projected for different tourism categories, we analyzed a sample of twenty-three BC, Canadian, and International events using the approach developed for this study. Table E summarizes the benchmarks.

Table E. Average Near-term Tourism Economic Impacts by Tourism Category

Event Tourism Category	Visitor Spending at Time of Event (millions)	Visitor Spending (Est. 2022 CAD millions)	Ratio of Visitor Spending to Event Cost	Total GDP (Est. 2022 CAD millions)	Total Employment ⁹	Total Tax Revenues (Est. 2022 CAD millions) ¹⁰
Super	\$211.5	\$256.4	0.79	\$168.1	2,590	\$54.0
Large	\$26.3	\$30.0	2.42	\$28.9	434	\$9.8
Medium	\$3.9	\$4.1	2.92	\$1.6	24	\$0.5
Modest	\$0.6	\$0.7	1.66	\$0.6	9	\$0.2
Small	\$0.2	\$0.2	0.73	\$0.1	2	\$0.1

In addition to the economic impact benchmarks, Table E also provides benchmarks for the ratio of visitor spending to event cost. Of note is that, on average, large, medium, and modest sized events generally create visitor spending that exceeds event costs. However, super events, due to their high event costs, and small events, due to their low visitor attendance, generally create visitor spending that is less than event costs.

⁹ Employment is reported in full year jobs.

¹⁰ Includes federal, provincial, and municipal tax revenues.

Recommended Measurement System

An effective measurement system requires the collection of data and information that enables the assessment of events in terms of near-term economic impacts, long-term economic impacts, destination marketing benefits, and social and community benefits. Table F describes the data and information that we recommend be collected from events as a basis for an effective measurement system.

Table F. Recommended Data and Information to be Collected from Events

Data or Information	Category of Impacts/Benefits	Details
Number of event spectators.	Near-Term Economic Impacts	Percent of event spectators that are from BC, percent that are domestic visitors from other parts of Canada, and percent that are international visitors
Visitor Spending.	Near-Term Economic Impacts	Total spending is acceptable, as typical visitor spending profiles can be used. However, if possible, broken into spending categories (such as accommodation, food and beverage, transportation, retail, recreation, and other).
Operational Spending	Near-Term Economic Impacts	Total spending is acceptable. However, if possible broken into standard accounting categories (such as salaries, equipment, transportation, and other).
Infrastructure Spending	Near-Term Economic Impacts	Total event spending on new construction, renovations, and refurbishment.
Value and percent of event operational and infrastructure spending going to local businesses.	Near-Term and Long-Term Economic Impacts	Although the value and percent of spending going to local businesses occurs in the near-term, it can also be viewed as a leading indicator of long-term economic impacts.
Description of any planned initiatives to foster growth of local businesses.	Near-Term and Long-Term Economic Impacts	Although planned initiatives to foster growth of local businesses occur in the near-term, they can also be viewed as a leading indicator of long-term economic benefits
Description of any planned investment in transportation, communication, or other economic development enabling infrastructure	Near-Term and Long-Term Economic Impacts	Although these types of investments and initiatives occur in the near-term, they can also be viewed as a leading indicator of long-term economic benefits
Description of local community engagement/participation plan	Social and Community	Adoption and implementation of a community engagement/participation plan should be a goal of each event.
Description of Indigenous engagement/participation plan	Social and Community	Adoption and implementation of an Indigenous engagement/participation plan should be a goal of each event.
Description of skills training programs.	Social and Community	Identification of any skills training programs associated with the event.
Description of investments in grassroots programs.	Social and Community	Identification of any grassroots programs associated with the event.
Number of viewers on traditional media.	Destination Marketing	Media exposure can be viewed as a leading indicator of visitor attraction.
Number of viewers on non-traditional media	Destination Marketing	Media exposure can be viewed as a leading indicator of visitor attraction.
Description of efforts on social media and/or website to promote host city/region as destination.	Destination Marketing	Media exposure can be viewed as a leading indicator of visitor attraction.
Description of strategy to encourage attendees to use sustainable transport	Environment	Minimization of an event's carbon footprint should be a goal of each event.
Description of sustainable procurement code in place for all products and services	Environment	Adoption of sustainable practices should be a goal of each event.

Recommended Reporting System

An effective reporting system requires events to report in as consistent a fashion as possible, while allowing for flexibility to account for differing levels of event complexity and hosting capacity. Table G summarizes our recommended reporting system.

Table G. Recommended Reporting from Events

Reporting	Description
Total infrastructure spending	Total event spending on new construction, renovations, and refurbishment. If possible, a breakdown of spending by source should be provided (e.g., event revenue, federal government funding, provincial government funding, and local government funding).
Total operational spending	Total spending is acceptable. However, if possible broken into standard accounting categories (such as salaries, equipment, transportation, and other).
Estimated visitor spending	Total spending is acceptable, as typical visitor spending profiles can be used. However, if possible, broken into spending categories.
Near-term economic impacts	If events have carried out economic impact studies, the published results should include output, GDP, and jobs, and should be reported separately for impacts from infrastructure spending, operations spending, and visitor spending. As well, the economic impact models and modelling approaches used should be reported.
Long-term economic benefits	Events should publish descriptions of their anticipated long-term economic benefits, including, at a minimum, the types of benefits listed in Table F.
Social and community benefits	Events should publish descriptions of their social and community benefits, including, at a minimum, the types of benefits listed in Table F.
Destination marketing benefits	Events should publish descriptions of their destination marketing benefits, including, at a minimum, the types of benefits listed in Table F.
Environmental benefits	Events should publish descriptions of their environmental benefits, including, at a minimum, the types of benefits listed in Table F.

Additional Recommendation

At present, there is no “central library” in BC that contains data and studies regarding past major events. Without such a library it is difficult to obtain reliable information on the experiences of past major events or to use that information as a guide for projecting the impacts and benefits from future events. Consideration should be given to the creation of such a central library, as it would provide a valuable resource of knowledge transfer for event proponents, tourism organizations, and government agencies.

1 BACKGROUND

1.1 Study Purpose

In 2021, The Metro Vancouver Destination Management Council (the “Council”) engaged the Sports Consultancy to develop a strategic framework for major events in Metro Vancouver.¹¹ The findings and recommendations of the Sports Consultancy were presented to the Council in a report entitled *Metro Vancouver Major Events Strategic Framework Opportunity Report* (the “Opportunity Report”).

The Opportunity Report assessed if there were policies and practices that could be adopted that would enable the Metro Vancouver events sector to generate greater positive impacts. The Opportunity Report outlined the opportunities that exist to improve collaboration, strategic direction, funding, communication, decision-making, event evaluation and organizational structure among government and non-governmental agencies.

As a follow-up to the Opportunity Report, the Major Events Subcommittee of the Council engaged Mansfield Consulting Inc. to carry out the Major Events Quantitative Assessment Study. The two main goals of the study were:

- To carry out a review of the value of hosting past major events across the Metro Vancouver Region within four categories of event benefits: economic impacts, social and community benefits, destination marketing benefits, and environmental benefits.
- To develop a recommended approach to define, measure, and report consistently on major events across the region.

1.2 Study Components

The following were the main components to the study:

- **Collection of reports, studies, and information relating to event hosting.** As part of the study, we collected and reviewed a wide assortment of reports, studies, data, and information relating to the hosting of events. The materials included studies of the impacts of past events in Metro Vancouver, BC, Canada, and International jurisdictions.
- **Review of event classification systems.** As part of the development of a recommended approach for defining major events, we reviewed event classification systems that have been adopted in other jurisdictions and by event organizations.
- **Review of event measurement systems.** As part of the development of a recommended approach for measuring major events, we reviewed event measurement systems that have been adopted in other jurisdictions and by event organizations.
- **Economic impacts/benefits review.** Using the collected reports and studies, along with original research carried out for this study, we carried out a review of near-term and long-term economic impacts that have been reported for major events.

¹¹ Based in the UK, the Sports Consultancy provides advisory services to the global events industry.

- **Social and community, destination marketing, and environmental benefits.** Using the collected reports and studies, along with original research carried out for this study, we reviewed the social and community, destination marketing and environmental benefits that have been reported for major events.
- **review of past major events hosted in Metro Vancouver.** We carried out a review of past major events hosted in Metro Vancouver. The review was limited by the amount of available studies and data from past events.

1.3 About Mansfield Consulting Inc.

Mansfield Consulting Inc. provides specialized consulting services on economic and statistical issues. Mansfield Consulting Inc. was founded by Ed Mansfield Ph.D., who has more than thirty years of experience providing consulting services to public and private companies, professional associations, industry organizations, and government agencies. For more information on Mansfield Consulting Inc. please see Appendix E.

1.4 Report Limitations

This report is provided for information purposes and is intended for general guidance only. It should not be regarded as a substitute for business or investment advice.

In preparing the report, Mansfield Consulting Inc. has relied upon information and data obtained from public sources believed to be accurate. The accuracy and reliability of the findings and opinions expressed in the report are conditional upon the completeness, accuracy, and fair presentation of the information underlying them. As a result, we caution readers not to rely upon any findings or opinions for business or investment purposes and disclaim any liability to any party that relies upon them as such.

The findings and opinions expressed in the report constitute judgments as of the date of the report and are subject to change without notice. Mansfield Consulting Inc. is under no obligation to advise of any change brought to its attention which would subsequently alter those findings or opinions.

2 INTRODUCTION

2.1 Impacts and Benefits Created by Major Events

There are many types of impacts and benefits that have been realized through the hosting of major events. In Metro Vancouver, a clear example of this seen through the hosting of the 2010 Winter Olympic and Paralympic Games (the “2010 Winter Games”). A series of reports on the 2010 Winter Games by PricewaterhouseCoopers LLP (“PwC”) used a framework of eight topic areas to describe the impacts of that event: Sport Development, Tourism, Environmental Sustainability, Social Development, Arts and Culture, Economic Development, Employment, and Business Development. In addition, PwC prepared supplements to report on the impacts on Indigenous communities and on Francophone communities.

The topic areas used by PwC are illustrated in the following diagram. As suggested by the diagram, the PwC framework viewed the eight areas as being interrelated:¹²

Employment is a key part of economic development and business development. Employment is expected to have a positive impact on social development and new jobs are expected to be created in the tourism, sport, and arts industries. Similarly, sport facilities are key to sport development and encourage sport-related tourism. Furthermore, venues are being built that promote environmental sustainability, and many facilities will be used in ways that promote arts and culture and social development.



The Opportunity Report also noted that major events can bring different types of benefits, including economic benefits, social and community benefits, and tourism promotion benefits.¹³

Beyond the immediate economic, reputational, business, and social impacts that hosts benefit from, events are central to quality of life and creating places where people want to live, work, visit and invest.

¹² The Games Effect. Reports 1-7, PwC.

¹³ Opportunity Report.

2.2 Core Categories of Impacts and Benefits

Although there are many types of impacts and benefits that have been attributed to major events, they can be placed into four core categories:

- *Economic Impacts.* Economic impacts include the creation of jobs, gross domestic product (GDP), and government tax revenues, as well as local economic development and the showcasing of local businesses. Economic impacts consist of two subcategories: near-term impacts - those that occur at or around the time of the event, and long-term impacts - those that occur in the years leading up to or after the event.
- *Social and Community Benefits.* Social and Community benefits include increased participation in arts, culture and sports activities, promotion of civic, regional, and national pride, area revitalization, and the advancement of community social diversity objectives. In Canada, there is also strong interest using major events as a means to advance reconciliation with Indigenous communities.
- *Destination Marketing Benefits.* Destination Marketing benefits include the attraction of out-of-town visitors and increased media exposure.
- *Environmental Benefits.* Environmental benefits include raised awareness of environmental objectives, acceleration of the adoption of low-carbon innovations, and the implementation of new environmental standards.

In this report, we focus on these four core categories of benefits.

3 INFORMATION FROM PAST EVENTS

3.1 Data Collection

During the study, we attempted to gather information and studies on past major events in Metro Vancouver. However, we encountered several challenges with the collection of information and studies:

- There were very few published studies available on the impacts benefits of past major events hosted in Metro Vancouver. We were able to identify studies of only five past major events, plus raw data from a sixth event.
- With the sole exception of the 2010 Winter Games, the level of detail available in the past studies was limited.¹⁴

In response to these challenges, we expanded the scope of our data collection to include past events from other BC, Canadian, and International jurisdictions. Data was collected through a combination of desk-based research and communications with tourism organizations. In total, approximately 60 studies and reports of past events were collected (a list of the studies and reports is included in Appendix A).

¹⁴ The 2010 Winter Games was perhaps the most thoroughly documented and assessed Olympic and Paralympic games ever held. The impacts and benefits of the 2010 Winter Games are documented by PwC on behalf of the Province of BC and the Government of Canada (the "PwC reports") and by the University of BC on behalf of the International Olympic Committee (the "Olympic Games Impact - OGI reports"). Further reporting was contained in a series of sustainability reports prepared by the organizing committee ("VANOC").

3.2 Reporting Practices From Past Events

The following are our observations regarding the reporting practices for impacts and benefits from past major events held in BC, Canada, and Internationally:

- The reporting focus for virtually all past major events has been economic impacts. The only notable exceptions are large international multi-sports events, such as the Summer and Winter Olympic and Paralympic Games, which also report on measures of social and community benefits, destination marketing benefits, and environmental benefits.
- In reporting on economic impacts, most past major events assessed only near-term economic impacts. Very few past major events reported on or even discussed long-term impacts.
- Near-term economic impacts reported by past events have been estimated using a wide variety of economic impact models and approaches. Because of these methodological differences, it is difficult to compare economic impact estimates reported by different events or to use estimates from past events as a basis for projecting the economic impacts of future events.
- Near-term economic impacts reported by past events frequently combine economic impacts arising from event infrastructure spending and event operational spending with those arising from visitor spending. This practice limits the usefulness of past studies for tourism organizations.

4 EVENT CLASSIFICATION SYSTEMS

4.1 Introduction

A key aid in evaluating the impacts and benefits of major events is an effective event classification system. At present, no event classification system is used in BC. A review of event systems that are used by organizations and in other jurisdictions found that different classification systems have been adopted, depending on the perspective and priorities of the organization and jurisdiction.

As a result, many of the classification systems in use provide only a high-level description of event categories. For example, a popular classification system is sometimes referred to as event-type classification. Under an event-type classification system, events are categorized by the type of activities performed during the event (e.g., events might be classified as sporting events, cultural events, music festivals, and so on). While an event-type classification provides a description of the nature of an event, it does not provide insight into its hosting requirements or its ability to attract visitors.

4.2 Complexity-Based Classification

A type of classification system that provides an improved level of detail is a complexity-based classification system. This type of system was described in a paper by Martin Muller which envisioned complexity as consisting of four components:¹⁵

- Visitor attractiveness, in particular the attraction of international visitors.
- Mediated reach, including both traditional means such as television and through more modern means such as on-line platforms.
- Cost, in particular the amount of public investment.
- Urban transformation, through such things as the construction of event facilities and transportation systems.

The Muller paper proposed a point system for complexity that was based on quantitative measurements of a set of indicators for each of the four components. However, quantitative measurements of those indicators are unlikely to be readily available for most events, nor do we believe they are necessary. Instead, we believe employing the components identified by Muller as a framework for a complexity-based classification system provides a useful classification system without imposing onerous measurement requirements.

¹⁵ Martin Müller (2015) What makes an event a mega-event? Definitions and sizes, *Leisure Studies*, 34:6, 627-642, DOI: [10.1080/02614367.2014.993333](https://doi.org/10.1080/02614367.2014.993333)

The following table describes our suggestion for a complexity-based classification system that defines four categories of events: mega events, major events, significant events, and standard events.

Table 1. Complexity-based Classification of Events

Complexity Category	Description
Mega	International events and competitions that attract a large number of domestic and international visitors, have a large mediated reach, come with large public investment, and have large impacts on the built environment and the population.
Major	International competitions and national events and competitions that attract a substantial number of visitors, provide broad mediated reach, require public investment, and impact the built environment and the population.
Significant	National and province-wide events that attract primarily domestic visitors, provide some mediated reach, require some public investment, and may impact the built environment and the population.
Standard	Regional and local events that attract primarily BC visitors, provide a mediated reach, require limited public investment, and are unlikely to impact the built environment and the population.

4.3 Tourism-Based Classification

While a complexity-based classification system provides useful information to event organizers and funding agencies, it provides only limited information to tourism organizations. Consequently, we suggest using a tourism-based classification system to augment a complexity-based classification system. A tourism-based classification system would be based on the estimated visitor spending in the case of a past event or the projected visitor spending in the case of a future event.¹⁶ Based on our review of past events, we believe that tourism-based classification system based on five levels of visitor spending would provide an effective complement to a complexity-based classification system.

The following table summarizes the suggested tourism-based classification system.

Table 2. Tourism-based Classification of Events

Tourism Category	Description
Super	Event generates over \$100 million in visitor spending (in 2022 CAD)
Large	Event generates between \$10 and \$100 million in visitor spending (in 2022 CAD)
Medium	Event generates between \$1 and \$10 million in visitor spending (in 2022 CAD)
Modest	Event generates between \$0.5 and \$1 million in visitor spending (in 2022 CAD)
Small	Event generates under \$0.5 million in visitor spending (in 2022 CAD)

¹⁶ Visitor spending includes only spending by out-of-region visitors.

5 IMPACTS AND BENEFITS MEASUREMENT

5.1 Existing Measurement Frameworks

Currently, only very large events prescribe measurement frameworks. Examples of these frameworks, which were reviewed during the study, include the Association of Summer Olympic International Federations (“ASOIF”)¹⁷ framework, the 2010 Olympic Games Impact (“OGI”)¹⁸ framework, the PwC framework for the 2010 Winter Games,¹⁹ and the UK eventIMPACTS²⁰ framework. Each of these frameworks involves many categories and measures. The ASOIF framework involves 92 different measures, the 2010 OGI framework involved 34 topic areas, 79 core subjects, and 19 case studies, the 2010 PwC framework involved 93 different measures, and the eventIMPACTS framework involves 38 categories of measures. The following table summaries the four event measurement frameworks.

Table 3. Measurement Frameworks for Major Events

Category of Impacts	ASOIF Recommendations	Olympic OGI Reports	2010 Winter Games PwC Reports	eventIMPACTS (UK)
Economic Development	Included (21 measures)	Included (8 categories of measures)	Included (12 measures)	Included (6 categories of measures)
Social and Community	Included (25 measures)	Included (12 categories of measures)	Included (12 measures)	Included (9 categories of measures)
Destination Development	Included (23 measures)	Included (12 categories of measures)	Included as Tourism (15 measures)	Included as Media (8 categories of measures)
Environment	Included (16 measures)	Included (9 categories of measures)	Included (9 measures)	Included (15 categories of measures)
Government Policy	Not included as category	Not included specifically	Not included specifically	Not included specifically
Sport Development	Included (7 measures)	Included in Social and Community	Included (12 measures)	Included in Social and Community
Arts and Culture	Not included specifically	Included in Social and Community	Included (12 measures)	Not included as category
Employment	Not included specifically	Included in Economic Development	Included (10 measures)	Included in Economic Development
Business Development	Not included specifically	Not included specifically	Included (11 measures)	Not included specifically
Indigenous Participation	Not included specifically	Not included specifically	Included as separate report	Not included specifically

¹⁷ Common Indicators for Measuring the Impact of Events. First Edition, 2021. Association of Summer Olympic International Federations. (ASOIF).

¹⁸ The OGI framework is being replaced by the new Olympic Legacy Reporting Framework.

¹⁹ The Games Effect, Volumes 1-7, PwC.

²⁰ An Evaluative Framework to Assess and Measure the Impact and Benefits of Hosting Major Events – eventIMPACTS, a collaboration between UK Department for Culture, Media and Sport, Discover Northern Ireland, EventScotland, London & Partners, UK Sport, and Welsh Government.

5.2 Suggested Basis for Measurement

The frameworks summarized in Table 3 are comprehensive and are costly to implement. We do not believe it practical or necessary to implement such frameworks for any events other than the very large events (for which they are already prescribed). At the same time, to be of most use, any measurement framework that is adopted should be as consistent as possible with the comprehensive ones. As a result, we suggest adoption of a measurement framework that involves as relatively small number of measures that span the following categories of impacts and benefits:

- Near-Term Economic Impacts.
- Long-Term Economic Impacts.
- Social and Community Benefits
- Destination Marketing Benefits.
- Environmental Benefits.

The suggested categories and their components are described in detail in Section 6 and Section 7

6 NEAR-TERM ECONOMIC IMPACTS

6.1 Economic Impact Definitions and Concepts

The goal of economic impact analysis is to quantify the economic contributions that an industry, business, or project makes to a region. In general, economic impacts are viewed as consisting of well-established, quantitative measures of economic activity. The most common of these measures are output, GDP, employment income, employment, and government tax revenue:

- **Output** is the total gross value of goods and services produced by a given organization, industry, or project, measured by the price paid to the producer. This is the broadest measure of economic activity.
 - *Example: A bakery buys flour and other ingredients for \$1.00 and uses them to produce a loaf of bread, which is then sold for \$1.50. The output for the bakery is \$1.50.*
- **Gross Domestic Product (GDP)**, or value added, refers to the additional value of a good or service over the cost of inputs used to produce it from the previous stage of production. As a result, GDP is equivalent to the unduplicated value of goods and services produced.
 - *Example A bakery buys flour and other ingredients for \$1.00 and uses them to produce a loaf of bread, which is then sold for \$1.50. The direct GDP for the bakery is \$0.50, which represents the value-added by the bakery.*
- **Employment** is the number of additional jobs created.²¹
- **Government Tax Revenue** is the total amount of tax revenues generated for federal, provincial, and local governments.²²

Economic impacts may be estimated at the direct, indirect, and induced levels.

- **Direct** impacts are changes that occur in “front-end” businesses that would initially receive operating revenue and incur expenditures.
- **Indirect** impacts arise from changes in activity for suppliers of the “front-end” businesses.
- **Induced** impacts arise from spending on goods and services resulting from increases to the payroll of the directly and indirectly affected businesses.

6.2 Economic Impact Models

In Canada, most economic impact models follow an input-output modelling approach based on economic impact multipliers published by Statistics Canada. Input-output modelling is a widely used method, which facilitates comparisons between reported results for different projects, businesses, and industries. Despite this common starting point, however, the models differ in important ways in their use of multipliers, impact calculations, and reporting.

²¹ Statistics Canada’s employment economic impact multipliers are currently reported in terms of jobs. Statistics Canada’s employment economic impact multipliers were previously reported in terms of full-time equivalents (FTEs).

²² Government tax policies can change frequently and may result in considerable changes to the amount of tax revenues generated.

There are a wide variety of models that have and are being used to estimate the economic impacts of events in Canada. The models have distinctive features and different strengths and weaknesses. Even though all are based on economic impact multipliers published by Statistics Canada they may arrive at significantly different results for the same set of input data. As a result, it can be difficult to compare economic impact studies produced by different organizations, events, or tourism businesses, which, in turn, hampers the ability to assess accurately the effectiveness of past events or to predict the impacts of future events.

At present, there is no standardized model that is used to estimate the economic impacts of events in BC. The adoption of such a model may merit consideration, as it would help to provide a uniform benchmark for economic impact analysis. (A comparison of some of the most commonly used economic impact models is contained in Appendix D.)

6.3 Sources of Near-Term Economic Impacts

Near-term economic impacts are created through three main types of spending:

- **Infrastructure spending.** This includes the construction of new facilities for the event, as well as the renovation or refurbishment of existing facilities.²³
- **Operational spending.** This includes all aspects of operating the event, including such things as communications, logistics, catering, communications, transportation, and administration.
- **Visitor spending.** This includes spending by both spectators and event participants.²⁴

Although these spending types all create economic impacts, the net impacts realized by a host city/region from them may be quite different. Both infrastructure spending and operational spending may require substantial public sector funding, which, arguably, might have been used for other government priorities that would themselves have created economic impacts in the host city/region. In contrast, visitor spending reflects “new money” injected into the host city/region, which, in turn, creates incremental economic impacts that would not have occurred in the absence of the event.

²³ Note that for the Olympic and Paralympic Games another category of infrastructure spending - Games-induced infrastructure spending – is sometimes reported. Games-induced infrastructure spending is infrastructure spending that occurs or is accelerated, because of the Games but which does not form part of the direct delivery of the Games. For the 2010 Winter Games, the Canada Line Skytrain and road improvements to Sea-to-Sky highway were examples of Game-induced infrastructure spending. Decisions regarding inclusion of Games-induced infrastructure in event costs and economic impact estimates need to be made carefully. For example, the three projects from the 2010 Winter Games are not considered part of 2010 Winter Games event spending, the total event infrastructure spending would be estimated at \$1.26 billion. If those projects are considered part of 2010 Winter Games event spending, the total event infrastructure spending would be much larger, at \$4.91 billion.

²⁴ For major events, spending by event participants typically constitutes only a small fraction of total visitor spending.

Infrastructure Spending Economic Impacts

Infrastructure spending (also referred to as capital spending) is usually tracked by event organizers and/or government partners, and the economic impacts it creates are usually straightforward to estimate using economic impact models.

A common misconception is that infrastructure spending usually constitutes the lion's share of total event costs. In reality, infrastructure spending usually constitutes only a small proportion of total event spending, even for very large events. For example, the OGI report estimated that infrastructure spending constituted only 18% of Olympic spending.²⁵

Operational Spending Economic Impacts

Operational spending is also usually tracked by event organizers and/or government partners using standard accounting categories. The economic impacts created by operational spending are somewhat more complicated to estimate than are the economic impacts from infrastructure spending, as the impacts from each category of operational spending are usually first estimated separately then added together. As an example of operational spending accounting categories, the following table displays the distribution of operational spending reported by VANOC for the 2010 Winter Games.

Table 4. Total VANOC operational spending (in millions of dollars)²⁶

Expenditures Category	Expenditure (in millions)	Percent of Operational Spending
Sports venues	\$460.0	24.4%
Olympic village & other villages	\$56.1	3.0%
Workforce	\$101.7	5.4%
Information systems	\$281.1	14.9%
Telecommunications & other technologies	\$79.9	4.2%
Internet	\$11.7	0.6%
Ceremonies & Culture	\$111.3	5.9%
Medical Services	\$35.6	1.9%
Catering	\$31.1	1.6%
Transport	\$212.1	11.3%
Security	\$13.0	0.7%
Paralympic Games	\$2.1	0.1%
Advertising and Promotion	\$127.4	6.8%
Administration	\$114.1	6.1%
Pre-Olympic Events and Coordination	\$71.9	3.8%
Other	\$175.0	9.3%
Total	\$1,884.1	100.0%

Visitor Spending Economic Impacts

Visitor spending is usually estimated using surveys of event attendees or through an analysis of tourism industry data (for example, hotel occupancy and average room rate data).

²⁵ The OGI report estimated that organizing committee (VANOC) operations costs constituted 47% of Olympic spending, operations costs by other agencies constituted 35% of Olympic spending, and infrastructure costs constituted 18% of Olympic Spending.

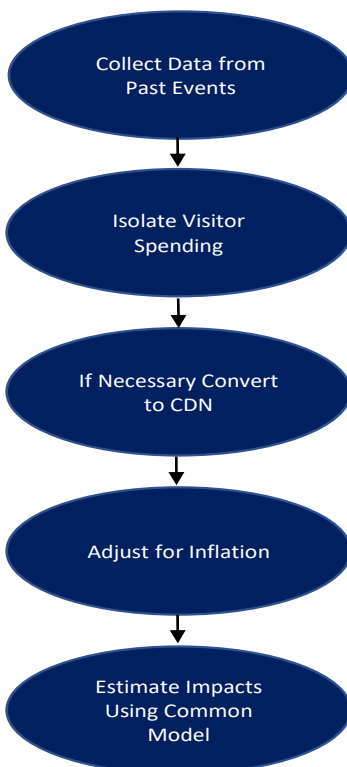
²⁶ OGI and PwC reports.

6.4 Benchmarks for Near-Term Economic Impacts from Visitor Spending at Past Major Events

To obtain clearer insight into the near-term economic impacts that have been realized from visitor spending at past major events we analyzed a sample of BC, Canadian, and International events using an approach developed specifically for this study. Based on that analysis, we then formulated benchmarks for the near-term economic impacts from visitor spending could be expected for different categories of past events,

The steps involved with the approach were:

- Collect data from past events.
- Isolate of visitor spending from other types of spending.
- If necessary, convert currency to Canadian dollars (CAD).
- If necessary, convert to 2022 dollars by adjusting for inflation.
- Estimate near-term economic impacts using a common economic impact model developed specifically for this study.²⁷



²⁷ As noted elsewhere, the economic impacts of events are estimated using a wide variety of models. To ensure differences in economic impact estimates are not the result of different modeling methodologies it is important to use a common model for all events. In this case, we used an economic impact model developed specifically for this study. However, other economic impact models could be used if so desired.

As displayed in the following table, when expressed in 2022 CAD, average visitor spending for the past events in the sample is estimated at \$256.4 million for a super event, \$30.0 million for a large event, \$4.1 million for a medium event, \$0.7 million for a modest event, and \$0.2 million for a small event.

Table 5. Visitor Spending

Event	Visitor Category	Visitor Spending at Time of Event	Visitor Spending (Est. 2022 CAD)	Ratio of Visitor Spending to Event Cost
2012 Summer Games (London)	Super	\$392,920,000	\$483,643,517	0.02
2010 Winter Games (Vancouver)	Super	\$228,000,000	\$293,170,815	0.07
2011 Rugby World Cup New Zealand	Super	\$224,000,000	\$279,859,883	0.92
2026 Winter Games (Calgary bid)	Super	\$202,801,000	\$232,972,314	0.04
2019 Rugby World Cup Japan	Super	\$126,294,414	\$139,109,582	1.11
2017 IAAF World Championships (London)	Super	\$95,193,927	\$109,356,214	2.58
Average	Super	\$211,534,890	\$256,352,054	0.79
2018 Union Cycliste International Road World Championships (Innsbruck)	Large	\$50,955,660	\$57,220,074	8.09
2015 FIFA Women's World Cup (Vancouver)	Large	\$27,900,000	\$33,012,796	1.11
2019 Canada Winter Games (Red Deer)	Large	\$20,214,935	\$22,266,156	0.41
2019 IIHF World Junior Championships (Vancouver and Victoria)	Large	\$18,356,607	\$20,219,263	2.13
2012 IIHF World Junior Championship (Edmonton and Calgary)	Large	\$13,907,166	\$17,118,270	0.37
Average	Large	\$26,266,874	\$29,967,312	2.42
2021 Canadian Olympic Curling Trials (Saskatoon)	Medium	\$8,346,707	\$8,830,062	4.25
2018 Grand Prix of Figure Skating Final (Vancouver)	Medium	\$1,946,028	\$2,185,270	not available
2021 Canadian Country Music Awards (London Ont.)	Medium	\$1,258,859	\$1,331,759	1.59
Average	Medium	\$3,850,531	\$4,115,697	2.92
2014 BC Summer Games (Nanaimo)	Modest	\$720,501	\$862,069	0.58
2018 World Mixed Curling Championship (Kelowna)	Modest	\$630,090	\$707,552	5.25
2014 BC Winter Games (Mission)	Modest	\$539,400	\$645,384	0.52
2015 Canoe Slalom World Championships (Lee Valley, UK)	Modest	\$459,665	\$543,900	0.27
Average	Modest	\$587,414	\$689,726	1.66
2021 Bermuda Championship PGA Tour (Bermuda)	Small	\$401,665	\$424,925	0.09
2012 Glasgow Gymnastics World Cup (Glasgow, UK)	Small	\$244,969	\$301,532	2.31
2013 Canadian Collegiate Athletic Association Women's Soccer National Championship (Surrey)	Small	\$229,454	\$279,904	1.08
2014 Taekwondo World Grand Prix (Manchester, UK)	Small	\$89,945	\$107,618	0.12
2021 World Para Nordic Skiing World Cup (Canmore)	Small	\$45,877	\$48,534	0.03
Average	Small	\$202,382	\$232,503	0.73

Also shown in Table 5 is the ratio of visitor spending to event cost, i.e., the estimated visitor spending divided by the total of infrastructure spending and operational spending. The ratio of visitor spending to event cost is a measure of the “tourism return” from the event, as it represents the amount of tourism revenue generated per dollar of event hosting cost invested,

It is interesting to note that for the events examined the visitor spending generally exceeded the total event costs for large, medium, and modest sized events. For super events examined, the visitor spending was generally much less than the total event costs, because the event costs tended to be exceedingly high. Consequently, while super events may generate substantial amounts of tourism spending, the infrastructure and operational costs incurred by the event tend to be much greater still. For small events examined, the visitor spending also tended to be less than the total event costs but for a different reason than for super events. Small events generate small amounts of tourism spending; consequently, despite having small infrastructure and operating costs, the amount of tourism spending is yet smaller.

We selected a subsample of fifteen of the past events for near-term economic impact modelling of visitor spending. As displayed in the following table, the average estimated total output, total GDP, and total employment from visitor spending for the past events in the subsample were:²⁸

- \$300.4 million in output, \$168.1 million in GDP, and 2,590 jobs for a super event.
- \$51.2 million in output, \$28.9 million in GDP, and 434 jobs for a large event.
- \$2.8 million in output, \$1.6 million in GDP, and 24 jobs for a medium event.
- \$1.1 million in output, \$0.6 million in GDP, and 9 jobs for a modest event.
- \$0.3 million in output, \$0.1 million in GDP, and 2 jobs for a small event.

²⁸ Output and GDP are expressed in 2022 Canadian dollars. Jobs are full year jobs.

Table 6. Visitor Economic Impacts (Output, GDP, and Employment)

Event	Visitor Category	Total Output (Est. 2022 CAD)	Total GDP (Est. 2022 CAD)	Total Employment
2010 Winter Games (Vancouver)	Super	\$463,321,505	\$257,555,985	4,047
2026 Winter Games (Calgary bid)	Super	\$372,151,261	\$207,029,970	3,246
2019 Rugby World Cup Japan	Super	\$198,619,258	\$111,488,452	1,726
2017 IAAF World Championships (London)	Super	\$167,584,393	\$96,349,557	1,343
Average	Super	\$300,419,104	\$168,105,991	2,590
2018 Union Cycliste International Road World Championships (Innsbruck)	Large	\$85,310,096	\$48,658,333	692
2015 FIFA Women's World Cup (Vancouver)	Large	\$52,172,787	\$29,002,352	456
2019 Canada Winter Games (Red Deer)	Large	\$35,391,024	\$20,035,060	309
2019 IIHF World Junior Championships (Vancouver and Victoria)	Large	\$31,780,000	\$17,886,233	280
Average	Large	\$51,163,477	\$28,895,495	434
2018 Grand Prix of Figure Skating Final (Vancouver)	Medium	\$3,432,288	\$1,949,347	30
2021 Canadian Country Music Awards (London Ont.)	Medium	\$2,098,378	\$1,168,031	18
Average	Medium	\$2,765,333	\$1,558,689	24
2014 BC Summer Games (Nanaimo)	Modest	\$1,355,590	\$763,486	12
2018 World Mixed Curling Championship (Kelowna)	Modest	\$1,027,139	\$595,438	8
2014 BC Winter Games (Mission)	Modest	\$1,018,287	\$577,974	9
Average	Modest	\$1,133,672	\$645,633	9
2013 Canadian Collegiate Athletic Association Women's Soccer National Championship (Surrey)	Small	\$440,856	\$247,750	4
2021 World Para Nordic Skiing World Cup (Canmore)	Small	\$75,005	\$42,318	1
Average	Small	\$257,931	\$145,034	2

As displayed in the following table, the average estimated federal, provincial, and municipal revenues from visitor spending for the past events in the subsample were:²⁹

- \$24.79 million in federal revenue, \$23.82 million in provincial revenue, and \$5.38 million in municipal revenue for a super event.
- \$4.28 million in federal revenue, \$4.42 million in provincial revenue, and \$1.12 million in municipal revenue for a large event.
- \$0.23 million in federal revenue, \$0.23 million in provincial revenue, and \$0.06 million in municipal revenue for a medium event.
- \$0.09 million in federal revenue, \$0.10 million in provincial revenue, and \$0.02 in municipal revenue for a modest event.
- \$0.02 million in federal revenue, \$0.02 million in provincial revenue, and \$0.00 in municipal revenue for a small event.

²⁹ Government revenues are expressed in 2022 Canadian dollars.

Table 7. Visitor Economic Impacts (Government Revenues)

Event	Visitor Category	Total Federal Revenues (Est. 2022 CAD)	Total Provincial Revenues (Est. 2022 CAD)	Total Municipal Revenues (Est. 2022 CAD) ³⁰
2010 Winter Games (Vancouver)	Super	\$37,957,867	\$35,586,723	\$9,384,137
2026 Winter Games (Calgary bid)	Super	\$30,525,424	\$28,746,709	\$4,778,887
2019 Rugby World Cup Japan	Super	\$16,444,216	\$16,084,317	\$3,872,826
2017 IAAF World Championships (London)	Super	\$14,220,402	\$14,869,370	\$3,483,063
Average	Super	\$24,786,977	\$23,821,780	\$5,379,728
2018 Union Cycliste International Road World Championships (Innsbruck)	Large	\$7,393,118	\$8,104,545	\$2,243,949
2015 FIFA Women's World Cup (Vancouver)	Large	\$4,274,284	\$4,007,279	\$1,056,710
2019 Canada Winter Games (Red Deer)	Large	\$2,867,411	\$2,943,218	\$487,650
2019 IIHF World Junior Championships (Vancouver and Victoria)	Large	\$2,585,417	\$2,619,690	\$674,275
Average	Large	\$4,280,057	\$4,418,683	\$1,115,646
2018 Grand Prix of Figure Skating Final (Vancouver)	Medium	\$279,194	\$287,644	\$74,037
2021 Canadian Country Music Awards (London Ont.)	Medium	\$172,490	\$166,338	\$39,248
Average	Medium	\$225,842	\$226,991	\$56,642
2014 BC Summer Games (Nanaimo)	Modest	\$110,510	\$111,038	\$24,675
2018 World Mixed Curling Championship (Kelowna)	Modest	\$90,830	\$108,021	\$31,702
2014 BC Winter Games (Mission)	Modest	\$83,131	\$86,503	\$14,269
Average	Modest	\$94,824	\$101,854	\$23,548
2013 Canadian Collegiate Athletic Association Women's Soccer National Championship (Surrey)	Small	\$36,167	\$35,619	\$7,934
2021 World Para Nordic Skiing World Cup (Canmore)	Small	\$6,304	\$6,725	\$1,077
Average	Small	\$21,236	\$21,172	\$4,506

³⁰ Includes hotel room tax revenues.

7 LONG-TERM ECONOMIC IMPACTS, SOCIAL AND COMMUNITY BENEFITS, DESTINATION MARKETING BENEFITS, AND ENVIRONMENTAL BENEFITS

7.1 Long-Term Economic Impacts

Long-Term Economic impacts are those that are anticipated to be realized in the months or years after an event. Our review of past studies found that very few events plan for or report achieving long-term economic impacts. Consequently, a systematic study of the long-term economic impacts of events was not possible. Rather, these impacts could only be reviewed in terms of anecdotal or event-specific reported impacts.

7.2 Social and Community Benefits

Social and Community Benefits include a wide range of benefits, including such things as increased participation in arts, culture and sports activities, promotion of civic, regional, and national pride, area revitalization, creation of skills training programs, and the advancement of community social diversity objectives. In Canada, there is also strong interest using major events as a means to advance reconciliation with Indigenous communities.

Our review of past studies found that very few events plan for or report achieving social and community benefits. Consequently, a systematic study of social and community benefits from events was not possible. Rather, these benefits could only be reviewed in terms of anecdotal or event-specific reported impacts.

7.3 Destination Marketing Benefits

Destination marketing benefits include such things as promotion of a location as a visitor destination and increased media exposure through both traditional and social media. Our review of past studies found that except for very large events, few events plan for or report achieving destination marketing benefits. Consequently, a systematic study of destination marketing benefits from events was not possible. Rather, these benefits could only be reviewed in terms of anecdotal or event-specific reported benefits.

An example of anecdotal event-specific destination marketing benefits was seen from the 2010 Winter Games. An estimated 3.5 billion people watched the Games on TV, the internet or mobile making them the most-watched Winter Games in history³¹ Over 2,000 domestic and international media were based at the Province's BCMC at Robson Square, broadcasting around the world, facilitating extensive profile for B.C. through shows like Oprah, NBC News, and the Today Show. An end-of-Games report by VANOC estimated that the Games generated \$250 million in equivalent ad value exposure through earned media.

7.4 Environmental Benefits

Environmental benefits include raised awareness of environmental objectives, acceleration of the adoption of low-carbon innovations, and the implementation of new environmental standards. Our review of past studies found that in the past, except for very large events, few events planned for or reported

³¹ IOC report.

achieving environmental benefits. However, awareness of environment benefits appears to have increased markedly recently. As noted by a consortium of event organizations in the UK:³²

Similarly, we also make the case that even the most insignificant events should consider implementing strategies to at least monitor, if not manage, their environmental consequences which is becoming increasingly central to the organisation of human society.

³² An Evaluative Framework to Assess and Measure the Impact and Benefits of Hosting Major Events – eventIMPACTS, a collaboration between UK Department for Culture, Media and Sport, Discover Northern Ireland, EventScotland, London & Partners, UK Sport, and Welsh Government.

8 REVIEW OF PAST MAJOR EVENTS HOSTED IN METRO VANCOUVER

As noted earlier, one of the goals of the study was to carry out a review of the value of hosting past major events across the Metro Vancouver Region. Due to a lack of published reports, our review was limited to a sample of eight events: 2010 Winter Games (Vancouver), 2015 Women's World Cup (Vancouver), 2019 IIHF World Junior Championships (Vancouver and Victoria), 2018 Grand Prix of Figure Skating Final (Vancouver), 2014 BC Summer Games (Nanaimo), 2018 World Mixed Curling Championship (Kelowna), 2014 BC Winter Games (Mission), and 2013 Canadian Collegiate Athletic Association Women's Soccer National Championship (Surrey).

8.1 Near-term Economic Impacts

The following table summarizes the near-term economic impacts that were reported for the eight events in past published studies.

Table 8. Published Near-Term Economic Impacts of Past Events in BC

Event	Total Output (millions)	Total GDP (millions)	Total Employment ³³	Total Tax Revenues (millions)
2010 Winter Games (Vancouver)	not available	\$2,070 to \$2,560	38,530 to 51,510	\$459.0 to \$570.0
2015 FIFA Women's World Cup (Vancouver)	\$118.8	\$59.0	850	\$26.9
2019 IIHF World Junior Championships (Vancouver and Victoria)	\$43.8	\$23.4	221	\$6.8
2018 Grand Prix of Figure Skating Final (Vancouver)	not available	not available	not available	not available
2014 BC Summer Games (Nanaimo)	\$4.0	not available	not available	\$0.4
2018 World Mixed Curling Championship (Kelowna)	\$1.2	\$0.7	7	\$0.2
2014 BC Winter Games (Mission)	\$3.3	not available	not available	\$0.4
2013 Canadian Collegiate Athletic Association Women's Soccer National Championship (Surrey)	\$1.0	\$0.5	7	\$0.2
Average (including 2010 Winter Games)	\$28.7	\$430.7 to \$528.7	7,923 to 10,519	\$70.6 to \$86.4
Average (not including 2010 Winter Games)	\$28.7	\$20.9	271	\$5.8

As displayed in the above table, there was a wide range of published near-term economic impacts for these events, with few of the events providing a complete set of economic impact measures. As well, the near-term economic impacts for the different events were estimated using different economic impact models (four in total), which further hindered the comparability of the published results.

³³ Employment is reported in full year jobs.

The following table summarizes the estimated visitor spending for the eight events, both at the time of the event and converted into 2022 CAD. Also shown in the table is the ratio of visitor spending to event cost, i.e., the estimated visitor spending divided by the total of infrastructure spending and operational spending. The ratio of visitor spending to event cost is a measure of the “tourism return” from the event, as it represents the amount of tourism revenue generated per dollar of event hosting cost invested.

Table 9. Visitor Spending for BC Events

Event	Visitor Category	Visitor Spending at Time of Event	Visitor Spending (Est. 2022 CAD)	Ratio of Visitor Spending to Event Cost
2010 Winter Games (Vancouver)	Super	\$228,000,000	\$293,170,815	0.07
2015 FIFA Women's World Cup (Vancouver)	Large	\$27,900,000	\$33,012,796	1.11
2019 IIHF World Junior Championships (Vancouver and Victoria)	Large	\$18,356,607	\$20,219,263	2.13
2018 Grand Prix of Figure Skating Final (Vancouver)	Medium	\$1,946,028	\$2,185,270	not available
2014 BC Summer Games (Nanaimo)	Modest	\$720,501	\$862,069	0.58
2018 World Mixed Curling Championship (Kelowna)	Modest	\$630,090	\$707,552	5.25
2014 BC Winter Games (Mission)	Modest	\$539,400	\$645,384	0.52
2013 Canadian Collegiate Athletic Association Women's Soccer National Championship (Surrey)	Small	\$229,454	\$279,904	1.08
Average (including 2010 Winter Games)		\$34,790,260	\$43,885,382	1.53
Average (not including 2010 Winter Games)		\$7,188,869	\$8,273,177	1.78

As can be seen in the above table, when expressed in 2022 CAD, visitor spending at the events averaged \$43.9 million (or \$8.3 million if the 2010 Winter Games are excluded).

The following two tables summarize the estimated economic impacts from visitor spending for the eight events.³⁴

Table 10. Visitor Economic Impacts (Output, GDP, and Employment)

Event	Visitor Category	Total Output (Est. 2022 CAD)	Total GDP (Est. 2022 CAD)	Total Employment ³⁵
2010 Winter Games (Vancouver)	Super	\$463,321,505	\$257,555,985	4,047
2015 FIFA Women's World Cup (Vancouver)	Large	\$52,172,787	\$29,002,352	456
2019 IIHF World Junior Championships (Vancouver and Victoria)	Large	\$31,780,000	\$17,886,233	280
2018 Grand Prix of Figure Skating Final (Vancouver)	Medium	\$3,432,288	\$1,949,347	30
2014 BC Summer Games (Nanaimo)	Modest	\$1,355,590	\$763,486	12
2018 World Mixed Curling Championship (Kelowna)	Modest	\$1,027,139	\$595,438	8
2014 BC Winter Games (Mission)	Modest	\$1,018,287	\$577,974	9
2013 Canadian Collegiate Athletic Association Women's Soccer National Championship (Surrey)	Small	\$440,856	\$247,750	4
Average (including 2010 Winter Games)		\$69,318,557	\$38,572,321	606
Average (not including 2010 Winter Games)		\$13,032,421	\$7,288,940	114

Table 11. Visitor Economic Impacts (Government Revenues)

Event	Visitor Category	Total Federal Revenues (Est. 2022 CAD)	Total Provincial Revenues (Est. 2022 CAD)	Total Municipal Revenues (Est. 2022 CAD) ³⁶
2010 Winter Games (Vancouver)	Super	\$37,957,867	\$35,586,723	\$9,384,137
2015 FIFA Women's World Cup (Vancouver)	Large	\$4,274,284	\$4,007,279	\$1,056,710
2019 IIHF World Junior Championships (Vancouver and Victoria)	Large	\$2,585,417	\$2,619,690	\$674,275
2018 Grand Prix of Figure Skating Final (Vancouver)	Medium	\$279,194	\$287,644	\$74,037
2014 BC Summer Games (Nanaimo)	Modest	\$110,510	\$111,038	\$24,675
2018 World Mixed Curling Championship (Kelowna)	Modest	\$90,830	\$108,021	\$31,702
2014 BC Winter Games (Mission)	Modest	\$83,131	\$86,503	\$14,269
2013 Canadian Collegiate Athletic Association Women's Soccer National Championship (Surrey)	Small	\$36,167	\$35,619	\$7,934
Average (including 2010 Winter Games)		\$5,677,175	\$5,355,315	\$1,408,467
Average (not including 2010 Winter Games)		\$1,065,648	\$1,036,542	\$269,086

³⁴ Please note that in some cases the estimated employment created from visitor spending exceeds the employment reported by the event. This is due to differences in economic impact modelling methodology.

³⁵ Full year jobs.

³⁶ Includes local hotel room tax revenues.

8.2 Long-Term Economic Impacts

Of the eight events reviewed, long-term economic impacts were reported for only the 2010 Winter Games. Long-term economic impacts included the creation of business opportunities for local businesses through the BC Government's hosting program and the fostering of business expertise through the operations of the 2010 Commerce Centre as well as the enablement of future event hosting at sport facilities constructed for the 2010 Games.³⁷

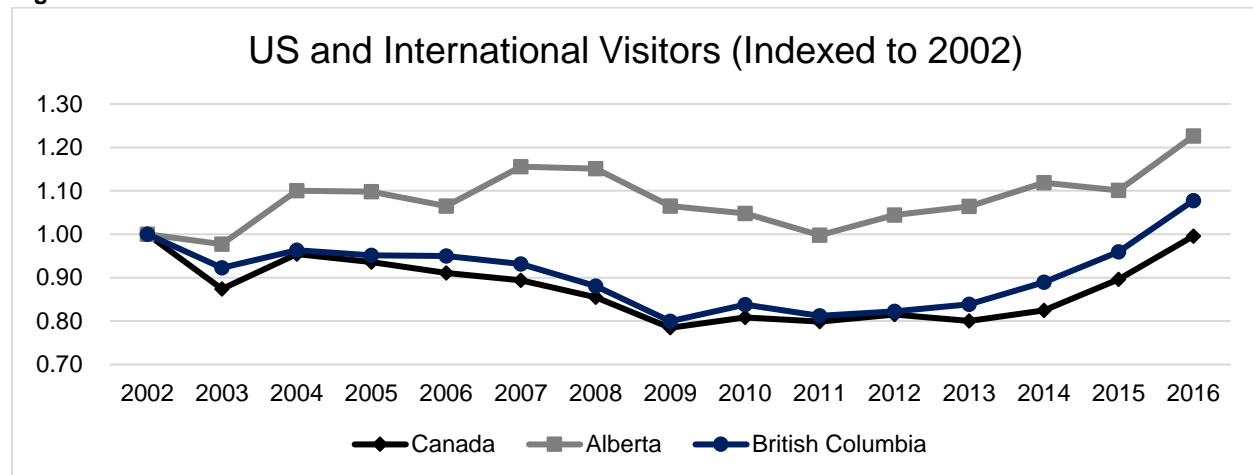
It has sometimes been asserted that the 2010 Winter Games resulted in a sustained increase in tourism to BC in the years after the event. However, while instances undoubtedly exist of some visitors being inspired to visit BC due to the images broadcast during the 2010 Winter Games, and while Games-related infrastructure projects such as the Richmond Olympic Oval and Whistler Olympic Park have served to attract visitors to specific communities, there is no compelling evidence of a province-wide, post-Games tourism increase.³⁸

The 2013 OGI-UBC Post Games Report reviewed the levels of tourism experienced in Metro Vancouver in the years surrounding the 2010 Winter Games and reached the following conclusion:

Tourist nights, 2000-2011: Minimal increase (if at all) in number of overnight tourists in Greater Vancouver during the event year (compared to non-event regions). 1998-2011: No Olympic Host advantage for Greater Vancouver re: how long visitors stayed during the event year.

The following chart compares the number of US and International Visitors (indexed to 2002 levels) for Canada, Alberta, and BC.

Figure 1. US and International Visitors



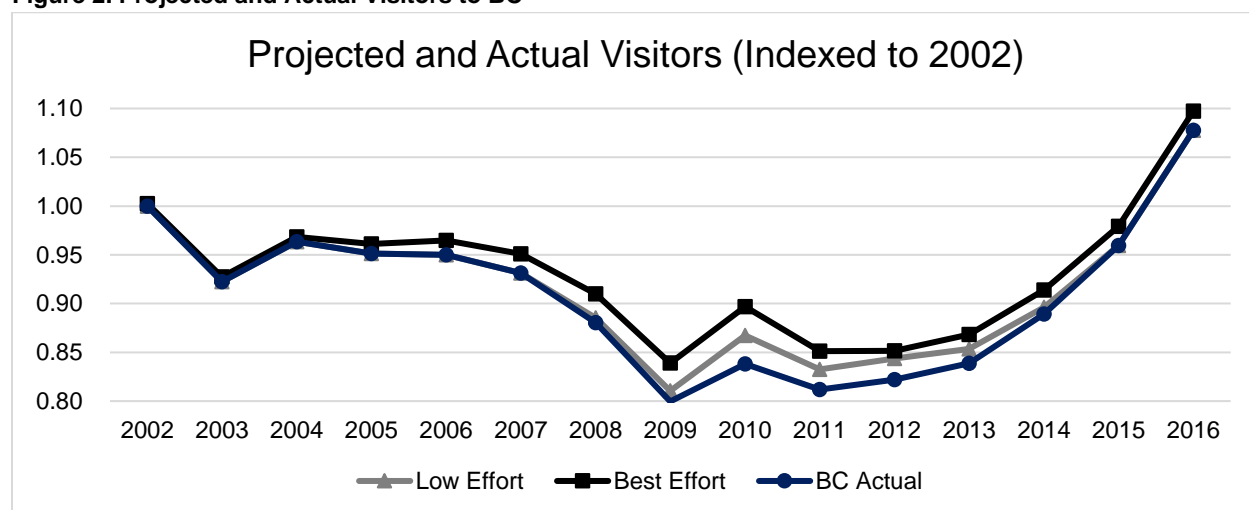
As displayed in the chart, US, and International visitations to BC in the years surrounding the 2010 Winter Games did not grow at rates that were substantially higher than corresponding rates in Alberta and Canada.

³⁷ British Columbia's Investments in the 2010 Olympic and Paralympic Winter Games and Related Activities (BC Olympic and Paralympic Winter Games Secretariat, July 2010).

³⁸ Note that the expansion of the Vancouver Convention Centre has resulted in an increased capacity to attract and host conventions. The Province's stated position is that while the expansion complemented the 2010 Winter Games, it was not an Olympic project.

The following chart compares the actual number of US and International visitors to BC with the projections of visitors that were made by the Province in the years before the hosting of the Games. (The projections included scenarios entitled Low Tourism Marketing Effort, and Best Tourism Marketing Effort. The scenarios reflected different levels of tourism marketing effort expended by BC destination marketing organizations in connection with the 2010 Winter Games.) As can be seen from the chart, the actual number of US and International visitors to BC was lower than even the lowest projection made by the Province.

Figure 2. Projected and Actual Visitors to BC



8.3 Social and Community Benefits

Of the eight events reviewed, social and community benefits were reported for only the 2010 Winter Games. As documented in the OGI and PwC reports, some of the reported social and community benefits included increased participation in sports activities, performances by arts and cultural organizations, and the creation of legacy sports and cultural infrastructure. Most notably, the 2010 Winter Games resulted in the participation of First Nations as full partners in the Olympic and Paralympic Games and the showcasing of Indigenous culture and art in the torch relays, ceremonies, and medal designs.³⁹

8.4 Destination Marketing Benefits

Of the eight events reviewed, destination marketing benefits were reported for only the 2010 Winter Games. As documented in the OGI and PwC reports, some of the reported benefits included that an estimated 3.5 billion people watched the Games on TV, the internet or mobile making them the most-watched Winter Games in history. An end-of-Games report by VANOC estimated that the Games generated \$250 million in equivalent ad value exposure through earned media.

8.5 Environmental Benefits

Of the eight events reviewed, environmental benefits were reported for only the 2010 Winter Games. Environmental benefits from the 2020 Winter Games included the offset of the 2010 Winter Games direct carbon footprint through a first-ever carbon offset sponsorship. Environmental benefits were reported in the

³⁹ An extensive description of the social and community benefits of the 2010 Winter Games is presented in the PwC Reports.

OGI and PwC reports and were documented in detail in a series of sustainability reports published by VANOC.⁴⁰

9 RECOMMENDED APPROACH FOR CLASSIFICATION, MEASUREMENT, AND REPORTING

9.1 Recommended Classification System

It would be helpful to classify events in terms of their overall complexity and in terms of their ability to increase tourism. Complexity-based classification provides information on the overall scope and community effort required with hosting an event, while tourism-based classification provides information that is most useful for tourism planning and event marketing. The following table summarizes the recommended classification system.

Table 12. Complexity-based and Tourism-based Classification

Complexity Category	Description
Mega	International events and competitions that attract a large number of domestic and international visitors, have a large mediated reach, come with large public investment, and have large impacts on the built environment and the population.
Major	International competitions and national events and competitions that attract a substantial number of visitors, provide broad mediated reach, require public investment, and impact the built environment and the population.
Significant	National and province-wide events that attract primarily domestic visitors, provide some mediated reach, require some public investment, and may impact the built environment and the population.
Standard	Regional and local events that attract primarily BC visitors, provide a mediated reach, require limited public investment, and are unlikely to impact the built environment and the population.
Tourism Category	Description
Super	Event generates over \$100 million in visitor spending (in 2022 CAD)
Large	Event generates between \$10 and \$100 million in visitor spending (in 2022 CAD)
Medium	Event generates between \$1 and \$10 million in visitor spending (in 2022 CAD)
Modest	Event generates between \$0.5 and \$1 million in visitor spending (in 2022 CAD)
Small	Event generates under \$0.5 million in visitor spending (in 2022 CAD)

9.2 Recommended Measurement System

An effective measurement system requires the consistent collection of data and information that enables the assessment of events in terms of near-term economic impacts, long-term economic impacts, destination marketing benefits, and social and community benefits. The following table describes the data and information that we recommend be collected from events as a basis for an effective measurement system.

⁴⁰ See for example the Vancouver 2020 Sustainability Report, 2009-10.

Table 13. Recommended Data and Information to be Collected from Events

Data or Information	Category of Impacts/Benefits	Details
Number of event spectators.	Near-Term Economic Impacts	Percent of event spectators that are from BC, percent that are domestic visitors from other parts of Canada, and percent that are international visitors
Visitor Spending.	Near-Term Economic Impacts	Total spending is acceptable, as typical visitor spending profiles can be used. However, if possible, broken into spending categories (such as accommodation, food and beverage, transportation, retail, recreation, and other).
Operational Spending	Near-Term Economic Impacts	Total spending is acceptable. However, if possible broken into standard accounting categories (such as salaries, equipment, transportation, and other).
Infrastructure Spending	Near-Term Economic Impacts	Total event spending on new construction, renovations, and refurbishment.
Value and percent of event operational and infrastructure spending going to local businesses.	Near-Term and Long-Term Economic Impacts	Although the value and percent of spending going to local businesses occurs in the near-term, it can also be viewed as a leading indicator of long-term economic impacts.
Description of any planned initiatives to foster growth of local businesses.	Near-Term and Long-Term Economic Impacts	Although planned initiatives to foster growth of local businesses occur in the near-term, they can also be viewed as a leading indicator of long-term economic benefits
Description of any planned investment in transportation, communication, or other economic development enabling infrastructure	Near-Term and Long-Term Economic Impacts	Although these types of investments and initiatives occur in the near-term, they can also be viewed as a leading indicator of long-term economic benefits
Description of local community engagement/participation plan	Social and Community	Adoption and implementation of a community engagement/participation plan should be a goal of each event.
Description of Indigenous engagement/participation plan	Social and Community	Adoption and implementation of an Indigenous engagement/participation plan should be a goal of each event.
Description of skills training programs.	Social and Community	Identification of any skills training programs associated with the event.
Description of investments in grassroots programs.	Social and Community	Identification of any grassroots programs associated with the event.
Number of viewers on traditional media.	Destination Marketing	Media exposure can be viewed as a leading indicator of visitor attraction.
Number of viewers on non-traditional media	Destination Marketing	Media exposure can be viewed as a leading indicator of visitor attraction.
Description of efforts on social media and/or website to promote host city/region as destination.	Destination Marketing	Media exposure can be viewed as a leading indicator of visitor attraction.
Description of strategy to encourage attendees to use sustainable transport	Environment	Minimization of an event's carbon footprint should be a goal of each event.
Description of sustainable procurement code in place for all products and services	Environment	Adoption of sustainable practices should be a goal of each event.

9.3 Recommended Reporting System

An effective reporting system requires events to report in as consistent a fashion as possible, while allowing for flexibility to account for differing levels of event complexity and hosting capacity. The following table summarizes our recommended reporting system.

Table 14. Recommended Reporting from Events

Reporting	Description
Total infrastructure spending	Total event spending on new construction, renovations, and refurbishment. If possible, a breakdown of spending by source should be provided (e.g., event revenue, federal government funding, provincial government funding, and local government funding).
Total operational spending	Total spending is acceptable. However, if possible broken into standard accounting categories (such as salaries, equipment, transportation, and other).
Estimated visitor spending	Total spending is acceptable, as typical visitor spending profiles can be used. However, if possible, broken into spending categories.
Near-term economic impacts	If events have carried out economic impact studies, the published results should include output, GDP, and jobs, and should be reported separately for impacts from infrastructure spending, operations spending, and visitor spending. As well, the economic impact models and modelling approaches used should be reported.
Long-term economic benefits	Events should publish descriptions of their anticipated long-term economic benefits, including, at a minimum, the types of benefits listed in Table 13.
Social and community benefits	Events should publish descriptions of their social and community benefits, including, at a minimum, the types of benefits listed in Table 13.
Destination marketing benefits	Events should publish descriptions of their destination marketing benefits, including, at a minimum, the types of benefits listed in Table 13.
Environmental benefits	Events should publish descriptions of their environmental benefits, including, at a minimum, the types of benefits listed in Table 13.

9.4 Additional Recommendation

At present, there is no “central library” in BC that contains data and studies regarding past major events. Without such a library it is difficult to obtain reliable information on the experiences of past major events or to use that information as a guide for projecting the impacts and benefits from future events. Consideration should be given to the creation of such a central library, as it would provide a valuable resource of knowledge transfer for event proponents, tourism organizations, and government agencies.

APPENDIX A. REPORTS REVIEWED

The following table lists the reports reviewed during the study.

Table A1. Reports Reviewed

No.	Event	Report Title	Report Focus
1	2010 Winter Games	The Games Effect. Seven reports over 3 years. (PwC)	Wide Range of Economic and Community Impacts
2	2010 Winter Games	Olympic Games Impact Study. Three reports. (UBC)	Wide Range of Economic and Community Impacts
3	2010 Winter Games	Vancouver 2010 Sustainability Report (VANOC)	Wide Range of Economic and Community Impacts
4	2010 Winter Games	Olympics Costs and Benefits (Canadian Centre for Policy Alternatives)	Cost - Benefit Analysis
5	2010 Winter Games	Staging the Olympic Winter Games Knowledge Report. (VANOC)	Community and Legacy Impacts
6	2010 Winter Games	BC's Investments in the 2010 Games	Economic and Community Impacts
7	2011 Rugby World Cup New Zealand	Impact Report (Ministry of Business, Innovation and Employment, KPMG)	Wide Range of Economic and Community Impacts
8	2012 Summer Games (London)	Olympic Games Impact Study - London 2012. (Economic & Social Research Council)	Wide Range of Economic and Community Impacts
9	2015 FIFA Women's World Cup Canada	Economic Impact Assessment (Canadian Sport Tourism Alliance)	Economic Impact
10	2015 Edinburgh's Festivals 2015	Economic Impacts and Visitor Experience	Economic and Visitor Impacts
11	2015 Cricket World Cup (Australia and New Zealand)	Economic Impact and Benefits Analysis (PwC)	Economic Impact (some Community Impacts)
12	2017 IAAF World Championships (London)	Economic Impact Report (The Sports Consultancy)	Economic and Community Impacts
13	2017 America's Cup (New Zealand)	Impact Assessment (FreshInfo)	Wide Range of Economic and Community Impacts
14	2017 America's Cup (New Zealand)	Leverage and Legacy Report (Auckland Unlimited)	Wide Range of Economic and Community Impacts
15	2019 Rugby World Cup Japan	Economic Impact (Ernst & Young)	Economic Impact
16	2026 Winter Games (Calgary bid)	Calgary Olympic Bid and Canadian Heritage Review	Economic and Community Impacts
17	2005 FINA World Championships (Montreal)	Economic Impact Assessment (Canadian Sport Tourism Alliance)	Economic Impacts
18	2011 Canada Winter Games	2011 Canada Winter Games Economic Impact Assessment Sport Tourism Canada.	Economic Impact
19	2012 IIHF World Junior Championship (Edmonton and Calgary)	Economic Impact Assessment (Canadian Sport Tourism Alliance)	Economic Impacts
20	2018 Union Cycliste International Road World Championships (Innsbruck)	Economic Impact of Major UCI Cycling Events (EY)	Economic Impacts and Destination Marketing
21	2018 Grand Prix of Figure Skating Final	Response Data Summary Report (Eventcorp Services)	Survey Report
22	2019 IIHF World Junior Championships (Vancouver and Victoria)	Economic Impact Assessment (Canadian Sport Tourism Alliance)	Economic Impact (some Community Impacts)

No.	Event	Report Title	Report Focus
23	2019 Canada Winter Games	Economic Impact Assessment (Canadian Sport Tourism Alliance)	Economic Impact (some Community Impacts)
24	2021 Bermuda Championship Economic Assessment (Bermuda)	Economic Assessment (KPMG)	Economic Impacts
25	2012 Glasgow Gymnastics World Cup	Economic Impacts and Visitor Experience	Economic and Visitor Impacts
26	2014 Taekwondo World Grand Prix	Economic Impacts and Visitor Experience	Economic and Visitor Impacts
27	2014 BC Summer Games	2014 BC Summer Games Economic Impact Analysis. Economic Planning Group	Economic Impact
28	2014 BC Winter Games	2014 BC Winter Games Economic Impact Analysis. Economic Planning Group	Economic Impact
29	2015 Canoe Slalom World Championships	Economic Impacts and Visitor Experience	Economic and Visitor Impacts
30	2016 UCI Mountain Bike World Cup	Economic Impacts and Visitor Experience	Economic and Visitor Impacts
31	2018 World Mixed Curling Championship	Economic Impact Assessment (Canadian Sport Tourism Alliance)	Economic Impact (some Community Impacts)
32	2019 Scotties Tournament of Hearts	Economic Impact Assessment (Canadian Sport Tourism Alliance)	Economic Impact (some Community Impacts)
33	2020 Arctic Winter Games	Economic Impact Assessment (Canadian Sport Tourism Alliance)	Economic Impact
34	2021 Canadian Olympic Curling Trials	Economic Impact Assessment (Canadian Sport Tourism Alliance)	Economic Impact (some Community Impacts)
35	2013 Canadian Collegiate Athletic Association Women's Soccer National Championship (Surrey BC)	Economic Impact Assessment. Destination BC and Sport Tourism Canada	Economic Impact
36	2016 Lumiere London	Economic Impacts and Visitor Experience	Economic and Visitor Impacts
37	2015 RideLondon	Economic Impacts and Visitor Experience	Economic and Visitor Impacts
38	2015 Cardiff Half Marathon	Economic Impacts and Visitor Experience	Economic and Visitor Impacts
39	2016 Hay Festival	Economic Impacts and Visitor Experience	Economic and Visitor Impacts
40	2019 Devour Food Film Festival	Economic Impact Assessment (Paradigm Consulting Group)	Economic Impacts (some Community Impacts)
41	2019 Grandma's Marathon Weekend (Duluth)	Economic Contribution of Grandma's Marathon Weekend (University of Minnesota)	Economic and Visitor Impacts
42	2019 National Youth Track & Field Championships (Sydney)	Economic Impact Assessment (Canadian Sport Tourism Alliance)	Economic Impacts
43	2021 Canadian Country Music Awards	Economic Impact Assessment (Canadian Sport Tourism Alliance)	Economic Impact (some Community Impacts)
44	2021 World Para Nordic Skiing World Cup	Economic Impact Assessment (Canadian Sport Tourism Alliance)	Economic Impact (some Community Impacts)
45	2022 Proposed Sport Event Vancouver	Economic Impacts (Destinations International)	Economic Impacts
46	2022 Proposed Convention Vancouver	Economic Impacts (Destinations International)	Economic Impacts
47	2022 Proposed Event Vancouver	Economic Impacts (Destinations International)	Economic Impacts

No.	Event	Report Title	Report Focus
48	2022 Proposed Event Ontario	Economic Impacts (Ontario Ministry of Heritage, Sport, Tourism and Culture Industries)	Economic Impacts
49	2022 Proposed Event BC	Economic Impacts (Department of Canadian Heritage)	Economic Impacts
50	Sport Tourism (Tourism Business Essentials)	Introduction to Sport Hosting	Destination BC
51	Sport BC Report on Burnaby Sport Hosting	Progress Report and Recommendations	Sport BC
52	2010 Winter Games Business Hosting Program	Preliminary Report - Measuring Outcomes from the 2010 Business Hosting Program	BC Ministry of Small Business, Technology, and Economic Development
53	OECD Recommendation on Global Events and Local Development	Recommendation of the Council on Global Events and Local Development	OECD
54	OECD (2017) Major Events as Catalysts for Tourism	OECD Tourism Papers. Major Events as Catalysts for Tourism	OECD
55	Global Sports Events and Local Development	Principles for Leveraging Local Benefits from Global Sporting Events (OCED)	OECD
56	South Africa Festival Economic Impact Calculator	Guide to Using the Online South Africa Economic Impact Calculator	South African Cultural Observatory
57	2017 Economic Impact of Major Sports Events (Hong Kong)	Economic Impacts (KPMG)	Economic Impacts
58	2018 Progress Report	Progress Report	Sport Hosting Vancouver
59	2021 Common Indicators for Measuring the Impacts of Events	Indicators for a Wide Range of Economic and Community Impacts	Association of Summer Olympic International Federations
60	2021 Visitor Spending in Southeast Ontario	Economic Impacts (Ontario Ministry of Heritage, Sport, Tourism and Culture Industries)	Economic Impacts

APPENDIX B. ASOIF INDICATORS⁴¹

The following table lists the indicators used in the ASOIF framework. The indicators are grouped into the following categories: Economic (EC), Image (IM), Social (SO), Sport (SP), and Environmental (EN).

Table B1. ASOIF Indicators

Reference	KPI name	Unit	Input/Output/ Outcome indicator
EC-OUTCOME1a	Total additional visiting spectator expenditure	Currency	Outcome
EC-OUTCOME1b	Total additional visiting “attendee” expenditure	Currency	Outcome
EC-OUTCOME1c	Net organiser expenditure	Currency	Outcome
EC-OUTCOME2	GDP impact of hosting an event	Currency	Outcome
EC-OUTCOME3	Value of trade deals attributed to hosting the event	Currency	Outcome
EC-S1.1	No. of event days	Days	Input
EC-S1.2	No. of event venues	Venues	Input
EC-S2.1	No. of unique spectators from outside host economy	People	Output
EC-S2.2	Average length of stay in the host economy	Days	Output
EC-S2.3	Total bed nights in paid accommodation by visiting spectators	Nights	Output
EC-P1.1	Planned no. of nations participating	Nations	Input
EC-P1.2	Planned no. of athletes participating	People	Input
EC-P2.1	No. of visiting attendees who are not athletes or spectators	People	Output
EC-P2.2	Total bed nights by visiting “attendees”	Nights	Output
EC-OE1.1	Total budgeted event expenditure	Currency	Input
EC-OE1.2	Proportion of event budget funded by the public sector	%	Input
EC-OE2.1	Value of contracts to local suppliers	Currency	Output
EC-OE2.2	Proportion of event costs funded by commercial revenue	Currency	Output
EC-IN1.1	Total planned investment in infrastructure for long-term use	Currency	Input
EC-IN2.1	Money invested in venues & equipment for long-term use	Currency	Output
EC-IN2.2	Money invested in transport for long-term use	Currency	Output
IM-OUTCOME1	Increase in partner brand value as a result of the event	Currency	Outcome
IM-OUTCOME2	Value of new visitors as a result of the event	Currency	Outcome
IM-B1.1	Total potential TV household reach	Households	Input
IM-B1.2	No. of planned international broadcast territories	Nations	Input
IM-B2.1	Digital broadcast views (by session)	Views	Output
IM-B2.2	% of broadcast hours with gendered content dedicated to females	%	Output
IM-B2.3	% share of TV viewing audience (by market)	%	Output
IM-B2.4	Advertising Value Equivalent of broadcast media coverage	Currency	Output
IM-SM1.1	No. of social followers of the event/ event-owner (by channel)	Followers	Input
IM-SM1.2	No. of social media followers of event athletes (by channel)	Followers	Input
IM-SM2.1	No. of impressions of event-related content (by channel)	Impressions	Output
IM-SM2.2	No. of event-related posts (by channel)	Posts	Output

⁴¹ Common Indicators for Measuring the Impact of Events. First Edition, 2021. Association of Summer Olympic International Federations. (ASOIF).

Reference	KPI name	Unit	Input/Output/ Outcome indicator
IM-SM2.3	No. of engagements of event-related content (by channel)	Engagements	Output
IM-SM2.4	No. of new contacts due to the event	Contacts	Output
IM-P1.1	Plan in place to promote the event to targeted audiences	Yes/No	Input
IM-P2.1	No. of accredited media representatives attending the event	People	Output
IM-P2.2	No. of event-related articles (by market)	Articles	Output
IM-P2.3	% of articles with gendered content dedicated to females	%	Output
IM-P2.4	No. of unique website users	People	Output
IM-EE2.1	% of spectators satisfied	%	Output
IM-EE2.2	Net Promoter Score of spectators	Score	Output
IM-EE2.3	% likelihood to revisit (spectators)	%	Output
IM-EE2.4	% likelihood to visit (viewers)	%	Output
SO-OUTCOME1	Perceived benefit by local residents, expressed in financial terms	Currency	Outcome
SO-OUTCOME2	% change in community outcomes. reduction in crime rates during event	%	Outcome
SO-CE1.1	Targeted local community engagement plan in place	Yes/No	Input
SO-CE2.1	No. of local residents viewed or followed the event	People	Output
SO-CE2.2	Proportion of local residents proud	%	Output
SO-CE2.3	Proportion of local attendees happier as a result of the event	%	Output
SO-V1.1	Total planned no. of volunteers	People	Input
SO-V2.1	No. of volunteers from target segments of local population	People	Output
SO-V2.2	Average no. of hours volunteering per person	Hours	Output
SO-A1.1	Planned no. of attendees at free activity related to the event	People	Input
SO-A2.1	No. of attendees from target segments of local population	People	Output
SO-A2.2	Average no. of hours attending per person	Hours	Output
SO-O1.1	Planned no. of participants in outreach programmes	People	Input
SO-O1.2	Local community groups benefiting from outreach activity	Yes/No	Input
SO-O2.1	No. of participants from target segments of local population	People	Output
SO-O2.2	Average no. of hours participating per person	Hours	Output
SO-DI1.1	Equal opportunity policy in place	Yes/No	Input
SO-DI1.2	Athlete gender pay ratio M/F	%/%	Input
SO-DI2.1	% participants female	%	Output
SO-DI2.2	% participants from minority communities	%	Output
SO-DI2.3	% participants disabled	%	Output
SO-SD1.1	Targeted skills development plan in place	Yes/No	Input
SO-SD1.2	Public commitment to meeting international labour rights standards	Yes/No	Input
SO-SD2.1	No. of people trained in new skills	People	Output
SO-SD2.2	No. of people from target segments trained in new skills	People	Output
SP-OUTCOME1	No. of new participants in activity as a result of the event	People	Outcome
SP-OUTCOME2	Quantified value of health benefits resulting from new participation	Currency	Outcome
SP-SD1.1	Plan in place to increase capacity of local or national sports organisations	Yes/No	Input
SP-SD2.1	Money invested in grassroots programmes	Currency	Output

Reference	KPI name	Unit	Input/Output/ Outcome indicator
SP-SD2.2	Money invested in sport & recreation space for long-term use	Currency	Output
SP-SP1.1	Plan in place to promote sport & physical activity to targeted audiences	Yes/No	Input
SP-SP2.1	% residents inspired to do more sport/ physical activity	%	Output
EN-OUTCOME1	Net event carbon footprint (split renewable & offset)	CO2	Outcome
EN-EP1.1	Public commitment to environmental policies	Yes/No	Input
EN-EP1.2	Measurement of carbon footprint in place	Yes/No	Input
EN-EP2.1	ISO20121 accreditation	Yes/No	Output
EN-EP2.2	% of spectators reporting a positive change in behavior	%	Output
EN-T1.1	Strategy in place to encourage attendees to use sustainable transport	Yes/No	Input
EN-T2.1	% of spectators using public or sustainable transport	%	Output
EN-W1.1	Waste management plan in place	Yes/No	Input
EN-W2.1	% of event waste diverted from landfill	%	Output
EN-E1.1	Renewable energy plan in place	Yes/No	Input
EN-E2.1	% of energy used from renewable sources	%	Output
EN-P1.1	Sustainable Procurement Code in place for all products and services	Yes/No	Input
EN-P2.1	% of contracts awarded that comply with sustainability standards	%	Output
EN-P2.2	% of event food & drink ethically sourced	%	Output
EN-LB1.1	Local environmental initiatives in place	Yes/No	Input
EN-LB2.1	No. of initiatives delivered addressing local environments & biodiversity	Initiatives	Output

APPENDIX C. – BENEFITS QUESTIONNAIRE

To assist with the collection of information regarding long-term economic benefits, social and community benefits, destination marketing benefits, and environmental benefits, we have developed the following questionnaire that may be used by organizations involved with event hosting. The questionnaire is also contained in a companion Excel spreadsheet model that provides events with scores on these categories of benefits.

Table C1. Questionnaire for Assisting with the Collection of Benefits Information

Benefit	Question	Response
Long-Term Economic Benefit	Is there a plan to facilitate future business opportunities for BC local suppliers?	Yes/No
Long-Term Economic Benefit	What percentage of contracts will go to local suppliers (by value)?	Percent (5 categories) ⁴²
Long-Term Economic Benefit	Is there planned investment in transportation, communication, or other economic development enabling infrastructure for long-term use?	Yes/No
Long-Term Economic Benefit	Is there planned investment in venues & equipment for long-term use?	Yes/No
Social and Community	Does the event have a local community engagement/participation plan?	Yes/No
Social and Community	Does the event have an Indigenous engagement/participation plan?	Yes/No
Social and Community	Planned number of attendees at free activities related to the event	Number (four categories) ⁴³
Social and Community	Planned number of participants in outreach programs	Number (four categories) ⁴⁴
Social and Community	Will local community groups benefit from outreach activity?	Yes/No
Social and Community	Is there a skills development plan in place for volunteers and/hired personnel?	Yes/No
Social and Community	Total number of persons trained in new skills	Number (four categories) ⁴⁵
Social and Community	Number of Indigenous persons trained in new skills	Number (four categories) ⁴⁶
Social and Community	Will the event invest money in grassroots programs?	Yes/No
Social and Community	Will local participation in event-related activities increase as a result of the event?	Yes/No
Destination Marketing	Will the event be broadcast on conventional media?	Yes/No
Destination Marketing	Will the event be broadcast on other media?	Yes/No
Destination Marketing	Will the event have a social media presence that showcases the host city/region?	Yes/No
Destination Marketing	Will the event have a website that includes promotion of the host city/region?	Yes/No
Environment	Is there a strategy in place to encourage attendees to use sustainable transport?	Yes/No
Environment	Is there a waste management plan in place?	Yes/No
Environment	Is there a sustainable procurement code in place for all products and services?	Yes/No
Environment	Are local environmental initiatives being followed?	Yes/No

⁴² Suggested categories are: 0%-19%, 20%-39%, 40%-59%, 60%-79%, and 80% and over.

⁴³ Suggested categories are: 0-99, 100-299, 300-499, and 500 and over.

⁴⁴ Suggested categories are: 0-99, 100-299, 300-499, and 500 and over.

⁴⁵ Suggested categories are: 0-49, 50-99, 100-150, and 150 and over.

⁴⁶ Suggested categories are: 0-49, 50-99, 100-150, and 150 and over.

APPENDIX D. REVIEW OF EVENT ECONOMIC IMPACT MODELS

Overview of Selected Economic Impact Models

There are a variety of models that have been developed by organizations to estimate the economic impacts of events in Canada. Nearly all of these models follow an “input-output” approach and are based on economic multipliers that are produced by Statistics Canada. Despite this common starting point, however, the models differ in important ways in their use of multipliers, impact calculations, and reporting.

As part of this study, we reviewed six of these models that have been used by destination marketing organizations, event organizers, tourism operators, government agencies, and others to estimate the economic impacts of events. The six models were:

- **Event Impact Calculator (Destinations International).** This model is used by a number of Canadian destination marketing organizations, as well as destination marketing organizations in other countries. As the name suggests, the Event Impact Calculator is used mainly for estimating the economic impacts of events, meetings, and conventions.
- **Culture, Arts, Heritage, and Sport Economic Impact Model (Canadian Heritage).** The Culture, Arts, Heritage, and Sport Economic Impact Model (CAHSEIM) was developed by the Policy Research Group, Department of Canadian Heritage. The model is designed to evaluate the economic impacts of arts, culture, sport and heritage organizations, facilities, and events within and outside the province or territory where they are located.
- **Sport Tourism Economic Assessment Model (Sport Tourism Canada).** Sport Tourism Canada (formerly the Canadian Sport Tourism Alliance) has developed three tools called STEAM, STEAMPRO and FESTPRO to predict and estimate economic impacts of hosting a sport event, festival, exhibition or fair.
- **Tourism Regional Economic Impact Model (Ontario Ministry of Tourism, Culture and Sport).** The Tourism Regional Economic Impact Model (TREIM) was developed to estimate the economic impact of tourism activity in Ontario regions. Because the model produces Ontario-specific results, it should not, strictly speaking, be used to estimate economic impacts of tourism in other provinces. Nevertheless, in part because it has been made available to use free of charge via the internet, it has also been used to estimate economic impacts in other provinces.
- **BC Tourism Economic Input-Output Model (Destination BC).** The BC Tourism Economic Input-Output Model was created by Destination BC to estimate the economic impacts of tourism activities. Unlike the TREIM Model, the BC Tourism Economic Input-Output Model is not provided directly to the general public. Instead, organizations must submit their data to Destination BC, which then returns model results to the submitting organization.

The models and their features are summarized in the following sections.

Event Impact Calculator

The Event Impact Calculator is owned by Destinations International, which provides the following description of the model:

The Event Impact Calculator measures the economic value of an event and calculates its return on investment to local taxes. Armed with this information, destination organizations and CVBs are better prepared to make the case to policymakers and stakeholders for the ongoing development and growth of the events and meetings sectors. Updated annually, the calculator draws on ten different data sources to provide an industry-wide standard.⁴⁷

The key features of the Event Impact Calculator are summarized in the following table.

Table D1. Event Impact Calculator

Key Features	
Model Owner	Destinations International
Model Developer	Tourism Economics
Platform	Model is made available to member subscribers.
Cost	Annual fees for licensing one or more modules follow a rate structure based on the organization's annual operating budget. Fees range from approximately US\$2,000 to US\$17,000.
Economic Impact Estimates	labour income, employment, and tax revenues (federal, provincial, and local)
Other features	Has four event impact calculator modules: meetings, sports, festivals and cultural events, and local and public events.

Subscription to the Event Impact Calculator is available to Destinations International member organizations only. The following table lists the organizations in Canada that currently subscribe.

⁴⁷ <https://destinationsinternational.org/event-impact-calculator>.

Table D2. Canadian Subscribers to the Event Impact Calculator

Organization	City	Province	Subscription
Destination Canada	Vancouver	BC	Meetings
Destination Greater Victoria	Victoria	BC	Meetings, Sports, Festivals and Local & Public Events
Destination Vancouver	Vancouver	BC	Meetings, Sports, and Festivals
Tourism Kelowna	Kelowna	BC	Meetings, Sports, and Festivals
Tourism Richmond	Richmond	BC	Meetings, Sports, and Festivals
Edmonton EXPO Centre	Edmonton	AB	Local & Public Events
Explore Edmonton	Edmonton	AB	Meetings, Sports, Festivals and Local & Public Events
Fort McMurray Wood Buffalo Economic Development and Tourism	Fort McMurray	AB	Meetings, Sports, and Festivals
Tourism Calgary	Calgary	AB	Meetings, Sports, and Festivals
Travel Alberta	Calgary	AB	Meetings, Sports, and Festivals
Tourism Saskatoon	Saskatoon	SK	Meetings, Sports, and Festivals
Tourism Winnipeg Visitor & Convention Bureau	Winnipeg	MB	Meetings, Sports, and Festivals
Waterloo Regional Tourism Marketing Group	Kitchener	ON	Meetings, Sports, and Festivals
Ottawa Tourism	Ottawa	ON	Meetings, Sports, and Festivals
Destination Toronto	Toronto	ON	Meetings, Sports, Festivals and Local & Public Events
City of Brampton Tourism Office	Brampton	ON	Festivals
Tourism Montreal	Montreal	QC	Meetings
Discover Halifax	Halifax	NS	Meetings, Sports, and Festivals

CASHEIM Model

The Culture, Arts, Heritage, and Sport Economic Impact Model (CAHSEIM) was developed by the Policy Research Group, Department of Canadian Heritage. The model is designed to evaluate the economic impacts of arts, culture, sport and heritage organizations, facilities, and events within and outside the province or territory where they are located. This includes such organizations and facilities as museums, theatres, galleries, arenas, and historic sites, along with arts, culture, sport, and heritage related events such as performances, productions, presentations, and festivals.

CAHSEIM calculates the direct, indirect, induced as well as the total impacts of labour income, gross domestic product (GDP), employment (total jobs, and number of full-time equivalents) and revenues for taxes on products and taxes on production incurred by the expenditures attributable to an organization, festival, or event. Note that the tax estimates do not include income taxes.

CAHSEIM relies on Statistics Canada's Inter-provincial Input-Output Model, which takes into account inter-provincial/territorial trade, as well as provincial production and consumption of goods and services, and provides comparable multipliers and coefficients for each province and territory. The current version of CAHSEIM uses coefficients and multipliers for the base year 2018.

The key features of the Event Impact Calculator are summarized in the following table.

Table D3. CASHEIM Model

Key Features	
Model Owner	Policy Research Group, Department of Canadian Heritage
Model Developer	Policy Research Group, Department of Canadian Heritage
Platform	Available on-line: https://www.canada.ca/en/canadian-heritage/corporate/publications/general-publications/culture-arts-heritage-sport-economic-impact-model.html
Cost	No cost
Economic Impact Estimates	GDP, labour income, and employment. It includes some tax revenues (taxes on products and taxes on production) but excludes others (for example, income taxes). Tax revenues are reported at the federal, provincial, and municipal levels.
Other features	Provides estimates of economic impacts created in other provinces and territories, in addition to impacts created within the hosting province. (Of note, there is a minor error in the output from this model. The employment figures in the output need to be divided by 1,000 to arrive at the actual employment estimates.)

STEAM Model (STEAM, STEAMPRO, and FESTPRO)

Sport Tourism Canada (formerly the Canadian Sport Tourism Alliance) has developed three tools called STEAM2.0, STEAMPRO2.0 and FESTPRO to predict, collect, measure, and analyze event data across three primary channels. STEAM2.0 is designed specifically as a predictive model to determine the expected economic impact of hosting a sport event, while STEAMPRO2.0 is utilized to generate the economic impact from actual spending data during the sport event itself. The latest tool, called FESTPRO, is the sister model to STEAMPRO2.0. It measures the economic impact of non-sport events like festivals, exhibitions and fairs using actual spending data collected during the event.

Table D4. STEAM Model

Key Features	
Model Owner	Sport Tourism Canada
Model Developer	The Conference Board of Canada and Sport Tourism Canada
Platform	Sport Tourism Canada retains model.
Cost	Pay per use rates: STEAM starting at \$3,000; STEAMPRO starting at \$5,500; FESTPRO starting at \$8,000. The STEAM model is available as a self-serve online tool that is free to STC members.
Economic Impact Estimates	Economic output, GDP, labour income, employment, and tax revenues (federal and provincial)
Other features	Can be used to generate estimates at the provincial level or at local level.

TREIM Model

The Tourism Regional Economic Impact Model (TREIM) is a model that was developed to estimate the economic impact of tourism activity in Ontario. The Ontario Ministry of Tourism, Culture and Sport developed TREIM and made it available to the public in the 1980s. A web version was made available in 2005. The current updated version is based on data from 2017.

TREIM is an example of tourism economic impact models that have been developed by government organizations and made available for widespread public use through the internet. A positive feature of such an approach is that the economic impacts of many events and tourism activities are estimated using a consistent approach. This allows useful comparisons to be made between past and future events and tourism activities. Another example of this type of model is the eventIMPACTS model that has been developed by a consortium of agencies in the U.K. (www.eventimpacts.com).

TREIM is a multi-region input-output model and differs from other input-output model in several aspects. One different aspect is its treatment of time. Where other input-output models are static—that is their results are independent of the date of the simulation—TREIM is stated to adjust the model for changes in prices and labour productivity for the year chosen for the simulation. The model provides users with the options to conduct analysis for an event in the past, the present, or several years into the future. The impact results are reported in the current year (nominal) dollars of the year in which the event takes place.

Table D5. TREIM Model

Key Features	
Model Owner	Ontario Ministry of Tourism, Culture, and Sport
Model Developer	The Centre for Spatial Economics
Platform	Available on-line: https://www.ontario.ca/page/tourism-regional-economic-impact-model
Cost	No cost
Economic Impact Estimates	GDP, labour income, employment, and tax revenues (federal, provincial, and municipal)
Other features	Can be used to generate estimates at the provincial level or at local level.

BC Tourism Economic Input-Output Model

The BC Tourism Economic Input-Output Model was created by Pacific Analytics for Destination BC. The model estimates the economic impact of tourism activities at the following levels:

- Provincial level.
- Tourism regional level.
- Regional district level.
- Municipal level (case by case basis).

The model can be accessed by tourism businesses and DMOs through Destination BC. The model is an example of economic impact models that are retained by tourism agencies and are not made available for widespread use by members of the public. In part because of the lack of public availability the uptake on the BC Tourism Economic Input-Output Model is reported to be low.

Table D6. BC Tourism Economic Input Output Model

Key Features	
Model Owner	Destination BC (Partners for model development were Tourism Victoria and Tourism Kamloops)
Model Developer	Pacific Analytics
Platform	Destination BC retains model.
Cost	Access base model (free). Custom community-level model (\$2,500); Assistance with estimating and interpret impacts (\$1,000 a day).
Economic Impact Estimates	Economic output, GDP, labour income, employment, and tax revenues (federal and provincial)
Other features	Can be used to generate estimates at the provincial level or at regional level (local level requires additional work).

Test Case

To help provide a comparison of the models, a test case was developed and submitted to each of the models.⁴⁸ The test case consisted of estimating the economic impacts of a hypothetical event held in BC. The visitor spending for the hypothetical event is displayed in the following table.

Table D7. Test Case Specifications

Category of Visitor Spending	Amount of Visitor Spending
Lodging	\$1,891,458
Transportation	\$489,046
Food and Beverage	\$1,342,764
Retail	\$336,524
Recreation	\$317,408
Space Rental	\$253,186
Business Services	\$557,003
Total	\$5,187,389

Reference Model

To provide a baseline set of results, we created a “reference economic impact model” specifically for the test case. (Please note that the sole purpose of creating the reference model was to benchmark the other models and to illustrate their various capabilities.)

The follow table summarizes the economic impacts for the test case from the reference model.

Table D8. Reference Model

	Output	GDP	Labour Income	Employment (Jobs)	Employment (FTEs)	Federal Tax	Provincial Tax	Municipal Tax	Average Income per job	Average Income per FTE
Direct	\$4,824,497	\$2,680,261	\$1,729,367	49	41	\$423,767	\$390,027	\$43,519	\$35,134	\$42,606
Indirect	\$1,659,395	\$899,342	\$534,195	10	8	\$94,610	\$74,164	\$22,092	\$54,324	\$65,878
Induced	\$1,568,430	\$1,009,608	\$411,556	8	7	\$156,788	\$178,072	\$38,013	\$49,667	\$60,231
Total	\$8,052,322	\$4,589,210	\$2,675,118	67	56	\$675,165	\$642,262	\$103,624	\$39,724	\$48,173

As displayed in the above table, the reference model produced estimates for output, GDP, labour income, employment, and tax revenues. The average income per job and the average income per FTE are calculated by dividing the labour income by the respective employment estimates.

⁴⁸ It was not possible to submit the test case to the STEAM model. Consequently, the STEAM model results have been approximated from published STEAM Model results for actual events.

Event Impact Calculator

The following table summarizes the economic impacts for the test case from the Event Impact Calculator. As can be seen from the table below, the Event Impact Calculator produces only a subset of the economic impacts obtained from the reference model for the test event.

Table D9. Event Impact Calculator

	Output	GDP	Labour Income	Employ (Jobs)	Employ (FTEs)	Federal Tax	Provincial Tax	Municipal Tax	Average Income per job	Average Income per FTE
Direct	\$5,187,388	n.a.	\$1,611,852	n.a.	54	\$335,135	\$426,121	\$102,186	n.a.	\$29,849
Indirect and Induced	\$3,183,313	n.a.	\$997,001	n.a.	11	\$206,855	\$234,741	\$11,420	n.a.	\$90,636
Induced	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total	\$8,370,701	n.a.	\$2,608,853	n.a.	65	\$541,990	\$660,862	\$57,844	n.a.	\$40,136
<i>Diff. from Ref. Model</i>	\$318,379	n.a.	(\$66,265)	n.a.	9	(\$133,175)	\$18,600	(\$45,780)	n.a.	(\$8,037)

The results from the Event Impact Calculator differ from the reference model results in several ways, including the amalgamation of indirect and induced impacts. There are also differences in the distribution of estimated tax revenues.⁴⁹ The resulting average income per FTE also shows an unexpectedly low figure for direct employment and an unexpectedly high figure for indirect and induced employment.

CASHEIM Model

The following table summarizes the economic impacts for the test case from the CASHEIM Model.⁵⁰ As can be seen from the table below, the CASHEIM Model produces only a subset of the economic impacts obtained from the reference model for the test event.

Table D10. CAHSEIM

	Output	GDP	Labour Income	Employ (Jobs)	Employ (FTEs)	Federal Tax	Provincial Tax	Municipal Tax	Average Income per job	Average Income per FTE
Direct	\$5,187,389	\$1,663,682	\$1,106,264	32,219	22,367	\$204,400	\$234,137	\$89,822	\$34,336	\$49,460
Indirect	n.a.	\$1,115,823	\$707,477	14,498	9,287	n.a.	n.a.	n.a.	\$48,800	\$76,183
Induced	n.a.	\$797,785	\$325,644	6,563	4,657	n.a.	n.a.	n.a.	\$49,618	\$69,932
Total	n.a.	\$3,577,291	\$2,139,384	53,279	36,310	\$252,569	\$318,243	\$125,044	\$40,154	\$58,920
<i>Diff. from Ref. Model</i>	n.a.	(\$1,011,919)	(\$535,733)	53,212	36,255	(\$422,596)	(\$324,019)	\$21,420	\$430	\$10,747

The results from the CASHEIM Model differ from the reference model results in several ways, including much lower estimates for GDP, labour income, and employment (there is a minor presentation error in the CASHEIM Model employment estimates, as the reported estimates should be divided by 1,000; e.g., the correct estimate for total jobs should be 53.212, not 53,212). The significant differences in federal and provincial tax revenues arise because the CASHEIM Model does not include certain important categories of taxes (e.g., income taxes).

⁴⁹ Although not shown in the table, the output from the Event Impact Calculator includes a finer breakdown of taxes into detailed components. Some of these components, however, appear curious. For example, for the test case, the breakdown included approximately \$13,000 in local income taxes, yet no local income taxes are levied in BC.

⁵⁰ To be consistent with the other models only the "within BC" impacts are shown in the table.

STEAM Model (STEAM, STEAMPRO, and FESTPRO)

The following table summarizes the economic impacts for the test case from the STEAM Model. Please note that because it was not possible to submit the test case to the STEAM model, the STEAM model results have been approximated from published STEAM Model results for actual events.

Table D11. STEAM Model

	Output	GDP	Labour Income	Employ (Jobs)	Employ (FTEs)	Federal Tax	Provincial Tax	Municipal Tax	Average Income per job	Average Income per FTE
Direct	\$5,187,389	\$1,937,042	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Indirect	n.a.	\$1,502,598	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Induced	n.a.	\$966,848	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total	\$8,246,595	\$4,406,488	\$2,753,781	42	n.a.	\$591,904	\$567,890	\$128,345	\$66,095	n.a.
<i>Diff. from Ref. Model</i>	\$194,272	(\$182,722)	\$78,663	-26	n.a.	(\$83,262)	(\$74,372)	\$24,721	\$26,371	n.a.

Overall, the approximated overall impacts from the STEAM Model appear to align fairly closely with the reference model results, with the exception of the employment estimates.

TREIM Model

The following table summarizes the economic impacts for the test case from the TREIM model.

Table D12. TREIM Model

	Output	GDP	Labour Income	Employ (Jobs)	Employ (FTEs)	Federal Tax	Provincial Tax	Municipal Tax	Average Income per job	Average Income per FTE
Direct	\$5,187,389	\$2,909,992	\$1,773,031	43	n.a.	\$460,666	\$528,100	\$109,240	\$41,233	n.a.
Indirect	n.a.	\$1,118,154	\$714,719	9	n.a.	\$415,942	\$300,939	\$145,100	\$79,413	n.a.
Induced	n.a.	\$1,381,028	\$859,847	10	n.a.	n.a.	n.a.	n.a.	\$85,985	n.a.
Total	n.a.	\$5,409,174	\$3,347,596	62	n.a.	\$876,608	\$829,039	\$254,340	\$53,993	n.a.
<i>Diff. from Ref. Model</i>	n.a.	\$819,964	\$672,478	-5	n.a.	\$201,443	\$186,777	\$150,716	\$14,269	n.a.

The above table helps to illustrate a major drawback of attempting to use a model constructed with multipliers from one province to estimate economic impacts arising in a different province. As can be seen in the table, the TREIM Model results differ substantially from the reference model results on most measures. What is not evident is if those differences are due to differences in provincial economic impact multipliers or if they are due to some other reason.

To gain insight into the reasons in this instance, we have re-estimated the economic impacts for the test case using economic impact multipliers for Ontario. Those results are displayed in the following table.⁵¹

Table D13. Reference Model with Ontario Multipliers

	Output	GDP	Labour Income	Employment (Jobs)	Employment (FTEs)	Federal Tax	Provincial Tax	Municipal Tax	Average Income per job	Average Income per FTE
Direct	\$4,898,207	\$2,569,970	\$1,826,271	50	42	n.a.	n.a.	n.a.	\$36,250	n.a.
Indirect	\$2,264,187	\$1,144,418	\$675,703	12	10	n.a.	n.a.	n.a.	\$57,763	n.a.
Induced	\$1,812,296	\$1,066,821	\$499,994	10	8	n.a.	n.a.	n.a.	\$51,693	n.a.
Total	\$8,974,689	\$4,781,210	\$3,001,967	72	59	n.a.	n.a.	n.a.	\$41,839	n.a.

⁵¹ We have not estimated the tax revenue impacts, as that would require additional work beyond the scope of this study.

The following table summarizes the TREIM Model results and compares them with the economic impacts for the re-estimated test case.

Table D14. TREIM Model – Comparison with Reference Model with Ontario Multipliers

	Output	GDP	Labour Income	Employ (Jobs)	Employ (FTEs)	Federal Tax	Provincial Tax	Municipal Tax	Average Income per job	Average Income per FTE
Direct	\$5,187,389	\$2,909,992	\$1,773,031	43	n.a.	\$460,666	\$528,100	\$109,240	\$41,233	n.a.
Indirect	n.a.	\$1,118,154	\$714,719	9	n.a.	\$415,942	\$300,939	\$145,100	\$79,413	n.a.
Induced	n.a.	\$1,381,028	\$859,847	10	n.a.	n.a.	n.a.	n.a.	\$85,985	n.a.
Total	n.a.	\$5,409,174	\$3,347,596	62	n.a.	\$876,608	\$829,039	\$254,340	\$53,993	n.a.
Diff. from Ref. Model (Ontario)	n.a.	\$627,964	\$345,629	-10	n.a.	n.a.	n.a.	n.a.	\$12,154	n.a.

As can be seen from the above table, using Ontario economic impact multipliers brings the results for the test case into closer alignment with the TREIM Model.

Of note, the TREIM Model provides the additional feature of a breakdown of GDP by industry (e.g., a breakdown of direct and total GDP by industry), which is not provided by the other models we reviewed.

BC Tourism Economic Input-Output Model

The following table summarizes the economic impacts for the test case from the BC Tourism Economic Input-Output Model. As can be seen from the table below, this model produces all the economic impacts obtained from the reference model for the test event.⁵²

Table D15. BC Tourism Economic Impact Model

	Output	GDP	Labour Income	Employ (Jobs)	Employ (FTEs)	Federal Tax	Provincial Tax	Municipal Tax	Average Income per job	Average Income per FTE
Direct	\$4,447,219	\$2,612,013	\$2,056,427	50	38	\$447,939	\$386,247	\$115,803	\$41,427	\$54,006
Indirect	\$1,631,179	\$893,668	\$621,246	12	9	\$94,537	\$70,282	\$21,727	\$52,874	\$66,853
Induced	\$1,418,257	\$935,741	\$490,617	9	7	\$119,400	\$106,915	\$40,480	\$52,833	\$69,000
Total	\$7,496,655	\$4,441,422	\$3,168,290	71	54	\$661,876	\$563,443	\$178,010	\$44,829	\$58,154
Diff. from Ref. Model	(\$555,667)	(\$147,787)	\$493,172	3	-1	(\$13,290)	(\$78,819)	\$74,387	\$5,105	\$9,981

The results from the BC Tourism Economic Input-Output Model are generally similar to the reference model, except in terms of labour income.

Summary

There are a wide variety of models that have and are being used to estimate the economic impacts of events. The models have distinctive features and different strengths and weaknesses. Even though all are based on economic impact multipliers published by Statistics Canada they may arrive at different results for the same set of input data. As a result, it can be difficult to compare economic impact studies produced by different organizations, events, or tourism businesses, which, in turn, hampers the ability to assess accurately the economic impacts of past events or to predict the impacts of future events.

At present, there is no standardized BC event economic impact model. The development of such a model may merit consideration, as such a model would help to provide a uniform benchmark for economic impact analysis.

⁵² In fact, for tax revenues, the BC Tourism Input-Output produces detailed measures, including estimates on virtually all types of taxes generated (that level of detail is usually not required, however).

APPENDIX E. ABOUT MANSFIELD CONSULTING

Mansfield Consulting Inc. provides specialized consulting services on economic and statistical issues. Mansfield Consulting Inc. was founded by Ed Mansfield Ph.D., who has more than thirty years of experience providing consulting services to public and private companies, professional associations, industry organizations, and government agencies



Ed has worked on statistical and economic impact studies with clients from across Canada and the United States. He has led and executed many studies involving difficult to measure or long-term impacts, including assignments involving the impacts of Olympic and Paralympic Games and the long-term impacts of government investment in research and development initiatives and in sector incentive and support programs.

Ed also has a long track-record of working with tourism organizations and businesses, including national, provincial, and local destination marketing organizations. Ed has also assisted with the development of public policy and has worked with senior leadership at all levels of government.

Prior to founding Mansfield Consulting Inc. Ed led economics and research practices at four major accounting and business consulting firms. Ed has Ph.D. and M.S. degrees in Applied Mathematics from the University of Washington, and a B.Sc. in Mathematics and Statistics from the University of BC. (For more information on Mansfield Consulting Inc., please see our website www.mansfieldconsulting.ca.)