

# The Games effect.\*

**Report 4:** Economic Impact of the 2010 Olympic and Paralympic Winter Games on British Columbia and Canada: 2003–2008

**September 2009**



# Summary of Key Findings

In this report we estimate the economic impacts of the 2010 Winter Games through 2008 and compare those estimates to the economic impacts that were projected prior to the award of the Games. The primary source for the projections of economic impacts is a report entitled *The Economic Impact of the 2010 Winter Olympic and Paralympic Games – An Update* that was prepared by InterVISTAS Consulting Inc. (IVC) in 2002 for the Government of British Columbia. Our key findings are:

The economic impact estimates produced by PwC are broadly similar to the projections contained in the IVC report, after making adjustments for differences between assumed types of spending.

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The midpoint for the range of real Gross Domestic Product (GDP) impacts from 2003 to 2008 estimated by PwC is \$788 million compared with a midpoint of \$762 million projected in the IVC study. The midpoint for employment impacts for the PwC study is 18,362 person years compared with approximately 16,800 person years projected by IVC.

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One of the most important differences between the PwC estimates of actual economic impacts and the projected impacts contained in the IVC report occurs in the area of 2010 Winter Games induced tourism spending. The most optimistic 2002 IVC projections anticipated significant new tourism spending in the years leading up to the 2010 Winter Games that would result from a coordinated and effective tourism marketing campaign. However, the tourism strategy that was adopted focuses on leveraging the 2010 Winter Games to generate a sustained post-2010 increase in tourism rather than on generating pre-2010 Winter Games tourism.

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Comparisons with economic impact estimates made for past Winter Games host cities are complicated by methodological differences and differences in assumptions regarding types and amounts of Winter Games spending. However, our findings show that estimates of economic impacts generated by the 2010 Winter Games through 2008 are roughly similar to those experienced by other Winter Games Host Cities.

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# Background

## Introduction

The Government of British Columbia and the Government of Canada have made major commitments to the anticipated success of the 2010 Olympic and Paralympic Winter Games (the 2010 Winter Games). These commitments have encompassed funding for 2010 Winter Games-related infrastructure and operations, together with a wide range of policy and funding initiatives aimed at using the 2010 Winter Games as a catalyst for implementing, enhancing, and/or accelerating programs for individuals, organizations, and communities.

As a result, the Government of British Columbia through the BC Olympic and Paralympic Winter Games Secretariat (the BC Secretariat) and the Government of Canada through the 2010 Olympic and Paralympic Winter Games Federal Secretariat (the Federal

Secretariat) have identified the need to assess the economic and social impacts of the 2010 Winter Games before, during, and after hosting the Games.

PricewaterhouseCoopers LLP (PwC) has been engaged to conduct a series of impact assessments using a combination of research and benchmarking methods. The entire project will run from 2008 through 2013. The first three reports in the series are:

- **Report 1:** A report that discusses the overall project methodology (the Framework Report)
- **Report 2:** A summary of the impact of the 2010 Winter Games from 2003 to 2007
- **Report 3:** A detailed report of the impacts of the 2010 Winter Games from 2003 to 2008



## Purpose of this Report

Reports 2 and 3 each considered over 75 separate measures within eight areas related to sport, economic, culture, and social development. The economic sections of Reports 2 and 3 considered economic development in relation to communities, Canadian business, global markets, and federal and provincial governments. This report (Report 4) is a supplemental report to the main series, and compares the estimated economic impacts experienced from the time of the award of the Games to Vancouver in 2003 through 2008 to the economic impacts that were projected prior to the awarding of the 2010 Winter Games, and to the economic impacts experienced by other recent Winter Games host cities. Neither Report 2 nor 3 compared actual impacts to those projected prior to the awarding of the Games.

## Limitations

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## Prior Studies

In January 2002, the BC Ministry of Competition, Science and Enterprise (the Ministry) published the results of a study projecting the potential economic impact of the 2010 Winter Games. In July 2002, the British Columbia Trade and Investment Office and the BC Olympic Bid Secretariat commissioned InterVISTAS Consulting Inc. (IVC) to update the Ministry’s study. The purpose of the IVC study was to review and verify the economic impacts and methodology employed in the Ministry study, and to incorporate new information that had become available subsequent to the publication of the Ministry report. IVC concluded in its report entitled *The Economic Impact of the 2010 Winter Olympic and Paralympic Games – An Update* that the approach and methodology employed by the Ministry was generally thorough and conceptually valid, and updated and made revisions to the parameters and structure of the Ministry’s economic model.

As such, the primary source used by PwC for the comparison of economic impact projections is the IVC report.

There are several reasons why the economic impacts estimated by PwC to have occurred through 2008 could be expected to be different from those projected in the IVC report. First, economic impacts contained in the IVC study are projected impacts while the PwC impacts are estimated actual impacts. The IVC study was completed before the 2010 Winter Games were awarded and before any related construction or operations began. In contrast, the PwC report was prepared after the 2003–2008 period, and so is able to reflect actual events and incorporate actual expenditure data.

Second, assumptions regarding the status of the general BC economy are different in the two reports. The economic impacts contained in the IVC study were calculated assuming that sufficient slack would exist in the BC economy so that additional demand stimulated by 2010 Winter Games construction projects would not be inflationary. In reality, the BC economy was in the beginning stages of what turned out to be a robust expansion, fuelled by booming construction, low interest rates, and soaring commodity prices. Consequently, the BC economy did not contain the slack envisioned in the IVC report, and, as a result, the estimated economic impacts could be expected to be somewhat lower than those projected by IVC.

# Summary of the InterVISTAS Report

The IVC study, released in November 2002, reported on the economic impacts that were projected to be realized in BC from hosting the 2010 Winter Games.

The report differentiated economic impacts arising from major events as either gross or incremental to the host region. For the 2010 Winter Games, IVC defined gross economic impacts to include all impacts on provincial GDP, employment, and government tax revenues from all Games-related expenditures occurring in BC by BC residents, non-BC residents, businesses, and various levels of government.

Incremental economic impacts were defined as those due only to expenditures funded by non-residents of BC. Part of the incremental impact was defined to arise from spending by visitors from outside the province of British Columbia as well as spending by BC residents that would have, if not for the Games, left the province for vacation. The rest of the Games incremental economic impact in BC was expected to be generated by federal government spending in BC and investment from other out-of-province sources. Expenditures and investment by BC residents and government was not considered part of the incremental impact because it was assumed that this money would be spent on other activities in BC if the Games were not hosted. Therefore, the incremental economic impact of the Games represented an injection into the provincial economy, generating additional GDP, employment, and tax revenues from dollars originating outside the province.

IVC noted that while gross impacts could provide a useful indication of the overall economic impact the 2010 Winter Games, incremental impacts provided a more meaningful measure of the extent to which hosting the 2010 Winter Games would stimulate the provincial economy. The IVC report presented only the incremental impacts in its overall findings.

## Sources of Economic Impacts

Economic impacts in the IVC report arose from three principal sources:

- **Construction** — These included impacts from upgrades and renovations to existing sports facilities, such as BC Place and GM Place, and construction of new facilities specifically for the 2010 Winter Games (IVC included only 50% of the 2010 Winter Games construction in the incremental impact, as it was assumed that half would be funded by the provincial government).
- **Operations** — IVC assumed \$1.3 billion in organizing committee expenditures for 2010 Winter Games-related operations, 82% of which were assumed to be incremental.
- **Tourism** — IVC incorporated impacts arising from international and resident visitors under various scenarios for visitor attendance.

IVC did not include investments in improvements such as the Sea-to-Sky (Highway 99) upgrade and the Canada Line Rapid Transit construction in the incremental economic impact. Similarly, IVC did not include in their projections of the incremental economic impact expenditures required for the Vancouver Convention and Exhibition Centre (VCEC) expansion. Economic impacts for the VCEC expansion were prepared in a separate study by the BC Ministry of Competition, Science and Enterprise. IVC was not commissioned to review and verify those economic impact estimates. However, IVC did conclude that it was conceptually valid to add the incremental impacts of the 2010 Winter Games to those of the VCEC and did so in its report.

## Economic Scenarios

The IVC report estimated total incremental impact on provincial GDP using four scenarios for visitor attendance: low, medium, medium-high, and high. The number of visitors projected under those four levels and the periods of increases in tourism are noted in Table 1. For each of these scenarios, IVC estimated the incremental economic impacts on GDP, employment, wages, and federal, provincial, and local taxes.

The levels of visitor attendance for those scenarios were originally prepared by the BC Trade and Investment Office. IVC was not asked to generate new projections but were asked to review them and perform a “reality check” of the outcomes. IVC concluded that the methodology used to form the external tourism projections in the original economic impact model was reasonable. However, IVC did make several revisions to these tourism projections.

- Induced visitors increased for each of the low, medium-high, and high scenarios by an average of 14%. The number of induced visitors under the medium scenario decreased 13%.
- IVC delayed the start years for tourism for all but the high scenario to 2008. It was assumed that for the high scenario visitor increases would begin in 2003.

**Table 1: InterVISTAS Scenarios for International Tourism Induced by the Olympics**

Projected Levels of Visitor Attendance	Start/End Year	Olympic Induced International Visitors
Low	2008–2014	1.1 million
Medium	2008–2015	1.7 million
Medium-High	2008–2015	2.7 million
High	2002–2020	4.3 million

Source: InterVISTAS Consulting (2002)

## Economic Impact Projections

Using the tourism scenarios outlined in Table 1 and projections for 2010 Winter Games related capital and operating expenditures, IVC developed a set of projections for the overall incremental economic impact of the 2010 Winter Games. In addition, IVC added the projections of economic impact from the planned VCEC expansion to its projections of the 2010 Winter Games economic impacts to produce a set of combined economic impacts.

Table 2 summarizes the incremental real GDP impact of the 2010 Winter Games under IVC's four tourism scenarios. All amounts are reported in 2002 constant dollars.

As shown in Table 2, IVC projected that the incremental real GDP impact of the 2010 Winter Games without the VCEC expansion would fall between \$2.0 billion to \$4.2 billion dollars. Including the VCEC expansion, the projected range of combined impacts was much higher at between \$6.1 and \$10.7 billion.

**Table 2: Projected Combined Impact of the Games and VCEC Expansion: Total Incremental Economic Impacts**

Projected Levels of Tourism	Start/End Year	Real GDP Impact (\$ 2002)		
		Incremental Impact of the 2010 Winter Games	Incremental Impact of the Vancouver Convention and Exhibition Centre	Combined Impact
Low	2008–2014	\$2.0 billion	\$4.1 billion	\$6.1 billion
Medium	2008–2015	\$2.4 billion	\$5.5 billion	\$7.9 billion
Medium-High	2008–2015	\$3.3 billion	\$5.5 billion	\$ 8.8 billion
High	2002–2020	\$4.2 billion	\$6.5 billion	\$10.7 billion

Source: IVC and British Columbia Trade and Investment Office



# Sources of Economic Impacts: Projected and Estimated Spending

The three primary categories of economic impact – construction spending, operations spending, and tourism spending – are the same in both the IVC projections and in the PwC estimates. The spending amounts used in the IVC projections and the PwC estimates are summarized in Table 3.

The timing and magnitude of the 2010 Winter Games expenditures that were projected by IVC and that have been estimated by PwC is shown in Figure 4 (note that the IVC projection includes only the “high” scenario for tourism spending).

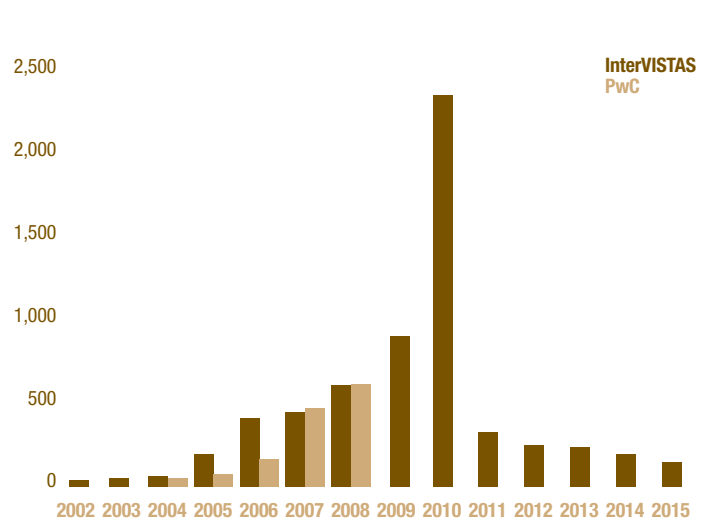
## Trends in Overall Spending

Figure 4 shows that the pattern of 2010 Winter Games spending has been similar to that projected by IVC, with less spending than projected occurring in 2005 and 2006. There are, however, also differences in the composition of the projected and estimated spending figures. This is particularly true of tourism spending, where no substantial spending occurred in 2003 to 2008. A breakdown of spending by category of expenditures in the IVC and PwC studies is shown in Figure 5 and Figure 6.

**Table 3: Comparison of 2010 Winter Games Expenditures Considered in IVC Economic Impact Projections and PwC Estimates, 2003–2008**

Source of Impact	IVC	PwC
<b>Construction Spending (\$ 2002 m)</b>		
Venues (VANOC)	\$610	\$473
Venues (Partners)	112	526
<b>Operations Spending (\$ 2002 m)</b>		
VANOC	\$412	\$446
Other	26	n/a
<b>Tourism Spending (\$ 2002 m)</b>		
Incremental Visitor Spending	\$39 – \$653	<\$5

**Figure 4: Comparison of 2010 Winter Games Related Spending to 2008**  
\$ millions (2002)



## Construction Spending

Games-related spending has been higher than projected for third-party (non-VANOC) construction of 2010 Winter Games venues, offsetting lower VANOC spending. Much of the third-party spending resulted from the City of Vancouver assuming the obligation for the Vancouver Athletes Village. Other projects, such as the speed skating oval in Richmond and the upgraded Hillcrest curling facilities, have also contributed significantly to third party spending.

## Operations Spending

Actual operation spending by VANOC through 2008 has been close to the initially projected costs for this period.

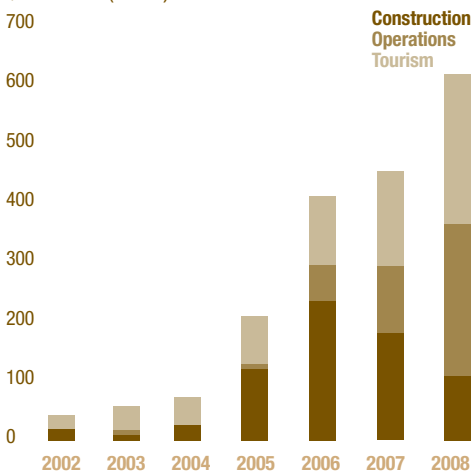
## Tourism Spending

The tourism spending projected in the IVC report envisioned that for the high scenario, a coordinated and effective marketing plan would be in place before the 2010 Winter Games, and that the plan would leverage the award of the 2010 Winter Games to attract visitors during the pre-Games period. We have noted that the actual tourism patterns more closely resemble the low to moderate scenarios, with little noted Olympic-related tourism activity during this period.

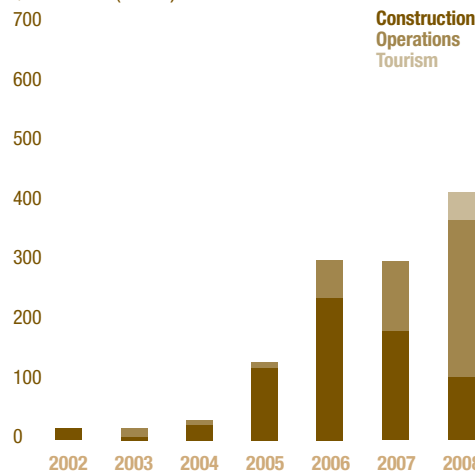
After the award of the 2010 Winter Games, Canadian, BC, and local tourism organizations developed a strategy focusing on building awareness of the games and converting the awareness into long-term visitation in the post-2010 period. Consequently, tourism impacts projected by IVC for the 2003–2008 period did not materialize.

**Figure 5: Composition of Projected 2010 Winter Games Related Spending to 2008**

Total 2010 Games Spending, 2002–2008  
(IVC High Scenario)  
\$ millions (2002)

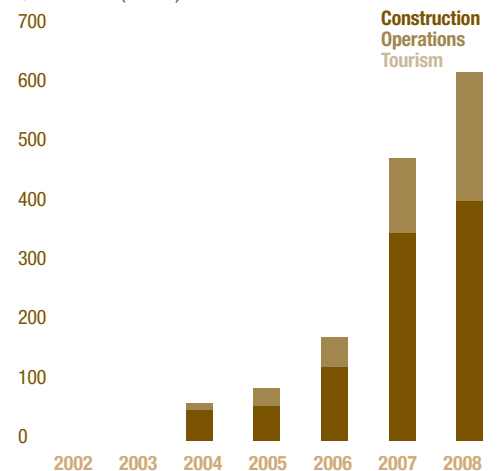


Total 2010 Games Spending, 2002–2008  
(IVC Low Scenario)  
\$ millions (2002)



**Figure 6: Comparison of Estimated 2010 Games Spending to 2008**

Total 2010 Games Spending, 2002–2008 (PwC)  
\$ millions (2002)



# Projected and Estimated Economic Impacts: 2003–2008

This section describes the economic impacts, by source, projected by IVC and estimated by PwC. The comparison is based on incremental impacts only, and excludes transportation infrastructure spending and the VCEC expansion.

Shown in Table 7 are high and low scenarios from IVC and PwC. The high scenario shown for IVC is based on its high visitor projection while the low scenario is based on the low visitor projection. The PwC study also provides a high and low scenario. However, the PwC scenarios are not based on different levels of tourism marketing effort but rather on assumptions regarding the capacity of the BC economy.<sup>1</sup>

Table 7 displays the range of real GDP and employment impacts reported by IVC and PwC. All dollar amounts are reported in 2002 constant dollars.

The midpoint for the range of real GDP impacts to 2008 for the PwC study is \$788 million compared with a midpoint of \$762 million for the IVC study. Similarly, the estimated midpoint for employment impacts for PwC study is 18,362 person years compared with approximately 16,800 person years projected by IVC.

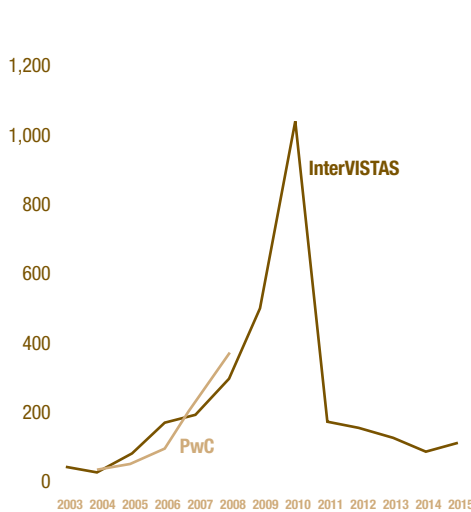
From Table 7 it can be seen that estimated real GDP and employment impacts during 2003 to 2008 align well with those projected by IVC. However, the sources of impacts have differed substantially, particularly as it relates to the impacts created by incremental tourism spending. Figure 8 and Figure 9 illustrate the year by year estimates of 2010 Winter Games-related real GDP and employment impacts to 2008, compared with IVC projections.<sup>2</sup>

Looking forward, we expect that economic impacts related to 2009 construction and operating expenditures 2009 may be higher than projected by IVC due to higher third-party construction spending. Beyond 2009, the magnitude of economic impacts will rely principally on tourism spending outcomes realized during 2010 and on the ability of tourism marketing efforts to foster ongoing tourism spending post-2010.

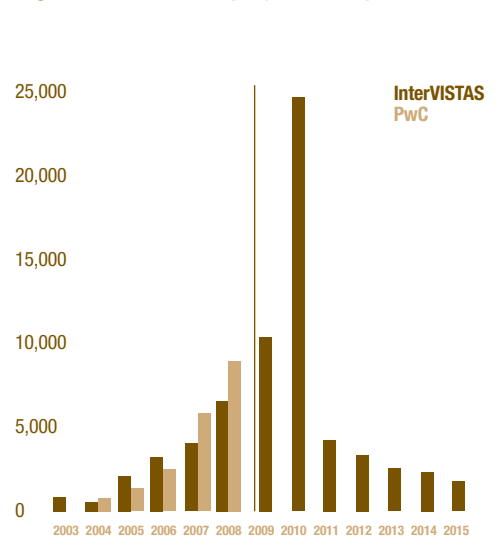
**Table 7: Comparison of Estimated Impacts: 2003–2008**

	Real GDP		Employment	
	High (\$2002 m)	Low (\$2002 m)	High	Low
<b>IVC (2002)</b>				
Construction	235	235	4,900	4,900
Operations	262	262	5,500	5,500
<b>Subtotal</b>	<b>497</b>	<b>497</b>	<b>10,400</b>	<b>10,400</b>
Tourism	500	30	12,100	725
<b>Total</b>	<b>997</b>	<b>527</b>	<b>22,500</b>	<b>11,125</b>
<b>PwC (2008)</b>				
Construction	453	354	9,850	7,600
Operations	430	329	10,900	8,250
<b>Subtotal</b>	<b>883</b>	<b>683</b>	<b>20,750</b>	<b>15,850</b>
Tourism	5	<1	100	25
<b>Total</b>	<b>888</b>	<b>684</b>	<b>20,850</b>	<b>15,875</b>

**Figure 8: Annual Real GDP Impacts**  
\$ millions



**Figure 9: Annual Employment Impacts**



1. Due to resource scarcity, all economies have a certain level of potential output. If an economy is already operating at or above this potential, the impact of new aggregate demand may simply displace competing projects or drive up material costs and wages as firms compete for increasingly scarce resources. Since the BC economy was experiencing strong economic growth over the 2003 to 2008 period, it may be the case that the stimulative effect of 2010 Winter Games related spending was lower than it would have been if there was more slack in the economy.

2. Figure 8 and Figure 9 show the midpoint for the IVC projection and PwC estimate.

# Comparison of 2010 Winter Games Economic Impacts with those of Past Winter Games

When examining the economic impacts of the 2010 Winter Games, it may also be useful to review the experiences of previous Winter Games host cities. Such comparisons should be interpreted with caution, however, as estimated impacts may be subject to differences in the amount and timing of spending, the types of spending included, and prevailing economic conditions. Table 10 provides estimates of pre-games spending and employment impacts for past Winter Games host cities (impacts related to real GDP were excluded due to differences in assumptions and reporting structures between past host cities).

We note the following regarding the economic impacts reported for this set of Winter Games:

- The employment impacts estimated for the 2010 Winter Games are relatively consistent with those reported for past Winter Games.
- The Turin estimate is based on total spending of approximately \$3.1 billion, which includes all games-related infrastructure spending. The PwC study and the preferred scenario in the IVC study exclude this type of spending. However, information is not available to remove infrastructure related spending from Turin's spending amounts.

- The Calgary Olympic Organizing committee estimated that the Calgary Games generated 27,400 person years of employment in the Alberta economy over the years spanning the preparation and delivery of the 1988 Winter games. However, they do not provide details on the period ending 2 years before the commencement of the games, making a direct comparison between the Calgary numbers and the 2010 Winter Games as of 2008 inconsistent.

We have not included comparisons with estimated impacts of past Summer Games as the size and scope of the Summer Games is larger than that of the Winter Games. For example, total expenditures to host the Beijing Summer Games were estimated at close to C\$49 billion over the years leading up to the 2008 games.<sup>7</sup> While the historic amount spent on the Beijing games may be a one time aberration, spending for the 2004 Summer Games in Athens was estimated at between C\$10 billion and C\$11 billion and the London 2012 Games have budgeted about C\$18 billion.<sup>8</sup>

In summary, although comparison of impacts with projections made for past Olympic Games provides a useful benchmark, such comparisons are complicated by differences in assumptions, timing and amount of spending, and reporting.

**Table 10: Comparison of Estimated Impacts from Past Winter Games**

Host City	Year of Games	Timing of Measure	Total Spending Included (C\$ 2002 million) <sup>3</sup>	Employment
Vancouver, Canada	Winter 2010	2003–2008	\$1,445	18,362
Turin, Italy	Winter 2006	2001–2004	\$3,100	18,000 <sup>4</sup>
Salt Lake City, USA	Winter 2002	1996–2000	\$1,440 <sup>5</sup>	16,169
Calgary, Canada	Winter 1988	1981–1988	\$1,350 <sup>6</sup>	27,400

Sources: Utah Governor's Office; OMER0 (Universita di Torino); VANOC; PwC Calculations

3. All amounts in Table 9 are reported in 2002 constant Canadian dollars.

4. Employment impacts reported for the 2006 Turin Winter Games were presented as 4000–5000 jobs per year from 2001–2004. The estimate shown was calculated from the mid-point of this range.

5. Includes total in-state spending from 1996–2000 totaling \$US 560 million in 2000 constant dollars and \$US 350 million of out-of-state spending (Note: Per year out-of-state spending was not available. Therefore we have assumed that annual out-of-state spending was in proportion to annual in-state spending)

6. Total expenditures for the 1988 Calgary Winter Games were estimated from "Legacies of the North American Olympic Winter Games, Volume Two: Calgary 1988", Vancouver Organizing Committee for the 2010 Olympic and Paralympic Games, May 7, 2007.

7. BusinessWeek, "London Games 2012: Lessons from Beijing " August 25, 2008

8. Ibid

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